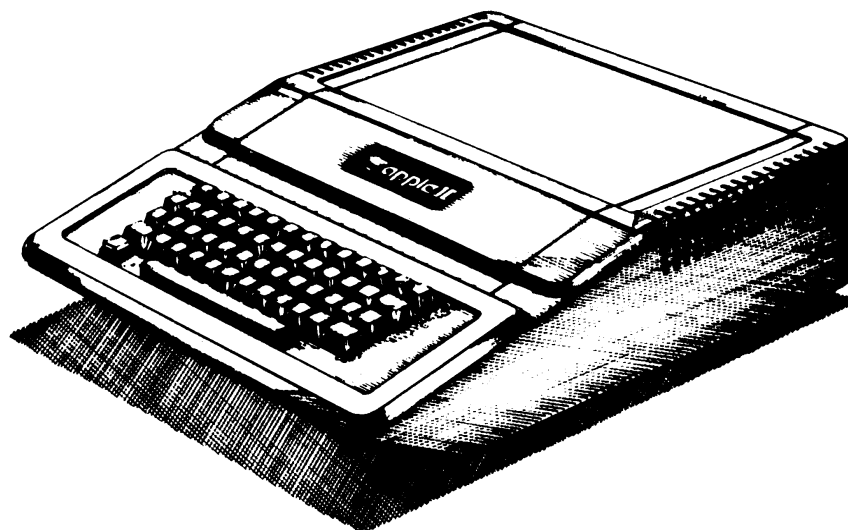




Apple 2 Computer Technical Information



Apple II Computer Documentation Resources

DOCUMENTATION FOLDER

www.textfiles.com/apple/
18 September 2000

space. vikings	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	wings. of. fury	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
spare. change	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	wings. read	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
speedwayclassi c	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	wiz. 3. monst. 1	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
spellpruf	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	wiz. z. 3. monst. 2	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
spliffire. simula	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	wizardry. edit or	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
spooler	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	wizardry. i. rule	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
spy. hunter	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	wizardry. i. spel	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
spy. vs. spy. 2	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	wiz pri nt	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
ss. songwriting	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	woggl e	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
ssmith. ref	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	wol fenstein. n. map	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
standing. stones	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	word. fai r	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
star. league. bb	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	world. games	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
star. maze	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	world. gs	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
star. thief	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	world. iie	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
star. warrior	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	world. tour. d	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
stevie. doc	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	wrath. denether1	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
t. beagle. bag	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	wrath. denether2	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
tasc. 1	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	x. j ump	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
tasc. 2	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	x. ndmsend. doc	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
tele. porter	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	x. ndmsend. s	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
telegard. cmd5	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	xenoci de	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
templ e. apshai	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	xyphus	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
testdrive	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	xyphus. 1a	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
tex	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	xyphus. 1b	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
the. other. side	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	xyphus. 2	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
the. quest	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	yanki t	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
the. snapper	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	ymodem	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
thi rd. iigs	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	z920hst	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
thi rd. iigs. ref	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	zapcode	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
threshold	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	zippy. zombi	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
thunderbombs	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	zmodem	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
tic	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	zonkers	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
tie	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM	zoom. graphi cs	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM
time. mast. v2. 1	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
time. tunnels	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
to. ul tramacro	TEXT R*ch	194K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
tomahwk. gs	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
top. fuel	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
tracer. sancti on	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
track. n. pack	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
triad	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
trinity	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
triple. dump	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
tubeway. trick	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
tunnel. scheat. 2	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
turbo	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
twerps	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
u. boat. command	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
ukrull. prayers	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
ultima. i. part. 1	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
ultima. i. part. 2	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
ultima. ii	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
ultima. iii	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
ultima. iii. 1	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
ultima. iii. 2	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
ultima. v. 2	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
ultima. v. lters	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
ultima. v. maps	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
ultima. v. qref	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
ulyssis	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
unify	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
universe. 1	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
universe. 2	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
universe. 3	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
universe. 4	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
universe. 5	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
universe. ii. 1	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
universe. ii. 2	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
viet. cong	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
vip. professiona	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
visical c	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
wapabbs	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
war. i. n. russi a	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
warriors. rasi 1	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
wasteland	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
wime. hi nts	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
wime. ref	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
windwal ker	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							
windwal ker. ref	TEXT R*ch	97K Lvbbspol mad	8/1/99	11: 11 AM	1/30/74	5: 51 PM							

DOCUMENT ! T E X T F I L E S

Apple II Textfiles

www.textfiles.com/apple/
18 September 2000

With the introduction of the Apple II family of computers, the wonders of programming, communicating, and just plain geeking out became affordable for an entire generation of budding enthusiasts and their families. By the end of the 70's an entire culture had risen up around the Apple II, and the energy of thousands of hardware and software hackers went into learning every last op-code and settable switch within the machine.

It can't be discounted that Apple's successful foray into the educational market resulted in schools countrywide brimming with Apple IIs, and social groups collecting around the labs after school hours. All manner of things happened there, some documented below.

These files range from explicit memory maps of the Apple II to long tutorials on how to "crack" games, that is, remove all copy protection and make the game easier to distribute between other pirates.

Filename	Size	Description of the Textfile
DOCUMENTATION	DIRECTORY	"Soft Dox" for Apple Programs
GENIELAMP	DIRECTORY	Archive of the Genielamp A2, the GENie Apple II Roundtable
WALKTHROUGHS	DIRECTORY	Walkthroughs of Apple II Specific Adventures
acos.hst.mod	6235	How to get Speed out of your HST and HST Dual Standard Modem on an Apple IIGS
advdem.app	16645	Technical notes for Advanced DeMuffin II, a cracking tool
aecomman.app	1792	A list of commands for Ascii Express
aids	1024	Method for detecting the "Cyberaids Virus", by The Chemist
alien.clues	1448	Passwords for Alien Mind, by The Undertaker and the Vandal
ansi.spcs	24911	ANSI and VT100 Codes
apple.app	4157	Combining Applesoft with Assembly Language
apple.txt	4189	The Text of the Apple-Microsoft Agreement
apple2.gs	9388	The Sad, True Truth of the Apple II GS (Stands for Goddamned Slow)
appleii.jok	1384	The Unofficial Apple II Brainwash Test by Fred E. Long
applemaf.txt	22452	The Apple Mafia Story, as Told to Red Ghost
applenet.app	4096	Advertisement for Apple-net software. Note feature list
apples.txt	8230	Why the Apple II is Broken
appleser.app	11205	Apple //c Serial Port Information
applesoft.tips	2320	The Beagle Brothers Applesoft Tips Guide
appswitc.app	2677	Apple //e Soft Switch, Status, and other I/O locations
bin.ii	18944	Apple II Binary File Format, developed by Gary B. Little
bitsbaud.doc	11553	Bits, Baud Rate, and BPS, by michael A. Banks, 1988
boot1-6	102420	Collection of Apple-Oriented Texts and Flotsam from the Early 1980's.
boot1-6.hac	102420	Bootlegger Magazine Excerpts (Apple II Stuff)
catfur.app	7176	Bit Blaster's Information on the Cat Fur Modem
catstuff.app	9818	Expanding your Apple Cat // by the Warewolf
cheat.app	4424	All manner of cheats for various Apple II games
cheats	7416	LARGE Collection of Apple Cheats (Break into Monitor and Modify)
cheats.app	2749	The Penguin's Apple Cheats

cheats2.app	4498	Apple Pirate's Cheats
copyprog.app	2991	How to Copy Programs, by the Three Musketeers
copyprot.app	15163	Copy-Protecting your own disks, by Thomas T. Brylinski
correct.app	5716	Corrections to programming for the Apple Cat
cr.adder	1441	How to add Carriage Returns to Applesoft Databases
crack1.txt	1023	Introduction to a Talk on Software Piracy
crackdos.app	15403	Introduction to how AppleDOS operates
crackin.app	9989	An introduction to cracking by The Necromancer
crakowit.app	3647	Kracowicz' Cracking Corner IV
cramit.app	5062	An Introduction to Program Compression
cramit.txt	7040	Some Tips on Cramming Data with an Apple
crammin.app	5071	A simple compression scheme
crisis.app	1900	How to crack Crisis Mountain, by Doctor Who
deathcheat	517	Cheat for "Death Sword"
diskgo.txt	613	Getting Faster Apple DOS Speeds by Tamerlane of the Ring
diskjock.app	51504	Examining protected Applesoft programs, by the Disk Jockey
dos.chart	1678	The DOS 3.3 Memory Access Chart
dosless.txt	1792	Creating an Apple DOS-Less Disk
emu.pt.update	3739	Message: Bugs in IIGS Proterm v1.9p
errors.app	4286	A comment on error traps, by Nick Fotheringham
errors.txt	4480	A Comment on Error Traps by Nick Fotheringham from the Apple Barrel
expandca.app	9367	Expanding your Apple Cat, by Warewolf
futrae.app	4684	The Future Evolution of Ascii Express (Humor)
icon.convert	3308	Converting Apple IIGS Icons to Clip Art by Marty Knight
iigsprob.hum	2680	The Apple IIGS Sound Problem
joystick.app	5961	The Official Joystick Review Guide, by The Tracker
kickmacr.app	9981	How to kick butt with AE Macro Action
krack1.app	2927	High Technology's Cracking Tutorial, Part I
krack2.app	1765	High Technology's Cracking Tutorial, Part II
krack3.app	2239	High Technology's Cracking Tutorial, Part III
krack4.app	1887	High Technology's Cracking Tutorial, Part IV
krack5.app	2560	High Technology's Cracking Tutorial, Part V
krakowic.txt	13198	Kracowicz' Cracking Tips from ROM Radier
krckwcz.app	137510	The Kracowicz Basics of Cracking Series. A++
mac2info.app	11449	Late-breaking (1987) information on The Macintosh II
maccrack.app	5981	The Byte's introduction to Mac Cracking
machine.app	13084	Black Bag's Introduction to Machine Language for Cracking
machinel.app	15408	Dr. Firmware's Tutorial of Machine Language
macteam.app	9569	Macteam's thoughts on copy protection on the Macintosh
memory.txt	12020	An Apple Peek Poke, Call List
miffins2.txt	1421	How to use Demuffin Plus
ml.part.i	5680	The Machine Language Tutorial Disk by Dr. Firmware
ml.part.ii	5370	The Machine Language Tutorial Disk Part II by Dr. Firmware
ml.part.iii	5627	The Machine Language Tutorial Disk Part III by Dr. Firmware
ml.part.iv	4970	The Machine Language Tutorial Disk Part IV by Dr. Firmware
ml.part.v	5703	The Machine Language Tutorial Disk Part V by Dr. Firmware
ml.part.vi	5210	The Machine Language Tutorial Disk Part VI by Dr. Firmware
oneguy.txt	1408	Hey, If You Pirate the Game, Don't Call Tech Support
oo.world.info	3206	The Magnet Previews Out of This World GS
opcodez.app	2811	Various Apple Opcodes
param2.app	16201	Parameters of Nibbles Away II for various

Apple II Computer Info

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software packages
peekpoke.app 21120 A really large collection of Apple II PEEKs and
                 POKEs
peeks.pokes 2957 Description of the differences between CALL,
                 PEEK and POKE in Applesoft
peeks.pokes.1 6166 Collection of Apple Peeks and Pokes
peeks.pokes.2 4396 Collection of Apple Peeks and Pokes in the Zero
                 Page Area
peeks.pokes.3.114869 Apple Peeks, Pokes and Calls List Version 2.1
                 by The Enforcer (May 1984)
peeks.pokes.3.25377 Miscellaneous Applesoft Information, by Control
                 Reset
pitfall2.txt 2176 Soft Docs for Pitfall 2: Lost Caverns
pm2600.app 3045 The Poor Man's 2600 Hertz by Sir Briggs
pokelist.app 19769 A really large collection of Apple II PEEKs and
                 POKEs (Duplicate)
quick.draw.3 5122 Quick-Draw Adventure Mapper by Sherlock Apple
                 (Part III)
quick.spells 3256 Quick-Draw Adventure Mapper by Sherlock Apple
                 (Spells)
secretk.app 6956 Secret Keys: Little easter eggs and news about
                 Apple II games
softkey 21083 Softkey Unprotections for a Variety of
                 Commercial Programs
trace2.app 11562 Mr. Xerox' boot tracing, volume I (badly
                 converted)
usr.16.8k 85773 The Info File on the USR Robotics 16.8k Model
vidomac.app 33057 1986 Seminar on "Macintosh in Film and TV
                 Production"
vt100 3685 DEC VT-100 Compatible Cursor Command Sequences
wings.fury.cht 606 Cheat to Wings of Fury
wizardry.4.info3012 Advice about playing Wizardry IV
xmodem 21581 XMODEM Protocol Reference, by Ward Christensen
                 January 1, 1982
ymodem.s 13048 YMODEM Source Code for GBBS by Mike Golazewski
                 or Greg Schaefer
zmodem.gbbs 7045 The Addition of ZMODEM to GBBS!

```

There are 98 files for a total of 1,155,472 bytes.
 There are 3 directories.

If you wish to have the entire directory conveniently archived and compressed into one file, please download either apple.tar.gz (6130920 bytes) or apple.zip (6496886 bytes) instead of all the files separately.

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=====
DOCUMENT .descs
=====
aargh DOCS: Aaaaargh! Documentation, by The Stork and Ernst Rohm
abbs.inst DOCS: ABBS Bulletin Board Software
abbs.sysop.inst DOCS: Congratulations on becoming an ABBS SysOp! (In ABBS Code)
about.lr DOCS: Lode Runner II Cracked, German Version
aboutmmdemo DOCS: MidiMate - A Midi File Utility for the Apple IIGS Computer by
                 Lindsay B. Hough, Ph.D. (1990)
abyssal.zone DOCS: The Abyssal Zone, written by The COG
ace.mini.cheat DOCS: Space Ace Mini-Chat, by Mach Three (October 9, 1990)
achon.txt DOCS: Archon, by Hardware Heister and Belle Starr
acos.tutor.1 DOCS: ACOS Tutorial version 1.2, by UPS Network
acos.tutor.2 DOCS: ACOS Tutorial Part 2, from UPS
acos.tutor.3 DOCS: ACOS Tutorial Part 3, by UPS
acos.tutor.4 DOCS: ACOS Tutorial Part 4, by UPS
acrojet.codes DOCS: Codes for Acrojet - Compiled by Mr.Cairo
acrostics DOCS: Modifying Acrostics
ae.pro.pt1 DOCS: ASCII Express Profession 3.4x from Southwestern Data Systems
ae.pro.pt2 DOCS: ASCII Express Professional, Part 2
agate.069 DOCS: Agate (Disk Utilities) by Tony Marques
airball DOCS: Airball, by The Road Warrior (June 27, 1989)
airball.cht DOCS: Airball Cheat, by Joe User
airsim.3 DOCS: AIRSIM 3, by Bets C.
alertsound DOCS: Alert Sound Control Panel Device (CDEV) By Joshua M. Thompson (1991)
algebra.tutor DOCS: Algebra Tutor by David Leithauser
alkemstone DOCS: Alkemstone
alpha.plot DOCS: Alpha Pilot, by MasterDisk
amdos.info DOCS: AmdOS 3.5, by Gary B Little (1985)
ancent.art.1 DOCS: Ancient Art of War At Sea Docs, by Gountlet of CODFish
ancent.art.2 DOCS: Ancient Art of War at Sea Part 2, by Gauntlet of CODFish (1988)
ankh DOCS: ANKH, from Count Crackula and Houdini Software
apba.baseball1 DOCS: APBA Major League Players Baseball, by Pac-Rat
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shk.v3.4 DOCS: Shrinkit for the Apple II by Andy Nicholas and Karl Bunker
shogun DOCS: Shogun, by The Crasher and El Cid, as well as Ware Jerk (July 9, 1989)
short.circuit DOCS: Short Circuit by The Compiler
sideways.1 DOCS: Sideways, by The Penguin and Jay of A.P.P.L.E.
silent DOCS: Silent Service by Disk Doctor
sinbad DOCS: Sinbad and the Throne of the Falcon by Exocet of FactUS
skate.die DOCS: Skate or Die
skyfox DOCS: Skyfox by The Time Lord
skyfox.charts.1 DOCS: Skyfox Charts by The Wyvern
skyfox.charts.2 DOCS: Skyfox Charts Explained by The Wyvern
skyfox.hints.1 DOCS: Skyfox Hint Book by The Wyvern

Apple II Computer Info

skyfox.hints.2 DOCS: Skyfox Hint Booklet #2 by The Wyvern
smartboot DOCS: Smartboot by Steven Weyhrich
snake.byte DOCS: Snake Byte
snoopy2rescue DOCS: Snoopy to the Rescue by Apple Mafia
snowterm DOCS: Snow Term by John F. Snow
solo.flight DOCS: Solo Flight by The Wombat, The Gonif, Dr. Micro
sourceror.siva DOCS: Sorcerer of Siva
space.ace DOCS: Space Ace by East Coast Connection (October 2, 1990)
space.ace.solve DOCS: Space Ace by Lupus (Slightly Modified Version)
space.rg DOCS: Space Rogue by Kid Slick
space.rg.help DOCS: Space Rouge Help by The WiseGuy
space.shuttle.0 DOCS: Space Shuttle: A Voyage Into Space
space.shuttle.1 DOCS: For Space Shuttle by Disk Jockey
space.shuttle.2 DOCS: Space Shuttle (Part II)
space.vikings DOCS: Space Vikings
spare.change DOCS: Spare Change
speedwayclassic DOCS: Speedway Classic
spellpruf DOCS: Spellpruf by Mark Murphy
spitfire.simula DOCS: Spitfire Simulator
spooler DOCS: Print Spooler Classic Desk Accessory by Bill Tudor (1990)
spy.hunter DOCS: Spy Hunter, by The Minuteman
spy.vs.spy.2 DOCS: Spy vs. Spy by The Blind Thief
ss.songwriting DOCS: How in the world do I write a song in SoundSmith?!!
ssmith.ref DOCS: SoundSmith Reference
standing.stones DOCS: The Standing Stones by The Penguin
star.league.bb DOCS: Gamestar Stadium, by Random Access
star.maze DOCS: Star Maz
star.thief DOCS: Star Thief
star.warrior DOCS: Star Warrior
stevie.doc DOCS: Simply Try this Editor for VI Enthusiasts by Tony Andrews And G. R. (Fred) Walter
t.beagle.bag DOCS: Beagle Bag Instructions
tasc.1 DOCS: TASC by Judie Mac
tasc.2 DOCS: TASC Part II by Judie Mac
tele.porter DOCS: Teleporter by The Nut and Preston Junior
telengard.cmds DOCS: Telengard Command Key by The Wyvern
temple.apshai DOCS: Temple of Apshai
testdrive DOCS: Test Drive by The Disk Raper
tex DOCS: TEX - Text File Utility by Floyd Zink, Jr. (1988)
the.other.side DOCS: The Other Side by Man o War
the.quest DOCS: The Quest
the.snapper DOCS: The Snapper by Bets C.
third.iigs DOCS: The Third Courier IIGs by The Mechanic and Senkrad
third.iigs.ref DOCS: The Third Courier by The Mechanic
threshold DOCS: Threshold
thunderbombs DOCS: Thunderbombs
tic DOCS: Talk is Cheap by Donald Elton (1987)
tie DOCS: The Icon Editor (TIE) by ACE Software (February 12, 1988)
time.mast.v2.1 DOCS: TimeMaster IIGs v2.1 (13 August 1992)
time.tunnels DOCS: Time Tunnels by The Intern and The Chief Surgeon of Black Bag
to.ultramacro DOCS: Timeout UltraMacros by Beagle Brothers
tomahwk.gs DOCS: Tomahawk GS Documentation (May 30, 1988) by The Terminator
top.fuel DOCS: Top Fuel Eliminator by Tom E. Hawk
tracer.sanction DOCS: The Tracer Sanction by The Clone kids
track.n.pack DOCS: Track/N/Pack Pro 1.0 by Sergeant Busbee of IPG and The Bunny Slayer
triad DOCS: Triad
trinity DOCS: Infocom's Trinity by The Sheik (1986)
triple.dump DOCS: Triple Dump by The Masochist of Hires Hijackers
tubeway.trick DOCS: Tubeway Trick
tunnelscheat.2 DOCS: Tunnels of Armageddon Cheat Number Two by Dr. Microchip
turbo DOCS: Turbo Run, by The Game Master and Waldo
twerps DOCS: Twerps
u.boat.command DOCS: U-Boat Command
ukrull.prayers DOCS: The Covert Society by Gator
ultima.i.part.1 DOCS: Ultima I (The New Version) by Hobin Rood
ultima.i.part.2 DOCS: Ultima I (The New Version) by Hobin Rood (Part II)
ultima.ii DOCS: Command List for Ultima II
ultima.iii DOCS: Ultima III Documentation by Dr. Who
ultima.iii.1 DOCS: Ultima III SuperDoc
ultima.iii.2 DOCS: Ultima III Super Doc (Part II)
ultima.v.2 DOCS: Ultima V Quick Dox and Reference
ultima.v.lters DOCS: Britannian Writing Key by Snipper
ultima.v.maps DOCS: Ultima V Maps
ultima.v.gref DOCS: Ultima V Quick Reference by Chief Justice March 15, 1988
ulyssis DOCS: Ulysses and the Golden Fleece by Bsbal the Wise and Michael Decaye
unify DOCS: Unify - A Unidisk Checksum Utility version 1.1 by The Screamer (June 1, 1987)
universe.1 DOCS: Universe Documentation Part 1A by The Camel Jockey
universe.2 DOCS: Universe Documentation Part 1B by The Disk Jockey
universe.3 DOCS: Universe Documentation Part 1C by The Disk Jockey
universe.4 DOCS: Universe Documentation Part 2 by The Disk Jockey
universe.5 DOCS: Universe Documentation Part 3A by The Disk Jockey
universe.ii.1 DOCS: Universe II Documentation by Dr. Fix
universe.ii.2 DOCS: Universe II Docs Part II
viet.cong DOCS: The Viet Cong
vip.professiona DOCS: VIP Professional keyboard
visicalc DOCS: Visicalc Command Chart by Night Hawk
wapabbs DOCS: WAPABBS (Assembly Tracer)
war.in.russia DOCS: War in Russia, by Dos Toyevski and Palantir Computing
warriors.rasii DOCS: Warriors of RAS Volume II by KAIW
wasteland DOCS: Wasteland by Blue Adept and The Crackforce
wime.hints DOCS: War in Middle Earth
wime.ref DOCS: War in Middle Earth, by MNorgoth
windwalker DOCS: Windwalker 2e, Tales of Moebius, by The Neuromancer of Club 96
windwalker.ref DOCS: Windwalker 2e Apple II Quick Reference by Neuromancer
wings.of.fury DOCS: Wings of Fury, by Sir Beeblebrox
wings.read DOCS: Salvation Wings Late News and User's Guide Update (December 1, 1990)
wiz.3.monst.1 DOCS: Wizardry III Monster Descriptions
wiz.3.monst.2 DOCS: Wizardry III Monsters
wizardry.editor DOCS: Wizardry Scenario Editor by The Big M (April 12, 1981)
wizardry.i.rule DOCS: Wizardry Documentation Part 1 from Sir Tech Software by Some Other Guy
wizardry.i.spel DOCS: Wizardry Part II, Spells, by Some Other Guy
wiziprint DOCS: Wiziprint by The Penguin
woggle DOCS: Woggle 0.9b from William Gulstad
wolfenstein.map DOCS: Castle Wolfenstein II Maps
word.fair DOCS: Word Fair from Carl Steadman
world.games DOCS: Epyx World Games, by Micro Mack
world.gs DOCS: World Games, by High Voltage
world.iie DOCS: Epyx World Games, by Micro Mack and Dr. Phreak
world.tour.d DOCS: World Tour Golf by Beta
wrath.denether1 DOCS: Wrath of Denethenor
wrath.denether2 DOCS: Hints for the Wrath of Denethenor by the Nudge
x.jump DOCS: X.Jump, by Mr. Mayhem
x.mdmsend.doc DOCS: X.MDMSEND by Eugene Skonicki (Hermes) Version 1.0
x.mdmsend.s DOCS: X.Command by Hermes December 23, 1992
xenocide DOCS: Xenocide 65 by Hellrazer
xyphus DOCS: Xyphus, by Chief Surgeon and The Penguin (August 3, 1984)
xyphus.la DOCS: Xyphus, by The Penguin
xyphus.lb DOCS: Xyphus Part 2, by The Penguin
xyphus.2 DOCS: Xyphus Spellcasting and Magic by The Penguin
yankit DOCS: YankIt v1.2 (1992)
ymodem DOCS: XMODEM/YMODEM Protocol Reference
z9200hst DOCS: 19200HST: Locks your Apple Serial Port at 19200 baud
zapcode DOCS: Zapcode, Professional Printer Control v3.2, May 18, 1990
zippy.zombi DOCS: Zippy Zombi, by John Romero
zmodem DOCS: ZMODEM Protocol Reference, by Chuck Forsberg
zonkers DOCS: Zonkers, by J.D. Holdeman
zoom.graphics DOCS: Zoom Grafix

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As a large amount of programs were illegally copied on the Apple (a situation
that was common on pretty much every Microcomputer platform), it became
necessary for users to share the documentation from the original package so
that the disks were useable.
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A small number of these "Soft Dox" are also for pirating programs themselves,
which supplied their own documentation, often with a very entertaining bent
in the writing.
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DOCUMENT .musings
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t.beagle.bag DOCS: Beagle Bag Instructions
tasc.1 DOCS: TASC by Judie Mac
tasc.2 DOCS: TASC Part II by Judie Mac
tele.porter DOCS: Teleporter by The Nut and Preston Junior
telengard.cmds DOCS: Telengard Command Key by The Wyvern
temple.apshai DOCS: Temple of Apshai
testdrive DOCS: Test Drive by The Disk Raper
tex DOCS: TEX - Text File Utility by Floyd Zink, Jr. (1988)
the.other.side DOCS: The Other Side by Man o War
the.quest DOCS: The Quest
the.snapper DOCS: The Snapper by Bets C.
third.iigs DOCS: The Third Courier Iigs by The Mechanic and Senkrad
third.iigs.ref DOCS: The Third Courier by The Mechanic
threshold DOCS: Threshold
thunderbombs DOCS: Thunderbombs
tic DOCS: Talk is Cheap by Donald Elton (1987)
tie DOCS: The Icon Editor (TIE) by ACE Software (February 12, 1988)
time.mast.v2.1 DOCS: TimeMaster Iigs v2.1 (13 August 1992)
time.tunnels DOCS: Time Tunnels by The Intern and The Chief Surgeon of Black Bag
to.ultramacro DOCS: Timeout UltraMacros by Beagle Brothers
tomahwk.gs DOCS: Tomahawk GS Documentation (May 30, 1988) by The Terminator
top.fuel DOCS: Top Fuel Eliminator by Tom E. Hawk
tracer.sanction DOCS: The Tracer Sanction by The Clone kids
track.n.pack DOCS: Track/N/Pack Pro 1.0 by Sergeant Busbee of IPG and The Bunny
Slayer
transylvania Solution to Transylvania by The Enchantor
triad DOCS: Triad
trinity DOCS: Infocom's Trinity by The Sheik (1986)
triple.dump DOCS: Triple Dump by The Masochist of Hires Hijackers
tubeway.trick DOCS: Tubeway Trick
tunnels.cheat.2 DOCS: Tunnels of Armageddon Cheat Number Two by Dr. Microchip
turbo DOCS: Turbo Run, by The Game Master and Waldo
twerps DOCS: Twerps
u.boat.command DOCS: U-Boat Command
ukrull.prayers DOCS: The Covert Society by Gator
ultima.i.part.1 DOCS: Ultima I (The New Version) by Hobin Rood
ultima.i.part.2 DOCS: Ultima I (The New Version) by Hobin Rood (Part II)
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ultima.iii.2 DOCS: Ultima III Super Doc (Part II)
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ultima.v.lters DOCS: Britannian Writing Key by Snipper
ultima.v.maps DOCS: Ultima V Maps
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universe.3 DOCS: Universe Documentation Part 1C by The Disk Jockey
universe.4 DOCS: Universe Documentation Part 2 by The Disk Jockey
universe.5 DOCS: Universe Documentation Part 3A by The Disk Jockey
universe.ii.1 DOCS: Universe II Documentation by Dr. Fix
universe.ii.2 DOCS: Universe II Docs Part II
usr.16.8k The Info File on the USR Robotics 16.8k Model
viet.cong DOCS: The Viet Cong
viking.quest Walkthrough for Viking Quest by The Wyvern
vip.professiona DOCS: VIP Professional keyboard
visicalc DOCS: Visicalc Command Chart by Night Hawk
vt100 DEC VT-100 Compatible Cursor Command Sequences

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DOCUMENT aargh
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BROUGHT TO YOU BY :

THE STORK

WITH HELP FROM.....

ERNST ROHM & THE PROTECTORATE OF BOHEMIA

AAARGH! DOCUMENTATION:

The monsters are on the loose, heading out of their caves in the badlands and into the cities. They are coming to cause chaos, wreck havoc and inflict terrible destruction, as they search for the Roc's eggs.

The giant horned ogre and the hideous lizard are out to seek revenge on the humans who have for so long driven them back into the highlands.

CRUSH! MAIM! DESTROY!

Pulverize towns to find Roc's eggs, take them back to your cave, then providing that you can beat off the challenge from the other monsters and collect a hoard of five eggs, you will head off to the volcano and find the golden egg to win the game.

OGRE

Born in a damp cave in the north of the island, you have always had a hard life. When you were just a little ogre none of the other monster children would play with you, and now if you go into town, all the humans scream and fire cannon at you. It could have something to do with the fact that you are twenty feet tall, with 2 horns in the middle of your forehead. Alternatively, it could be your halitosis, which is so bad it sets things on fire. Or even the fact that you can knock down stone wall with your fists. Anyway, now it is your turn to get your revenge, you are going to claim the golden egg.

LIZARD

So what do you do if you happen to be an eighteen foot tall green scaly lizard, with a spiked tail and a penchant for young ladies, preferably flame grilled in your own breath? Well, you set up home in the mountains and start work on your first hoard and try and terrorize the neighborhood. So when you learn that that infuriating ogre is after the golden egg that lies under the volcano, there is nothing to do but to head into town and try and get there first.

THE ISLAND

Darance is a quiet, peaceful island, where the humans go about their daily business with a smile on their face and a song in their heart, ah! They are totally unaware that they are about to receive a visit from two of the most terrible and ferocious monsters ever to see the light of day.

THE CITIES

Awaiting your destruction there are ten cities. These include a primitive village of straw huts, a wild west fort, a Chinese pagoda, an Indian temple, and many others before your final goal of the famous volcano.

GAME PLAY

In each city you need to destroy the buildings until you find the Roc's egg. There is an egg hidden in most but not all of the cities. You will need to punch the

buildings to demolish them, or flame them to set them on fire, while fighting off the other creatures on the screen. Watch out for the hornets that fly across the screen and sting you. Be wary of the weapons the humans try to bring to bear. You will need to destroy these before they destroy you.

FOOD

You can eat the junk food and the people. These increase your health, thus enabling you to continue your destruction for longer.

FIRE POWER

Eat the lightning to revitalize your fire power.

HEALTH

Every time you are hit your health decreases. Your health is represented by the word "Aaargh," by your character at the top of the screen. When the word is completely formed, you will die a very bloody death.

COMPLETING A LEVEL

When you have captured the egg you will take this back to your treasure cave. Unfortunately, life is never easy and you will need to fight to keep your treasure.

You have a limited amount of time to find the egg. After a certain period, the natives will have had time to hide the egg from you, and you will have to go on to another scene.

When you have succeeded in gathering a hoard of five eggs, you can go to the volcano and try to capture the big one, the final Roc's egg, a golden egg to surpass all others.

CONTROLS

Either joystick or keyboard.

Joystick
Use the stick to move left, right, up, down, or diagonally.

To flame, first face the direction you want to flame. Then press the appropriate joystick button.

To punch, first face the direction you want to punch. Then press the appropriate joystick button to punch straight out, or press the joystick button while pushing the stick up or down to punch up, punch down, or to pick up people or other nourishment.

KEYBOARD

Use the number keypad to move left, right, up, down, or diagonally. Press 5 to stop.

To flame, first face the direction you want to flame. Then press the spacebar to flame.

To punch, first face the direction you want to punch. Then press the Shift key to punch straight out, or press shift and the directional key to punch up, punch down, or to pick up people or other nourishment.

OTHER CONTROLS

ESC - Pause

S - Sound off/on

Q - Quit

R - Restart

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DOCUMENT abbs.inst

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INFORMATION ON THIS ABBS

TO TEMPORARILY STOP THIS (OR ANY OTHER LISTING), TYPE CTRL-S. TYPE ANY OTHER CHARACTER TO RESUME. TO GO BACK TO THE COMMAND PROMPT, TYPE CTRL-C OR CTRL-K.

THIS ABBS ALLOWS YOU TO ENTER AND RETRIEVE MESSAGES, FIND OUT INFORMATION BY LISTING FILES, AND SEND AND RECEIVE PROGRAMS TO AND FROM THE ABBS.

THE ABBS USES YOUR W.A.P. NUMBER (WAPXXX OR WPXXXX) TO KEEP TRACK OF SENDERS AND RECIPIENTS OF MESSAGES. MESSAGES ARE REFERENCED BY AN ARBITRARY NUMBER (1-138) BUT YOU CAN USE THE S (SUMMARY) AND L (LIST MULTIPLE MESSAGES) COMMANDS TO REVIEW THEM IN CHRONOLOGICAL ORDER WITHIN A SPECIFIED NUMBER OF DAYS.

MESSAGES:

ENTERING A MESSAGE:
YOU WILL BE ASKED TO GIVE THE WAP NUMBER OF THE PERSON TO WHOM THE MESSAGE IS INTENDED. FOR MESSAGES TO EVERYONE, USE "ALL". YOU THEN ENTER A 20-CHARACTER SUMMARY OF THE SUBJECT OF THE MESSAGE. YOU CAN THEN ENTER UP TO 10 LINES OF UP TO 39 CHARACTERS EACH. YOU CAN FIND A PERSON'S WAP NUMBER WITH THE "W" (WHO) COMMAND. IF SOMEONE HAS SENT A YOU A MESSAGE, THEIR NUMBER WILL BE IN THE MESSAGE HEADER ("FROM WAPXXX"). THE ABBS WILL KEEP YOUR LINES TO LESS THAN 40 CHARACTERS. USE BACKSPACE (LEFT-ARROW), RIGHT-ARROW (CTRL-U) AND CTRL-X AS YOU NORMALLY DO. YOUR MESSAGE CAN ONLY BE 10 LINES LONG. IF YOU DON'T NEED 10 LINES, JUST ENTER A RETURN WHEN YOU ARE THROUGH. THEN THE ABBS WILL ASK IF YOU WANT TO EDIT THE MESSAGE OR SAVE IT AS IS. IF YOU DO NOT SAVE IT, YOU CAN USE THE EDIT COMMANDS (SEE "A" BELOW) TO MAKE CHANGES. TO EXIT MESSAGE ENTRY, USE "CANCEL".

RETRIEVING A MESSAGE:

THERE ARE THREE WAYS TO RETRIEVE MESSAGES: "L" WILL LIST ALL MESSAGES WITHIN A SPECIFIED NUMBER OF DAYS; ENTERING JUST A MESSAGE NUMBER WILL RETRIEVE THAT MESSAGE.

AFTER YOU HAVE READ A MESSAGE SENT ONLY TO YOU, YOU WILL BE ASKED WHETHER YOU WANT TO DELETE THE MESSAGE. UNLESS YOU MUST KEEP IT ON THE SYSTEM FOR SOME REASON, PLEASE DELETE IT TO FREE UP THE SPACE FOR ANOTHER MESSAGE. ALSO, DELETING IT WILL TELL THE SENDER THAT YOU HAVE READ THE MESSAGE. ONLY THE YOU, THE SENDER AND THE SYSOP CAN DELETE A MESSAGE TO YOU,

AND I ONLY DO SO AFTER IT HAS BEEN ON THE SYSTEM FOR MORE THAN A MONTH.

MESSAGE SUMMARIES:

SUMMARIES CAN BE OBTAINED WITH EITHER THE "Q" COMMAND OR THE "S" COMMAND.

THE "Q" COMMAND WILL GIVE YOU THE MESSAGE NUMBERS OF MESSAGES SENT TO YOU, TO ALL, AND FROM YOU. WHEN YOU SIGN ON, THE ABBS ALSO LISTS THE NUMBERS OF MESSAGES SENT TO YOU.

THE "S" COMMAND ASKS YOU HOW FAR BACK YOU WISH TO SEARCH, AND WHETHER YOU WISH TO FLAG MESSAGES FOR LATER READING IN FULL. THE SUMMARY WILL LIST THE SENDER, THE RECIPIENT, THE DATE THE MESSAGE WAS SENT, AND THE SUBJECT OF THE MESSAGE.

DELETING A MESSAGE:

THE "D" COMMAND WILL LIST THE SUMMARY OF THE MESSAGE AND ASK YOU IF YOU WANT TO DELETE IT. ONLY THE SENDER, THE RECIPIENT (IF NOT TO ALL) AND THE SYSOP CAN DELETE MESSAGES. SO THAT EVERYONE CAN USE THE ABBS, PLEASE DELETE YOUR OLD MESSAGES!!

AMENDING A MESSAGE:

THE "A" COMMAND AND THE EDIT OPTION OF THE "E" COMMAND ALLOW YOU TO CHANGE THE RECIPIENT, SUMMARY OR TEXT OF A MESSAGE. IF THE MESSAGE HAS FEWER THAN 10 LINES, YOU MAY ADD A LINE. YOU CAN'T DELETE A LINE, BUT REPLACING IT WITH 1 OR 2 SPACES WILL HAVE THE SAME EFFECT.

INFORMATIONAL PRINTOUTS:

THE "H" COMMAND GIVES A SHORT DESCRIPTION OF ALL AVAILABLE COMMANDS AND CONTROL CHARACTERS. NEW USERS MAY WANT TO MAKE A PRINTOUT OF THIS LIST FOR HANDY REFERENCE. (IF YOUR PRINTER IS TOO SLOW, SEE THE "N" COMMAND, EXPLAINED BELOW.)

THE "?" COMMAND LISTS ONLY THE LETTERS OF ALLOWED COMMANDS, AND IS FOR QUICK REFERENCE.

THE "B" COMMAND LISTS OTHER COMPUTER BULLETIN BOARD SYSTEMS. IF YOU KNOW OF ANY CHANGES THAT SHOULD BE MADE -- AND CHANGES OCCUR FREQUENTLY AS SYSTEMS START UP OR SHUT DOWN -- PLEASE LEAVE THE SYSOP A MESSAGE.

THE "P" COMMAND WILL PRINT OUT THE BULLETIN THAT YOU WERE GIVEN THE OPTION OF SEEING WHEN YOU SIGNED ON. IT ALSO PRINTS OUT THE LIST OF MESSAGES FOR YOU.

THE "M" COMMAND LISTS THE MEETING DATES, TIMES AND LOCATIONS OF ALL MEETINGS OF WASHINGTON APPLE PI AND THE NORTHERN VIRGINIA APPLE USERS GROUP, NOVAPPLE. ALSO LISTED IS INFORMATION ON MEETINGS OF W.A.P.'S SPECIAL INTEREST GROUPS, KNOWN BY THE ABBREVIATION "SIG", AND TUTORIALS, CLASSES ON SPECIAL SUBJECTS FOR WAP MEMBERS.

THE "\$" COMMAND LISTS THE CURRENT ITEMS AND PRICES OF ITEMS OFFERED FOR SALE THROUGH THE CLUB STORE. THESE PRICES ARE NOT OFFICIAL, AS THIS IS NOT A COMMERCIAL BULLETIN BOARD. POTENTIAL CUSTOMERS SHOULD CALL THE CLUB STORE FOR FURTHER, DEFINITIVE INFORMATION.

THE "O" COMMAND IS A USERS' OPINION POLL. THIS IS AN IMPORTANT FEEDBACK DEVICE FOR THE SYSOP AND FOR THE CLUB. QUESTIONS ARE CHANGED WEEKLY. PLEASE GIVE EVERYONE THE BENEFIT OF YOUR OPINION!

THE "I" COMMAND LISTS THIS INFORMATION ABOUT THE ABBS.

HOUSEKEEPING COMMANDS:

LINEFEEDS AND NULLS:

IF AT ANY TIME YOU SEND THE ABBS A LINEFEED, THE ABBS WILL BEGIN TO SEND YOU LINEFEEDS. IF YOUR COMPUTER SENDS A LINEFEED AFTER CARRIAGE RETURNS, THE FIRST "ENTER A CARRIAGE RETURN" SHOULD ENABLE LINEFEED INSERTION. (LINEFEEDS ARE NEEDED BY CP/M SYSTEMS AND SOME PRINTING TERMINALS.) YOU CAN USE THE "N" COMMAND TO TURN LINEFEED INSERTION ON OR OFF.

NULLS ARE THE ABBS' WAY OF ALLOWING YOUR PRINTER TO KEEP UP WITH THE ABBS. CRT'S AND SOME PRINTERS DON'T NEED THEM. IF YOU DO NEED THEM, THE "N" COMMAND WILL TELL YOU THE CURRENT DELAY AFTER CARRIAGE RETURNS, WHICH CAN BE 0-2.55 SECONDS, AND SPEED. BECAUSE NORMAL TRANSMISSION IS ONLY AT 30 CHARACTERS/SECOND, ONLY SPEEDS OF 100 OR LESS HAVE ANY EFFECT. "SPEED=" IS IN EFFECT AT ALL TIMES REGARDLESS OF WHETHER LINEFEED INSERTION IS ON. "SPEED=" IS JUST APPLESOFT'S "SPEED=" COMMAND.

KNOWLEDGABLE USER:

WHEN YOU KNOW THE WORKINGS OF THE ABBS WELL, YOU CAN USE THE "K" COMMAND TO ELIMINATE SOME OF THE PROMPTS. THIS WILL SPEED UP OPERATIONS SOME. TO TURN IT OFF, ENTER "K" AGAIN.

80-COLUMN MODE:

IF YOU ARE USING A PRINTER OR 80-COLUMN BOARD, YOU CAN CHANGE EVERY OTHER CARRIAGE RETURN INTO A SPACE WITH THE "+" COMMAND. TO TURN IT OFF, ENTER "+" AGAIN.

USERS AND WAP NUMBERS:

THE "W" (WHO) COMMAND ALLOWS YOU TO FIND A PERSON'S WAP NUMBER IF YOU KNOW THE FIRST TWO LETTERS OF THE PERSON'S LAST NAME, AND TO FIND HIS OR HER NAME IF YOU KNOW HIS OR HER WAP NUMBER.

LOWER CASE:

USE CTRL-L LIKE A SHIFT-LOCK KEY TO TOGGLE OFF OR ON LOWER-CASE TRANSLATION. IF YOU WANT TO SEE LOWER CASE, ENTER CTRL-L ANY TIME THE ABBS EXPECTS INPUT. ENTERING CTRL-L AGAIN

MAKES ALL LOWER CASE INTO UPPER CASE.
 ONLY THE SUBJECT AND TEXT OF MESSAGES
 CAN BE MADE LOWER CASE; EVERYTHING
 ELSE WILL ALWAYS BE UPPER CASE.
 CHATTING WITH THE SYSOP:
 OCCASIONALLY, I WILL BE ABLE TO
 CHAT WITH YOU. TO SEE IF I AM AVAIL-
 ABLE, ENTER "C". IF I AM LISTED AS
 "NOT AVAILABLE", IT DOES NOT MEAN THAT
 I AM NOT PHYSICALLY HERE, IT MEANS
 ONLY THAT I AM OTHERWISE OCCUPIED WITH
 MY MUNDANE EXISTENCE (EATING, SLEEP-
 ING, DOING CHORES, ETC.) IF I AM
 LISTED AS AVAILABLE, YOU CAN RING ME.
 CONTINUE USING THE ABBS, AND WHEN I
 COME TO THE KEYBOARD, I WILL BREAK IN
 FOR A FRIENDLY CHAT ABOUT WHATEVER
 INTERESTS US.

FILE TRANSFER SYSTEMS:
 THE "X" COMMAND ENTERS A FILE
 TRANSFER SUBSYSTEM. IT HAS A SEP-
 ARATE HELP COMMAND.

GENERAL INFORMATION:
 THIS SYSTEM RUNS ON AN APPLE II
 IN APPLESOFT AND ASSEMBLY LANGUAGE
 USING A D.C. HAYES MICROMODEM II UNDER
 A PROGRAM WRITTEN BY THOMAS S. WARRICK
 (BASED ON SOME EARLIER WORK DONE BY
 JOHN MOON) FOR WASHINGTON APPLE PI,
 THE WORLD'S SECOND LARGEST APPLE COM-
 PUTER USERS' GROUP.

YOUR CURRENT SYSOP IS: (INSERT
 YOUR NAME)
 THE POLICY OF THIS ABBS PROHIBITS
 COMMERCIAL MESSAGES. "COMMERCIAL"
 MEANS ANY OFFER OR SOLICITATION OF AN
 OFFER FOR A PRODUCT OR SERVICE BY ANY-
 ONE IN THE TRADE OR BUSINESS OF SEL-
 LING THAT PRODUCT OR SERVICE. CASUAL
 SALES OF PERSONAL PROPERTY ARE PERMIT-
 TED. THESE RULES SHOULD NOT BE CIR-
 CUMVENTED THROUGH THE ACTIVITY OF
 OTHERS.

EXCEPT FOR CONTROL CHARACTERS C,
 H (BACKSPACE), K, L, M (RETURN), S,
 AND U (RIGHT-ARROW), ALL CONTROL CHAR-
 ACTERS ARE IGNORED. (THIS MEANS NO
 "BEEPS".)

I WELCOME ALL YOUR COMMENTS AND
 SUGGESTIONS. MANY OF THEM WILL BE
 ACTED ON AS SOON AS THEY CAN BE IN-
 CORPORATED INTO THE PROGRAM. MANY
 OF THE MOST USEFUL FEATURES IN THE
 SYSTEM WERE SUGGESTED BY USERS.

ARTICLES EXPLAINING THE ABBS AP-
 PEARED IN THE JULY AND AUGUST 1982
 ISSUES OF WASHINGTON APPLE PI MAG-
 AZINE.

ENJOY!

(YOUR NAME)
 SYSOP

===== DOCUMENT abbs.sysop.inst =====

.cj
 SYSOP NOTES
 .lj

Congratulations! You are now about to become a Computer Bulletin Board System (CBBS) Operator. As System Operator (SYSOP), you will be responsible for maintaining a useful and informative service for your club, your organization, your friends, or the general public.

This program is called an Apple Bulletin Board System (ABBS), since it is a CBBS that runs on an Apple][. As to hardware, you will need:

An Apple][+ computer (or an Apple][with Applesoft on a ROMCARD or on a 16K Card);

Two standard Apple (or compatible) 5 1/4" disk drives running under DOS 3.3;
 A D.C. Hayes Micromodem II in slot 3 (you may move it to slot 2 after making certain changes in the program);

The two disks containing this file, the WAPABBS program and sample files ready for your own adaptation;

A viewing device such as a monitor, CRT, or TV set that will allow you to see what the ABBS is doing;

A text editor for the addition, deletion and maintenance of the text files that the ABBS uses. The DOS Tool Kit, sold by Apple Computer, is adequate for your needs; a word processing program that uses text files will probably also work. Many Apple users' groups have excellent text editors in their program libraries;

A Mountain Hardware CPS Multifunction Card in slot 4 (this is optional -- the ABBS will work without the clock card, but you must change the date manually);

A printer to print out listings and preserve a record of messages (this is optional also). In order for the printer to record what the ABBS is doing while in operation, you must have a printer that uses an Apple parallel interface card in slot 1 or is otherwise able to print out a character POKED to \$C090; and

Additionally, you will want to give serious consideration to giving the ABBS its own private telephone line. No matter what times you tell your users that your system is up, they will call in at all hours of the day or night.

This is not a "turnkey" system. In order to run an ABBS effectively, you will need to know BASIC reasonably well. It would not hurt to know some assembly language. You should either know or expect to acquire by experience some knowledge of modems. You should have the Apple and Micromodem II manuals; try also to obtain a copy of manuals for the Novation Apple Cat II and the D.C. Hayes Smartmodem because people with these popular modems will probably ask you how to use the ABBS with them.

This program is copyright (1982) by Thomas S. Warrick. Sale of these programs for any price more than a nominal amount in excess of the value of the media is prohibited without express permission of the copyright holders. (In other words, you can't sell a copy of anything on these disks for a profit.)

THE FILES ON THESE DISKS:

The files on these disks are designed to run in specific disk drives. In drive 1 should be the disk with these files:

WAPABBS -- This is the ABBS program. Disk 1 will run this program on boot-up so that if your system suffers a temporary power outage the system will restart itself. This program will be described in great detail below.

ABBS1.OBJ0 -- This binary file contains the input/output routines and the "&" routines, which handle the message summary strings. To run the ABBS with your Micromodem in slot 2, change one of the first line numbers in the program's source code (on disk 2) and re-assemble it. (You will also have to change line 10 of WAPABBS to set SL = 2.)

ABBS3.OBJ0 -- This binary file loads several machine language routines into page 3. Most important is the line input routine, which begins at 768 (\$300). The source file, ABBS3, is on disk 2.

STARTUP -- This text file contains 5 entries: today's date (in a special form discussed below in connection with field 3 of the MESSAGES file), the date of the last bulletin, the password for uploading files to the ABBS, the userid (pronounced YOU-zer-eye-dee, this string is used to identify a person, such as WAP001 or WP2027) for a person other than the SYSOP who is allowed to change the date, and the userid for a person other than the SYSOP who is allowed to change the date and to look at

the password file. Note that if you have the CPS card, you will not need to worry about setting the date (except for the bulletin date). These will be discussed more below.

MESSAGES -- This is the principal file to which your users will be reading and writing; thus, it is first on the disk in order to make disk access as fast as possible. Understanding the structure of Messages is very important to an understanding of WAPABBS. Messages is a random-access text file with a record length of 452 characters. The file is initialized with 138 "EMPTY" records. When a message is in use, it consists of up to 14 fields, each followed by a return:

The userid of the sender (6 characters);
 The userid of the recipient (6 characters);
 The date of the message (13 characters in the form YYMMDD.HHMMSS, where YY=year, MM=month, DD=day, HH=hour, MM=minute, SS=second; this is the format for the date that must always be used in the STARTUP file)

A summary of the message (20 characters); and
 The text of the message in up to 10 lines of up to 39 characters each. If the message is less than 10 lines, the last line of text is followed by a null line, i.e., a line with no characters prior to the return that ends the line.

USERS -- This text file contains 40-character records with this information:
 characters 1-4: The numeric portion of the userid, in 4-digit form. Thus user 1 is "0001"; user 2027 is "2027";
 characters 5-8: The password;
 characters 9-23: The user's name with last name first;
 characters 24-33: The last date the user called in, in the form YYMMDD.HHX, where X is 1/10ths of an hour. This is the maximum precision of Applesoft;
 characters 34-37: The number of times the user has signed on;
 character 38: The letter "N". This character is available for manipulation; you may, for example, use this character to record whether or not someone has answered the Opinion question;
 character 39: The "!" character. This is used to make a border on printouts of the file. It is also available for manipulation by your own revisions of WAPABBS;
 and

character 40: A carriage return.
 Note that after the return that ends the last user record there must be another return to signify the end of the file. The text editor you use to add or change passwords should be able to show you the length of this file. It must always be 1 greater than a number evenly divisible by 40 (e.g., 41 or 3961) in order for WAPABBS to work. WAPABBS accesses this file as a random-access file in order to check the passwords of users when they sign on, but as a sequential text file when printing out a list of passwords in response to a several command.

USERS.OBJ -- This binary file allows the USERS file to contain non-sequential userid numbers. Each location contains 255 (\$FF) if the user is allowed on the system and 0 if the user is not allowed on the system. Thus where the USERS file begins with user numbers 0001, 0002, 0004, 0006 and 0008, USERS.OBJ would begin \$FF \$FF \$00 \$FF \$00 \$FF. USERS.OBJ is loaded into memory at \$8400 and is \$1000 (4096 decimal) bytes long; the first userid, 0001, is stored at \$8401 and thus WAPABBS can have userid numbers up to 4095. An Applesoft program on disk 2, BUILD USERS.OBJ, allows you to update this file after you change the USERS file.

BULLETIN -- This text file is your way of communicating to all users any new information about the system, yourself, your club, or anything else. Everyone who signs on will be asked whether they want to read the bulletin before proceeding further. The bulletin is a sequential text file, and -- as with virtually all such files used by WAPABBS -- the last line entered must be a null line in order for the program to work properly. To keep your users' interest, you should change the bulletin at least weekly.

BBS -- This sequential text file gives phone numbers and other information of other CBBS systems in your area. Asterisks have been added as a border for esthetic purposes. This file also ends with a null line.

MEETINGS -- This sequential text file gives the dates, times and places of meetings of potential interest to your users. As this file comes to you, it gives the meeting information for Washington Apple Pi. This file also ends with a null line.

CLUB STORE -- This sequential text file provides information about any quasi-commercial ventures you, your organization, or anybody else may have. If you don't have any such activity, you may want to use this file as a "Shopper's Guide" to products, services and stores in your area. This file also ends with a null line.

In drive 2 should be the disk with these files:

INSTRUCTIONS -- This sequential text file gives instructions in the use of the ABBS to your new users. You should read these carefully. This file also ends with a null line. Insert your name in the file where appropriate.

BUILD USERS.OBJ -- This Applesoft program should be run every time you add or delete an entry to or from the USERS file. It looks at each record in the file and builds the USERS.OBJ file according to whether a particular userid is listed in the USERS file. BUILD USERS.OBJ then runs WAPABBS to restart the system.

TO SYSOP -- This sequential text file stores messages left to you by up to 9 people who do not have passwords. The first entry in the file is a one-digit number of the number of messages in the file. The text of the messages follows. This file may be retrieved only by you.

UPLOAD1 -- This sequential text file gives the instructions for uploading and downloading files from the ABBS. "Uploading" means sending files from other computers to the ABBS; "downloading" means sending files from the ABBS to other computers.

UPLOAD2 -- This sequential text file contains a list of files available for uploading. A null line terminates the listing; this is necessary so that uploads will adjust this file properly.

OPINION -- This sequential text file has as its first record a question to which everyone can respond. Answers are stored right after the question. Only you can see the answers, however. No check is made to see whether someone has answered more than once.

REMEMBER II -- This text file is available for downloading. You should EXEC it with MON I in effect, and BSAVE it as it says. This is, if I may say, an excellent terminal program for the Micromodem II. Non-commercial distribution is permitted, and this program may not be sold without express permission of Washington Apple Pi.

REM II INSTRUCTIONS -- This text file contains the instructions for REMEMBER II. You should EXEC it in the same manner to create a file called REM II.OBJ1, which REMEMBER II will access when you request instructions in its use.

ABBS1 and ABBS3 are source code for the binary files discussed above.

AN ANALYSIS OF THE PROGRAMS:

I. THE INPUT/OUTPUT ROUTINES

ABBS1.OBJ0 handles I/O for WAPABBS. The I/O routines are activated by a "CALL 37888" in line 32 of WAPABBS. This routine changes the CSW/KSW vectors (\$36-\$39) to the ABBS's I/O routines, sets the "&" vector (\$3F5-\$3F7), and jumps to the DOS routine that reconnects DOS's I/O hooks.

The Output routine, which begins at \$9420, first does a test to see if the character being output is lowercase. If so, the character is EOR'ed against LOCSE. If lowercase-to-uppercase conversion is on, LOCSE is set to \$20; if off, it is \$00. Following this, the accumulator (hereafter referred to as "A") and the X and Y registers are saved on the stack.

Next, the keyboard is checked for an interrupt character such as ctrl-C. Since only the SYSOP can enter a key from the ABBS's Apple, this is given priority. If a key was not pressed, the Receiver Register Full bit is checked to see if an interrupt character has arrived through the modem. If not, the character in the accumulator is sent out through the modem, the A, X, and Y registers are restored, and the character is printed on the ABBS's computer's monitor in uppercase form.

If a character was entered at the keyboard or from the modem while output was in process, several tests are made. If the character was a ctrl-S, the program waits for another character to be received or entered before resuming output. Next, CKMASK is checked to see if a ctrl-C or ctrl-K is allowed. If either is allowed (i.e., if CKMASK = 0) and if the character received is indeed a ctrl-C or ctrl-K, the program clears the stack and jumps to Applesoft line 2000. If the character received was neither a ctrl-C nor a ctrl-K, it is ignored and the character is sent out anyway.

The input routine, which begins at \$9488, first saves the X register, which is the offset from \$200 (the start of the input buffer), into CLL, "Current Line Length." X is also saved on the stack and tested against LINEMAX. This prevents the user from entering a line longer than WAPABBS is expecting. If the line is too long, the user is sent a bell (ctrl-G).

After saving Y on the stack, WAPABBS checks ACTIVE (\$E3). If ACTIVE >= 128, the ABBS hangs up the phone, clears the stack, and jumps to Applesoft line 1000. Next, the timer is reset to 0 unless WAPABBS is awaiting a call (ACTIVE=0). The timer is discussed in detail below.

If the ABBS is awaiting a call, the standard Micromodem input routine is used. This routine returns only when a call is answered. If carrier is detected -- which

would not be the case if a human had dialled the ABBS by mistake -- ACTIVE is set to 2, the X and Y registers are restored, and the input routine is concluded. If carrier is not detected, ACTIVE is unchanged, and the next request for input will continue to await a call.

The next sequence of code hangs up the phone, using the Micromodem routine at \$CAB5. ACTIVE is reset to 0, LOCSE is set to \$20 so that lowercase characters will be translated to uppercase for the next caller, the stack is cleared, and control falls into the GOTO routine.

The GOTO routine, at \$94D0, immediately outputs a return to clear any active input lines and outputs a ctrl-D followed by a return to terminate any active DOS commands. The line number passed to GOTO in the A,Y registers is used to set Applesoft's TXTPTR vector (\$B8-\$B9), the stack is cleared, and execution of the appropriate Applesoft line number begins.

The HANG routine, at \$94FB, forces the ABBS's Apple to freeze up if program execution terminates for any reason. This prevents anyone from getting "inside" your computer. You will see a flashing "\$33" if this routine has been triggered. Ctrl-C will return you to BASIC.

The regular input routine resumes at \$951B. The timer is incremented by one. This timer will automatically hang up the phone if no one has entered a character for 7 minutes, 8 seconds. This prevents someone from tying up the ABBS by leaving their computer connected inadvertently.

If bit 6 of ACTIVE is set, the ABBS will ignore the modem. This is so that when you want to use the ABBS yourself, WAPABBS will not answer the phone. Thus if ACTIVE=64, no modem input is recognized.

If modem input is allowed, the modem is checked to see if the user's modem's carrier tone has been lost. If it has, WAPABBS hangs up the phone. If not, the modem is polled for data. If a character has arrived, the most significant bit is set and processing begins. If no data has arrived from the modem, the keyboard is checked. If a ctrl-A has been pressed by the SYSOP, WAPABBS responds:

MM II:

You may now enter these characters with these results:

```
ctrl-Z  Hangs up on the user
ctrl-B  Begins Chat mode by doing a jump to 4300
ctrl-I  Flashes an "I" on the screen, meaning that the SYSOP is now "in"
ctrl-O  Flashes an "O" on the screen, meaning that the SYSOP is now "out"
ctrl-R  Sends a ctrl-R out over the modem
ctrl-T  Sends a ctrl-T out over the modem
ctrl-U (right-arrow) Prints the userid of the current user (or the most recent user
if no one is on the ABBS at the moment)
```

Otherwise, the character is ignored and input resumes. Note that anything sent by the user during the interval between the ctrl-A and the next character is neither received nor echoed.

If a character has been received, the ABBS's screen is set to non-flashing, which is Apple convention to let you know that a character has been received.

If a rebout has been received (ASCII \$7F), the user is sent a bell and the character is ignored. If carrier has been lost, WAPABBS hangs up the phone. If a parity error, receiver overrun error, or framing error is detected, the character is ignored. The user will notice that his character was not echoed.

At this point, FLAGS is checked to ensure that DISPO, TRAN and KBDE are always set. (See the Micromodem manual.) Unpleasant results would ensue if one of these bits was cleared by static electricity or a cosmic ray.

If the character is lowercase and lowercase is not allowed by the ABBS, it is converted to uppercase. The most significant bit of a lowercase character must be cleared in order to fool the Apple's System Monitor.

Finally, the character that was received is checked to see if it is a control character. If not, LINEMAX is checked, and if the character would make the line too long, the character is ignored with a beep. If line length is acceptable, the X and Y registers are restored and the character is loaded into the accumulator, printed out through \$C010, and the input routine is concluded.

If the character is a control character, special handling may be required. A carriage return is treated normally. A backspace is ignored with a beep if you backspace before you have entered anything that could be backspaced-over. A backspace is sent out over the modem as a backspace, a blank space, and another backspace. This erases the character from the user's screen, but not from the screen of the ABBS.

A ctrl-U (the right-arrow) picks up the current character from the ABBS's screen and treats that as the input character. This allows users to retrieve previously-erased characters.

The ABBS next checks to see if a ctrl-C or a ctrl-K is permitted. If so, and if the character is a ctrl-C or a ctrl-K, it is treated in the same manner as ctrl-C or ctrl-K were by the output routine.

A linefeed (ctrl-J) turns on LFI (see the Micromodem manual) which will send linefeeds after each carriage return. This affects modem output, not screen output.

A ctrl-X acts exactly as ctrl-X does on regular Apple input: it cancels the input line and asks for another one. X and CLL are returned to the left margin, i.e., zero.

Ctrl-L toggles LOCSE, which allows lowercase input. Ctrl-L has the function of a shift-lock key.

The short routines that follow handle the ignore-this-character routine and the cursor.

The next group of routines handle the ampersand("&"). These routines manipulate the message summary strings, which begin at \$6B00. These strings would require more than 1K of overhead if handled as traditional Applesoft strings.

1. Assign a string to the message summary array:
& A J,K,A\$

where A means "assign", J is the message number, K is which part of the message summary the string is to be stored (0=the user the message is from, 1=the user the message is to, 2=the date, and 3=the summary of the text of the message), and A\$ is the string to move into the message summary array.

2. Print a string:
& P J,K

where P means "print", and J and K have the same meaning as above.

3. Assign one of the elements of the array to B\$:
& B J,K

where B means "LET B\$ = ", and J and K have the same meaning as in string assignment. Note that only the variable B\$ can be used in this manner. Furthermore, B\$ must already have been set equal to something by an earlier program line or direct command such as: B\$ = "HELLO"

4. Test an element of the message summary array:
& T J,K,A\$,L

where T means "test", J and K have their usual meaning, A\$ refers to the string being tested against the message summary item, and L is the variable used to store the result. The result will be:

```
1 if message summary item > A$
0 if message summary item = A$
-1 if message summary item < A$
```

II. THE PAGE 3 ROUTINES

ABBS3.OBJ0 has three routines. The first, called INLIN, is a revision of the well-known "Input Anything" routine. This modification, however, uses this syntax:

```
CALL INLIN [,X]
```

where INLIN=768 and X is the maximum allowable line length (LINEMAX). If X is not specified, the previous maximum line length is used. X must be between 0 and 255; note that if X>248, both you and the user will hear beeps after the entry of the 249th through 255th character. In order for INLIN to work, the first variable in the main Applesoft program must be a character string; WAPABBS uses A\$. The routine accepts commas, colons, and quotation marks; only a return will terminate input. The routine ends by setting A\$ equal to what was just entered, but A\$ is still in the input buffer and will be written over by the next input request or by the next DOS command. To save the string, you must use the command:

```
A$ = MID$(A$,1)
```

Note that a simple assignment statement such as B\$ = A\$ will not work.

The next routine does an index function:

```
CALL 804,A$,B$,J
```

This looks for the first character of A\$ in the string B\$, and returns with J equal to the relative position of the first occurrence of the character. So if A\$="HELLO" and B\$="ABCDEFGHIGHHH", J would become 8. If "H" did not occur in B\$, J would be set to 0.

The third routine looks up the userid number and calculates the record number in the USERS sequential text file. Its syntax is:

```
CALL 892,J
```

where J is the userid number. J is returned as the record number. For example, if user WAP538 calls in, J would be set by a WAPABBS routine to 538. This routine would go through the USERS.OBJ file in memory and would calculate how many userid numbers between 1 and 538 were "active." The result would be the record number of user 538's

password entry in the USERS file. If user 538 were not on the system, J would become 0. Note that this routine is used in the signon process and in the W and Y commands.

III. VARIABLES USED IN WAPABBS

A\$ must be the first variable used in the program in order for the machine language routine at \$300 to work. A\$ is the workhorse string variable; all string input passes through A\$. Note that if A\$ has been set by the routine at \$300, for so long as A\$ is not assigned to another variable, A\$ will not take up regular memory space and will not create "garbage."

ACTIVE is a flag used to tell the I/O routines whether the SYSOP, a user, or no one is currently using the ABBS. See above for a further description of the values ACTIVE can have.

AC\$ [Allowable Commands] is a list of the letters of allowable commands. CALL 804 uses this to compute the index value of the response to the "COMMAND?" prompt for use by the ON J GOTO in line 2011. The CALL 804 routine requires that AC\$ be a variable.

AL\$ is "ALL ", and is used by the message handling routines to prevent errors that would occur if a user entered "ALL", which is only 3 characters long, instead of the 6-character response that the ABBS expected.

B\$ is the secondary string variable. It is used by the "&" message summary routines and for other general purposes.

BD\$ [Bulletin Date] is a 4-character string that tells users when the bulletin was most recently updated.

B(6) is an array used by the sorting routine that organizes the messages into date order.

C80 is 1 if the user has selected 80-column mode with the "+" command, 0 otherwise.

CH [CHat] is 1 if you have indicated your availability for a chat, 0 otherwise. See the description of the ABBS1 routines and program lines 1010 and 1020.

CK [CKmask] is 0 if the user is permitted to interrupt program execution and return to the "COMMAND?" prompt; 1 means interruption is not permitted.

CM\$ is a comma (","). This must be a variable so that the CALL 804 routine can tell whether what should have been a file name has a comma.

CRDLY is the delay (in 0.1 seconds) sent after each carriage return if the user has specified linefeed insertion. This is the standard Micromodem delay. Note that setting this to 0 is equivalent to specifying a delay of 2.56 seconds.

D\$ is ctrl-D.

D1\$ [Date1] is "> " and is used to create a date value higher than any valid date. In this way, WAPABBS will sort the messages in proper date order.

DA\$ [Date] is the current date as specified in the STARTUP file or by the clock.

DA(MS) [Date order; see below for meaning of MS] is used to store the messages in date order. DA(1) is equal to the message number of the oldest message, DA(2) is the number of the second oldest, etc.

DR [DRive] is a location within DOS 3.3 that, when poked with 1 or 2, will access that disk drive for the next DOS command without requiring ",D1" or ",D2".

E\$ contains "E" and is used by CALL 804 to check that a number entered was not in exponential notation.

EM\$ [Empty] contains "EMPTY ", and is used to erase the "From" value in message summaries and on disk.

ER [ERror] is used to store error codes. Certain errors are ignored, some are processed, and some stop program execution. See the description of the lines of WAPABBS beginning with 40000.

F [File number] is used to store the number of the file being accessed.

FC\$ contains ctrl-D + "CLOSE". When printed, this will close all disk files.

FG [FlaGging messagesg] is 1 if, when reviewing message summaries, the user has chosen to flag those messages he wishes to read in full. It is 0 if the user has chosen not to be asked whether he will read the full text of certain messages.

FG(MS) [FlaGged messages; see below for MS] contains a 1 in an element if that message has been flagged for a reading of its complete text, and a 0 if the message has not been flagged.

FLAGS is the location of the Micromodem's FLAGS byte. See the Micromodem manual for complete details.

FO\$ contains ctrl-D + "OPEN".

FP\$ contains ctrl-D + "POSITION".

FR\$ contains ctrl-D + "READ".

FW\$ contains ctrl-D + "WRITE".

F\$(12) contains the 12 file names used by WAPABBS.

INLIN is 768. This is the address of the line input routine beginning at \$300.

J is the workhorse numeric variable. It is often the message number being printed or processed or an index in a FOR-NEXT loop.

JJ is a secondary general-purpose numeric variable.

K is the second most-commonly used numeric variable. It is often a line counter, used to make sure that message lengths are no more than 10 lines long.

KK is another secondary general-purpose numeric variable.

KU [Knowledgeable User] is 1 if the user claims to be familiar with the operations of the ABBS, 0 otherwise. If KU = 1, many prompts are shortened or eliminated.

L [Logical variable] is usually used as the result of a logical test of a message summary string using the &T function. It is usually -1, 0, or +1.

LC [Last Call] holds the date and time (to the nearest 0.1 hour) that the user last called in to the ABBS.

MC [Message Count] is the number of messages currently in use. Given the way DA(MS) works, DA(MC) is the message number of the most-recently entered message and DA(MC+1) is the message number of the most recently-deleted message and will become the message number assigned to the next-entered message. Think about this for a while.

MI\$ is ctrl-D + "MON I". All files are printed out with MON I in effect because this is fast and causes no unnecessary interruptions between lines.

MO(12) contains the number of days in each month. Change this during leap years!

MS is the total number of messages that the system will allow. The two constraints to increasing this are disk space and space in the message summary area. Many arrays are dimensioned by MS.

M\$(13) is used to enter and edit messages. M\$(0) has the userid of the sender of the message, M\$(1) has the userid of the recipient, M\$(2) has the date the message was entered, M\$(3) has the message summary, and M\$(4)-M\$(13) store the lines of the text of the message.

NM\$ is ctrl-D + "NOMON C,I,O". See MI\$ for an explanation of why this is necessary.

R [Record number] is used by the random-access file routines to select the message number to be read or written.

S1\$ [Sysop1] has the SYSOP's userid in 4-digit numeric form. If the SYSOP's number were WAP001, for example, S1\$ should be set to "0001". This is necessary to keep the "Y" routine from printing the SYSOP's password.

SL [Slot] contains the Micromodem's slot number.

SO [SignOns] contains the number of users who have successfully signed on. If someone signs on more than once, they are counted more than once.

SY\$ [SYSOP] contains the userid of the SYSOP. Observe when going through the program listing that the SYSOP can do many things forbidden to others.

T1\$ [T user 1] is the userid of a person who is able to change the date if you are unable to do so.

T2\$ [T user 2] is the userid of the person who can change the date and print the password file. If you have no one to whom you want to allow access to the date or password file, set these to your own userid to prevent anyone from having this much access.

U\$ [Userid] is the userid of the user currently on the ABBS. In case you have not guessed, a userid is a 6-character string with a 2 or 3 letter prefix and a numeric suffix in the range 1-4095.

UL\$ [UpLoad] contains the letters of the four commands allowed during uploads.

UP\$ [UpLoad] is the password necessary to begin uploading a file into the ABBS.

Z is a general-purpose numeric variable.

ble.

=====
DOCUMENT about.lr
=====

Subj: European Lode Runner GS (SHK) 91-02-14 02:00:47 EST
From: AFA Parik

File: LODERUNNER.SHK (105984 bytes)
DL time (2400 baud): < 12 minutes
Download count: 1

EQUIPMENT: Apple IIgs
NEEDS: Apple 3.5" drive,ShrinkIt to unpack

Here is a very good version of Lode Runner from Germany. Its in english, don't worry. It must be unpacked to a blank 3.5" disk (it will erase the contents of the ENTIRE disk!) and you must boot the disk to run the game. The drive MUST be a apple 3.5" drive!

In case you don't know, Lode Runner is one of THE classic Apple II games. You've gotta pick up little treasure chests and avoid the little men chasing you. There is also a maze, FYI, to navigate around. One joystick button will make a little "hole" to the left of you, the other to the right of you. The holes aren't permanent, and there are some squares you can't melt away. Use the holes to entrap/kill the men chasing you! Unfortunately, they have a tendency to regenerate quickly...

Again, the disk must be booted. The easiest way to do this is to run basic.system from Finder, and type in "PR#5".

** NOTE **

Surak TFF kindly let me know of the following commands:

- CTRL-K = enable keyboard
CTRL-J = enable joystick
CTRL-E = level editor (!)
CTRL-R = start on a random level

===== DOCUMENT aboutmmdemo =====

MidiMate - A Midi File Utility for the Apple IIGS Computer

Copyright 1990 by Lindsay B. Hough, Ph.D.

Version 1.1 - Compiled by TML Pascal II

MidiMate is a program for the Apple IIGS that allows users to convert Industry Standard Midi Sequence Files to the new format supported by the program SynthLab. SynthLab is a powerful instrument editor and Midi-compatible sequencer written by Apple Computer that allows users to build instruments and play them with their Apple IIGS. Synthlab uses the new Apple IIGS Tool 35 (MidiSynth).

With MidiMate, standard Midi files from MasterTracks Pro, MasterTracks Jr, Audio Animator, and others can be converted to the SynthLab format. This version of the program will convert the first 7 midi tracks of standard files up to file sizes of about 40K (the actual limitation is 64K of SynthLab format, but the maximum size of the midi standard file depends somewhat on the type of midi data). Only Midi file format 1 (multi-track) is supported, which means that if your sequencing software gives you a choice of midi standard files to produce, always choose the multi-track option. The program also supports NDAs (but see bug report below).

MIDIMATE REQUIRMENTS- The program requires an Apple IIGS with at least 1 MB of memory running GSOS 5.02. The program will run in any disk configuration, but special instructions are required for single disk drive users (see installation, below). The program DOES NOT require Tool 35, SynthLab, or a Midi Interface.

MMDemo - This is a demo version of the program that is installed and run exactly like the actual program. MMDemo will let you load and convert files, allowing the user to get the look and feel of the program. The demo will not save converted files.

INSTALLATION OF MIDIMATE OR MMDemo- For users of hard disk drives or more than a single 3.5 inch drive, just launch the MIDIMATE application file from the Finder. Users of single disk drives must create a bootable system disk containing the MIDIMATE or MMDemo file, re-boot with that disk, and launch the program. If necessary, get rid of extra fonts, or unneeded desk accessories. The program doesn't use custom fonts. MidiMate needs constant access to the system (boot) disk, so make sure that the system disk is in another disk drive (or on the hard disk) while MidiMate is running. If you like icons and have the room, copy the file MidiMate.Icon to the Icon folder of your boot disk (optional).

RUNNING THE PROGRAM - To convert a Midi Standard File, perform the following 3 steps in order:

1) Choose "Load Midi Sequence" from the File Menu. After a brief pause, you will see a "Standard Midi File Window", showing, among other data, the actual midi data in hex format. You can use the sidebar to scroll through the midi data (if you're interested). You don't HAVE to do anything with this window - it's just there to tell you that the file was loaded correctly. Since the TextEdit tool was used in displaying the midi hex data, you can also EDIT the midi hex data. However, in the present version of the program, MidiMate will ignore whatever you do to the data.

2) To convert the loaded midi data, choose "Stnd Midi --> SynthLab" from the Convert Menu. Depending on the file size, the conversion make take several minutes. During the conversion, MidiMate tells you exactly what it's doing (info on number of tracks, number of seq items converted, etc). At any point during the conversion, you can interrupt this process and go back to the Midi Window by choosing the "Cancel" button at the bottom of the screen. MidiMate informs you of any problems encountered during the conversion. At the end of a successful conversion, you will see a "SynthLab" window displaying data on the converted file. IF, for any reason, the conversion was not successful, the program informs you and tells you the nature of the problem (e.g. bad file, file too big, etc.). MidiMate can convert files up to 64K of converted sequence image, which corresponds to 8,192 seq items (seq items are counted on screen during conversion).

3) When the file has been successfully converted, choose "Save Sequence (Synthlab)" from the File menu. You can save it to any folder with any name. The file created has the "synth" instrument has the default for SynthLab. Of course you can change that after the file is loaded into SynthLab, but it is most convenient to place converted sequences in a folder with "Synth.bnk" and "Synth.wv" files (see the SynthLab manual). MMDemo will not save converted files.

OTHER MENU OPTIONS - The apple menu has an "About" choice, a "Help" option, along with your favorite NDAs. Choosing "Close" from the file menu or clicking the close button on the MidiMate windows does nothing to NDA windows, but will remove any open midi or SynthLab files (You get a warning). After closing the open window, you will have to start the conversion process all over again.

FILES WITH THIS PACKAGE:

MMDemo - A GSOS application file that is the demo program. No other files are needed by the program, but the program uses both the data fork and resource fork of this file..

AboutMMDemo.Txt - This manual.

BUGS AND BUG REPORTING - So far there is only 1 known bug. The program is incompatible with some NDAs, but I'm not sure which.

When the program can't translate a file, it almost always tells you and tells you why. So it seldom crashes. However, it does translate a file incorrectly once in a while - no problems with Midimate, but SynthLab gags on it (crashes while playing). Use "turn off all notes" option in synthlab if needed, and also choose "view sequence". Sometimes you will see the seq items out of ascending order with a crash like this. THE FIX for this problem is removing NDAs. I can't tell you which ones cause the problem - only that file translation errors like this are not reproducible (they produce different bad files, not the same bad files) and they are ALWAYS (so far) fixed by removing the desk.Acacs folder from my hard disk. What DAs do I have? Memory, WriteIt, IIGS Text Printer, along with BG sound and label grabber. I haven't had time yet to figure out who the culprit is.

If you have a reproducible bug or a file that won't convert after removing ALL NDAs (by renaming Desk.Acc), please record the sequence of events that causes the bug, and send me the report, along with the file that wouldn't convert and the file that MidiMate produced if any (that SL won't play):

Lindsay Hough
PO Box 212
Slingerlands, NY 12159

To Order MidiMate, send \$18.00 + \$3.00 shipping and handling to the above address. Include your AOL handle for E-mail shipping, which saves you the \$3.00

E-mail (AOL): LindsayGS

DOCUMENT abyssal.zone

Header information for 'abyssal.zone' including author (THE COG) and title (The Abyssal Zone).

INTRODUCTION

There is a place in the Western Atlantic, where more than 100 planes and ships have literally vanished into thin air.

As an experienced adventurer, you are asked to explore this area of hopes of finding an explanation and possible solution to this mystery.

VOCABULARY

Words such as sea-fan,vase-sponge, and sand-dollar, should be broke with a (-) hyphen.

GLOSSARY

ABYSSAL- pertaining to the lowest depths of the ocean.

ATLANTIS- a 'mythical' island in the Atlantic ocean that was said to sunk into the sea.

BLUE HOLES- a group of ancient under- water limestones caves that were once above water.

SEAMOUNT- a underwater volcano

TONGUE OF THE OCEAN- the name of a trench located in the Devil's Triange.

TRENCH- deep area in the ocean floor, generally deeper than 6,000 meters.

DOCUMENT ace.mini.cheat

ASCII art logo for 'Mini - Cheat' by Mach Three, dated 10/9/90.

Mini - Cheat

By Mach Three 10/9/90

Here is a quick and dirty way to give yourself more lives in Space Ace:

- 1) Before booting the game, enter the monitor by typing CALL -151 from BASIC.
2) Boot Space Ace.
3) Whenever your lives are running low, enter the control panel.
4) Type in 1846:09 and then return.
5) Type CTRL-Y to return to the game.

You now have 9 lives. This process can be repeated whenever your lives starts to get low.

Mach Three

P.S. I realize this is not the greatest cheat, but if someone wants to look into it further, it should not be difficult to find the code which decrements location \$1846.

I can be reached on:

- Private Storage 215-745-0495, #22
Apple Rebel 916-457-0624, #28
Next Generation 619-966-0114, #5

DOCUMENT achon.txt

This document is provided by HARDWARE HEISTER and input by BELLE STARR, for your playing pleasure.

```

*****
% ARCHON DOCUMENTATION %
*****

```

INTRODUCTION

THE GAME. ARCHON depicts the eternal struggle between Light and Darkness as a contest of action and strategy between opposing forces wrought from myth and legend. The Light Side and the Dark Side are equal in number, balanced in strength, but not identical. Their aim, however, is the same: conquest of the five "power points" or the elimination of the opposite side.

ICONS. The various fantastic creatures at your command are represented by specific images - "icons" - stylized pictures of knights, goblins, manticores, and the like. There are 18 icons - a total of eight different kinds on each side. None of yours are identical to any of the icons on the other side.

THE TWO SCREENS. ARCHON is played on two screens. On one - the strategy screen - you and your opponent take turns maneuvering your icons into favorable positions. When you place an icon on a square already occupied by one of your opponent's icons, the game shifts temporarily to the second display, the combat arena.

HOSTILITIES. In old-fashioned and - admit it - somewhat dull board games (chess, backgammon, and their ilk), the "defending" piece gets removed quietly from the board, and the "attacker" wins the "battle" - and the square - without a blow being struck. In ARCHON, we do not allow such docility, such rank defeatism on the part of the defender. No! If you want that square, you have to fight for it! When you try to occupy a square held by the enemy, the disputed square expands to fill the entire screen ... and then, in the words of a certain orange-skinned monster of comic-book fame, "IT'S CLOBBERIN' TIME!!!"

THE LUMINOSITY CYCLE. ARCHON's strategy screen *changes*. While some squares are always white or always black, others - "luminance" squares - vary in brightness throughout the game in a simple pattern: black-dark-barely dark-barely light-light-white... and reverse. Back and forth, throughout the game, the cycle continues, the luminance shifting after every other turn. Your fortunes in the game tend to ebb and flow with the luminosity cycle. This is because icons of the Light Side are harder to defeat on light squares than on dark ones. conversely, DarkSide icons are stronger on dark squares and weakest on white ones.

POWER POINTS. The five "power points" are indicated on the screen by flashing red symbols. Icons on power points heal faster than usual and are protected from the effects of magic spells. If your icons occupy all five power points, you win the game.

MOVEMENT. If the hollow square or "frame" is on your side, it's your turn. (Simple, eh?) Use your joystick to move the frame atop the icon you want. Once you push the button to confirm your choice, you >must move that icon somewhere<. (If an icon has nowhere to go, the computer will not allow you to "pick it up".) Once you move the icon to its destination (again with the joystick), push the button again, and the obedient image will freeze in place. Movement comes in three flavors: ground, fly, and teleport. Ground movers cannot move through occupied squares; fliers are restricted only in where they land. fliers can also move diagonally; ground icons cannot. Only the Wizard

and the Sorceress can teleport, but for practical purposes you can think of them as fliers in disguise. On any turn, you can move an icon as far as its range allows in any direction or combination of directions. It can stop on any square not already occupied by one of your own icons. Note: If you change your mind while maneuvering a ground mover, you must backtrack. Otherwise, the computer, being very literal-minded, will assume you are trying to extend your move unlawfully.

COMBAT. Action in the combat arena is immediate and simultaneous; there is no taking turns. Joysticks direct movement of the icons. Pressing the button initiates an attack - swinging a sword, firing an arrow, casting a fireball - in the direction the joystick is pointed. You can attack or move in any of eight directions: up, down, left, right, and the four diagonals. Important: your icon cannot move while the button is pressed. Combat is of three general types. Knights and Goblins are sword-swingers and club-wielders; they must be very near an opponent to inflict damage. The Banshee and the Phoenix inflict damage in a circular area around themselves; the longer the opposing icon is in that circle, the greater the damage it sustains. Such "area" attacks need not be aimed. All the other icons "throw" missiles of some sort and can, consequently, do damage from a considerable distance. See the Quick Reference Card for a detailed comparison of the speed of and damage done by the different missiles.

THE ATTACK INTERVAL. while combat is fast and furious, you can't just fire away as fast as your finger twitches. It takes a moment to raise a sword into position to strike; longer to conjure even a fast fireball; and the better part of two whole seconds (!) to rip a boulder out of the ground and lift it high enough to throw. Pushing the button before your icon is ready to strike will accomplish nothing - except to keep your icon from moving. At the exact instant you can launch another attack, the computer rings a bell - a high note for the Light Side, and lower one for the Dark Side - to let you know.

BARRIERS. The obstacles or barriers in the arena go through luminosity cycles of their own. Be careful; they can be as tricky as an opponent! Normally, a barrier is impenetrable. However, when its cycle changes a barrier's luminosity to exactly match the color of the background, the barrier disappears ... for a few seconds. You can walk over it, shoot past it, anything. It's gone. Furthermore, for a few seconds before a barrier vanishes and after it reappears, you can walk or fire a missile through it, but you (or the missile) will be slowed down. If this seems at all confusing, just remember that the more solid a barrier looks, the more solid it is. If you have any doubts, avoid the barriers entirely - and get out of the way of oncoming missiles.

LIFE, DEATH, AND WOUNDS. The "lifelines" at either end of the arena indicate the current lifespan of the two battling icons. When an icon is wounded, its matching lifeline is reduced in proportion to the severity of the wound. When its lifeline is gone, the icon is "dead" and combat is over. A victorious icon returns to the strategy screen in control of the disputed square. However, a seriously wounded icon is easier to defeat the next time it is forced to fight. Even the strongest icon can be worn down by waves of attackers. On the strategy screen, wounded icons are healed slowly by the simple passage of time; more quickly, by resting on a power point; or instantly and completely, by a Heal spell.

ARCHON - MAGIC SPELLS

Magic is arguably the most significant strategic element of ARCHON. Only the two mages - the Wizard and the Sorceress - can cast spells, and each mage can cast each spell only once. While the spells are powerful, they have one drawback; each spell weakens the mage casting it, leaving that mage progressively less able to defend itself against direct attack.

A spell may be cast instead of a regular move on the strategy screen. Simply move the frame atop your mage, as if you were going to move it. Push the button, and the usual message appears. Without moving the icon, however, just push the button again, and you will get a new message: SELECT YOUR SPELL."

Push the joystick up or down to survey the spells still available, and push the button when you find the one you want. If further actions on your part are required, additional messages will direct you appropriately. Remember that you can't conjure the same spell more than once, and you can't cast a spell against power points or icons on them. Details are given below.

TELEPORT

EFFECT: This spell moves-teleports-any one of your icons any distance from one square on the strategy screen to another.

ACTIONS REQUIRED: After selecting the spell, move the frame to the icon you want; push the button; and then move the icon to its destination-just as if it were a normal move.

RESTRICTIONS: You cannot move an enemy icon. You cannot move onto a square already occupied by one of your own icons (as usual). You cannot teleport onto or off a power point. You cannot teleport an imprisoned icon. (See IMPRISON.)

ADDITIONAL NOTES: Do not confuse this spell with a mage's normal three-square movement. That is minor magic, on the same order as casting fireballs, and is not bound by the restrictions of the seven major spells.

HEAL

EFFECT: This spell instantly heals any icon of all wounds it has sustained in the combat arena.

ACTIONS REQUIRED: After selecting the spell, move the frame to the wounded icon, and push the button.

RESTRICTIONS: You cannot heal an icon resting on a power point. You can "heal" an already healthy icon, but why bother?

SHIFT TIME

EFFECT: Two effects are possible. Most often, the spell reverses the flow of time: i.e., the direction of the luminosity cycle of the delta squares. Squares that had been growing gradually darker would now grow lighter-until the cycle peaked. However, if the spell is cast when the luminosity cycle is at either peak, Shift Time will cause the cycle to shift abruptly to the opposite extreme (from black to white, or vice versa).

ACTIONS REQUIRED: None after selecting the spell.

RESTRICTIONS: None.

EXCHANGE

EFFECT: This spell causes any two icons on the strategy screen to trade places.

ACTIONS REQUIRED: Move the frame to one of the icons you wish to transpose, and push the button. Then do the same to the other icon.

RESTRICTIONS: Neither icon can be imprisoned or on a power point.

SUMMON ELEMENTAL

EFFECT: This spell allows you to attack any enemy icon with a new, temporary icon representing one of four elementals-animated spirits of the ancient elements of earth, air, fire, and water. Combat is conducted in the combat

arena as usual, except that the elemental vanishes after the battle, win or lose.

ACTIONS REQUIRED: Once the spell is selected and the elemental appears on your side of the strategy screen, move it to the icon you wish to attack. In the combat arena, direct the elemental just as you would any other icon.

RESTRICTIONS: You cannot attack an icon on a power point. You cannot direct the elemental to a vacant square or one occupied by one of your own icons. You cannot choose which elemental will respond to your summons.

REVIVE

EFFECT: This spell restores to the game an icon previously lost in combat.

ACTIONS REQUIRED: the procedure is similar to a Teleport spell or a normal move, except that the revived icon comes from a special display by the side of the strategy screen, and its destination must be a vacant square next to the mage.

RESTRICTIONS: You cannot "revive" an icon not already dead. One of the squares adjoining your mage must be vacant, and you must put the revived icon on one of those vacant squares.

IMPRISON

EFFECT: This spell keeps an icon on the strategy screen from leaving its square. The icon can fight its attackers in the combat arena, but it cannot be moved off its square. Important: an imprisoned mage cannot cast spells! Imprisonment is temporary. A Dark Side icon would remain imprisoned until the delta squares turn black; a Light Side icon would be freed when delta squares turn white.

ACTIONS REQUIRED: Once the spell is cast, move the frame to the target icon, and push the button.

RESTRICTIONS: You cannot imprison an icon on a power point. You cannot imprison any icon at a time when the luminosity cycle would automatically free it.

CEASE CONJURING

This is not a spell; it is a way to avoid casting a spell if you miscalculate. If you change your mind while selecting a spell, or if the spell you want is unavailable or canceled, you may push the button when CEASE CONJURING is displayed. This will allow you to start your turn over.

ARCHON - THE OPPOSING FORCES

LIGHT SIDE

WIZARD. An ancient man of vast supernatural power, the WIZARD is the leader of the Light Side. In battle, the Wizard casts devastating balls of fire. He rarely ventures from the safety of his home power point, however, and is more commonly used to cast on of the seven spells.

UNICORN. Resembling a great white horse with the tail of a lion and a sharp, spiral horn set at its brow, the UNICORN is swift and agile. The beautiful creature can fire a blinding bolt of energy from its magical horn.

ARCHERS. The ARCHERS are fearless Amazon warriors of legendary skill with their fine whitewood bows. They are endowed with magical quivers that can never be emptied.

GOLEM. A GOLEM is an artificial being, shaped from stone and gleaming metal, and animated by magic. Roughly man-shaped, it is huge, twice the height of a man. Its weapons are boulders ripped from the earth and hurled with devastating force.

VALKYRIES. VALKYRIES are beautiful blonde war maidens from the legions of Valhalla. Each of these ferocious females is endowed with two great magical gifts: first, the ability to stride the air as if it were solid ground; and, second, an enchanted spear, which, when thrown, returns to her hand of its own accord.

DJINNI. The DJINNI is a magical being from another dimension, a plane of tempest and storm. In form he is a huge superbly muscled man whose body is partly flesh and partly swirling currents of air. A cousin to the wind itself, the Djinni can raise a small tornado with a gesture and control it with a thought.

PHOENIX. The PHOENIX is a flaming bird of immense size and power. In battle it can explode into a seething mass of fire, scorching anyone on the perimeter of the blaze and burning severely any enemy unfortunate enough to be caught near the incandescent core. Not only is the Phoenix unscathed by its own flames, but, while undergoing its fiery metamorphosis, it cannot be harmed by any attack known.

KNIGHTS. The KNIGHTS are foot soldiers armed and armored against foes far larger than themselves. Although they cannot withstand more than one blow from many of their enemies, they need not be mere cannon (or dragon) fodder. Provided they are swift and clever, their speed of attack gives them a chance to survive and triumph.

DARK SIDE

SORCERESS. The equal of the old Wizard only in power, the eternally young and ever beautiful SORCERESS is his counterpart in all ways. Her lightning bolts are swifter and surer than his fireballs, if a shade less potent. fierce in battle but safest on the black power point, she is most often used to cast the seven spells.

BASILISK. The BASILISK is a small, crested reptile with the scaly body of a lizard and the bulbous, glowing eyes of a gorgon. Although it is relatively short-lived, the beast's quick movements and deadly glance make it a terrifying opponent.

MANTICORE. The MANTICORE resembles a large, golden lion with a human face and a scorpion's thorny tail. This nasty appendage bristles with great quills like spikes, which the fell beast can fling over its head with surprising accuracy.

TROLL. A dweller in caves and dark places, the misshapen TROLL is a shambling giant, dull but strong, clumsy but hard to slay. Like the Golem, if carries no ready-made weapons; instead, it seizes boulders, tree trunks-whatever comes to hand-and catapults the massive objects at its enemies.

SHAPESHIFTER. The SHAPESHIFTER is a doppelganger, a demonic creature without true shape or form, save what it steals from its enemies. In battle it becomes the mirror image of its opponent, strongest on squares where its enemy is weakest, turning the enemy's powers against itself. It has no fixed lifespan; all wounds that do not prove fatal will heal as soon as it assumes a new form.

DRAGON. The DRAGON, a monstrous, serpentine reptile, is without peer in the combat arena. One gout of its flaming breath will kill many creatures, and a second blast is almost always fatal. Highly mobile and very difficult to slay, its awesome powers make it second in value only to the Sorceress.

BANSHEE. The BANSHEE is an undead spirit that feeds off the souls of her opponents, a ghastly apparition that attacks with her keening wail, draining the life from anyone in range of the sound (the shaded area around her).

Prolonged exposure to the terrifying shriek can be fatal.

GOBLINS. GOBLINS are hideous dwarves, twisted of limb and misshapen of feature, unfriendly and often violent. Their mutual antagonism is kept in check only by the powers of the Sorceress. On dark ground their gnarled clubs are more than a match for the swords of the Knights, and if well-directed they can bring down the most potent of enemies.

ARCHON QUICK REFERENCE CHART

THE LIGHT SIDE

WIZARD	MOVEMENT:	Teleport-3
	SPEED:	Normal
	ATTACK MODE:	Fireball
	ATTACK FORCE:	Great
	ATTACK SPEED:	Medium
	ATTACK INTERVAL:	Average
	LIFESPAN:	Average
	NUMBER ON SIDE:	1
UNICORN	MOVEMENT:	Ground-4
	SPEED:	Normal
	ATTACK MODE:	Energy bolt
	ATTACK FORCE:	Moderate
	ATTACK SPEED:	Fast
	ATTACK INTERVAL:	Short
	LIFESPAN:	Average
	NUMBER ON SIDE:	2
ARCHER	MOVEMENT:	Ground-3
	SPEED:	Normal
	ATTACK MODE:	Arrow
	ATTACK FORCE:	Minor
	ATTACK SPEED:	Medium
	ATTACK INTERVAL:	Average
	LIFESPAN:	Short
	NUMBER ON SIDE:	2
GOLEM	MOVEMENT:	Ground-3
	SPEED:	Slow
	ATTACK MODE:	Boulder
	ATTACK FORCE:	Great
	ATTACK SPEED:	Slow
	ATTACK INTERVAL:	Long
	LIFESPAN:	Long
	NUMBER ON SIDE:	2
VALKYRIE	MOVEMENT:	Fly-3
	SPEED:	Normal
	ATTACK MODE:	Magic spear
	ATTACK FORCE:	Moderate
	ATTACK SPEED:	Slow
	ATTACK INTERVAL:	Average
	LIFESPAN:	Average
	NUMBER ON SIDE:	2
DJINNI	MOVEMENT:	Fly3
	SPEED:	Normal
	ATTACK MODE:	Whirlwind
	ATTACK FORCE:	Moderate
	ATTACK SPEED:	Medium
	ATTACK INTERVAL:	Average
	LIFESPAN:	Long
	NUMBER ON SIDE:	1

Apple II Computer Info

PHOENIX MOVEMENT: Fly-3
 SPEED: Normal
 ATTACK MODE: Fiery explosion
 ATTACK FORCE: Great
 ATTACK SPEED: Slow
 ATTACK INTERVAL: Long
 LIFESPAN: Long
 NUMBER ON SIDE: 1

KNIGHT MOVEMENT: Ground-3
 SPEED: Normal
 ATTACK MODE: Sword
 ATTACK FORCE: Minor
 ATTACK SPEED: Instant
 ATTACK INTERVAL: Very short
 LIFESPAN: Short
 NUMBER ON SIDE: 7

 THE DARK SIDE

SORCERESS MOVEMENT: Teleport-3
 SPEED: Normal
 ATTACK MODE: Lightning Bolt
 ATTACK FORCE: Moderate

Moderate ATTACK SPEED: Fast
 ATTACK INTERVAL: Average
 LIFESPAN: Average
 NUMBER ON SIDE: 1

BASILISK MOVEMENT: Ground-3
 SPEED: Normal
 ATTACK MODE: Eye beam
 ATTACK FORCE: Great
 ATTACK SPEED: Fast
 ATTACK INTERVAL: Short
 LIFESPAN: Short
 NUMBER ON SIDE: 2

MANTICORE MOVEMENT: Ground-3
 SPEED: Normal
 ATTACK MODE: Tail spikes
 ATTACK FORCE: Minor
 ATTACK SPEED: Slow
 ATTACK INTERVAL: Average
 LIFESPAN: Average
 NUMBER ON SIDE: 2

TROLL MOVEMENT: Ground-3
 SPEED: Slow
 ATTACK MODE: Boulder
 ATTACK FORCE: Great
 ATTACK SPEED: Slow
 ATTACK INTERVAL: Long
 LIFESPAN: Long
 NUMBER ON SIDE: 2

SHAPESHIFTER MOVEMENT: Fly-5
 SPEED: Varies
 FORCE: Varies
 ATTACK SPEED: Varies
 ATTACK INTERVAL: Varies
 LIFESPAN: Unknown
 NUMBER ON SIDE: 1

DRAGON MOVEMENT: Fly-4
 SPEED: Normal

 ATTACK MODE: Fiery breath
 ATTACK FORCE: Very great
 ATTACK SPEED: Medium
 ATTACK INTERVAL: Long
 LIFESPAN: Very long
 NUMBER ON SIDE: 1

BANSHEE MOVEMENT: Fly-3
 SPEED: Normal
 ATTACKMODE: Scream
 ATTACK FORCE: Moderate
 ATTACK SPEED: Instant
 ATTACK INTERVAL: Long
 LIFESPAN: Average
 NUMBER ON SIDE: 2

GOBLIN MOVEMENT: Ground-3
 SPEED: Normal
 ATTACK MODE: Club
 ATTACK FORCE: Minor
 ATTACK SPEED: Instant
 ATTACK INTERVAL: Very short
 LIFESPAN: Short
 NUMBER ON SIDE: 7

 Enjoy! Edited By The Slipped Disk

everyone involved with computers is familiar with BASIC because it comes standard with most personal computers. Since the aim was to make ACOS as easy to use as possible, it was modeled after BASIC. At the same time, there are also many differences also.

This package contains a proprietary ACOS compiler which you will be using. Unlike many interpreted BASICs which have their editor built in, ACOS requires the use of some form of text editor for you to manipulate your source files. All ACOS source files are stored as text, so any editor that can modify standard text files can be used.

WRITING A PROGRAM

Since actually doing something tends to be a better teacher than just reading about something, we will be writing a small sample program in ACOS. The first thing you need to do is start your text editor/word processor you plan on using to write your code. Once you are ready, enter the following program:

```

LOOP
  print "this is an acos program"
  print "i hope it works!"
  goto loop

```

The important points to note are these: ACOS is not based around line numbers as is the BASIC language. It is free form like PASCAL or ASSEMBLY LANGUAGE. It uses labels as markers for groups of code instead of line numbers that marks the beginning of a line of code when the requirement arises to identify a specific point within the program. Since your labels can have descriptive names to begin a section of code, it makes it easier to see what this code does. Also, you can add extra blank lines at the top and bottom of a group of code to identify it more clearly. If you add comments within your code it helps you remember what you are trying to do in that section.

When you begin to write your program there are a few rules that must be followed in order for ACOS to process your code. LABELS must ALWAYS begin at the column 0 at the left side of the screen. The rest of the code always begins in column 1. The only exception to this deals with the use of quotes (") to identify text. When you open a quote at the start of the print statement, all following text will be printed to the screen until another quote is encountered. This includes normal text, any control character and blank lines as well.

Once you have typed in this test program, save it to your ACOS compiler disk under the name "TEST.S". You must ALWAYS add a ".S" to the end of any source file for ACOS so that ACOS knows it is a "source" file. Then exit from your editor back to your operating system. Insert the disk with the ACOS compiler and log to that disk. Execute the ACOS compiler with the appropriate operating system command (-ACOS, BRUN ACOS, ACOS).

At this time, the ACOS loader will execute and check through you directory for any ACOS source files and do some file maintenance at the same time. You will then be asked for the name of the ACOS program to be executed. Hitting return will execute the default starting program which is indicated in brackets. This default filename will differ from application to application. Type in "TEST" and return. You will see "TEST" displayed as the default filename. Enter a return and the compiler will start to execute.

The screen will clear and you will get a "COMPILING 1..." message. This means that the compiler is in the first phase of its two phase compile. This first phase takes the longest. After a quick wait, the message will change to "COMPILING 2...". This indicates that the compiler is in the second phase. This generally is very fast. Once the second phase is complete and has created a new file, which in this case is called "TEST.G", the message will be cleared and the program executed.

In this case, the following will be displayed:

```
THIS IS AN ACOS PROGRAM
```

```
=====
DOCUMENT acos.tutor.1
=====
```

```

[-----]
[           A C O S Tutorial           ]
[           ver 1.2                     ]
[   Written by . A RIPCO System...   ]
[   Upgraded By   UPS Network         ]
[-----]

```

ACOS COMPILER RELEASE 1.2 SPECS

```

-----
Hardware Required : Apple ][ series
Memory Required  : 64k
Operating System : DOS 3.3 or PRODOS
Hardware Supported : printer, modem, display cards, clock, etc.

```

```

Total Program Space:      24k
Total Variable Space:    24k - program space
Internal Editor Space:    4k

```

Disk Channels: 2 (plus 1 for message base use)

Ram Drive: 128 bytes

Scratch Ram: 192 bytes

Compiler Info: standard 2 pass compiler built on assembler principles for label oriented languages.

Pass 1 Info: compiler pass 1 takes text source code and tokenizes all statements and functions into single byte tokens. All text and symbols are marked as such for fast recognition. All label addresses are stored into a table. All label references are also put into a separate table. Tokenized code is generated into memory without addresses.

Pass 2 Info: Compiler pass 2 goes through the label reference table and searches for the address of the desired routine. If a match is not found, a LABEL NOT FOUND message is displayed. Otherwise, the address is saved into the second table. Afterwards, all references that were found are inserted into the actual code. The compiled code is then saved to disk.

Code Execution: Actual code execution is based on a "fetch-and-go" method. Each token is fetched from the compiled code. The routine is then found via a lookup table and is executed. When label references are made, the address is already known so no time is taken searching for it.

ACOS REFERENCE FOR ACOS RELEASE 1/2

GENERAL INFORMATION

Welcome to the world of ACOS. The following document was written to help give you an introduction to ACOS and to help you to learn to write your own programs or modify others written in ACOS.

ACOS is a full featured language just like BASIC, PASCAL, FORTRAN, or any other language. it resembles BASIC more than any other language due to the fact that almost

```
I HOPE IT WORKS!
THIS IS AN ACOS PROGRAM
I HOPE IT WORKS!
THIS IS AN ACOS PROGRAM
I HOPE IT WORKS!
```

The two lines will be repeated over and over again, unless you stop the program via the RESET key. Lets see how this program worked.

The first thing that happend is that the ACOS interpreter looked at the first line of code for a label that begins at the very left most column of the screen. This told ACOS that the first line is actually a LABEL. A LABEL is a reference point in a program to a section of code. A LABEL has no effect when the program flow passes through it, but it directs the operation from the line executing from one section of code to the beginning of the section where the LABEL is.

Execution then is passed to the next line, the first having no actual effect. ACOS looked and saw that the second line did NOT start at the leftmost column but started at column 1 instead. This tells ACOS that the data on the line is the actual program code. ACOS then looked at the first word which in this case was PRINT. ACOS then went into its internal PRINT routine as you asked it.

Once within the PRINT routine, special rules take over that govern the PRINT statement. Summing it up quickly, PRINT will display to the console whatever text or data is in between the " " marks. In this case, it printed "THIS IS AN ACOS PROGRAM". This data was placed within quotes to show that it was text. Once the end of the line was encountered, execution passed to the next line.

The next line was another PRINT statement which was displayed: "I HOPE THIS WORKS!". This is the same text that you typed in when you wrote the short program. It works in the same way as the first PRINT statement. This is the simplest form of the PRINT statement. Its function is by no means limited to this basic form since there are many other variations that can be used.

The last line of the program contained another statement to be executed by virtue that it was indented 1 space. This time, the STATEMENT or COMMAND was GOTO. This statement does what is called FLOW CONTROL. This is the process by which the point of execution of the program is changed from the last line executed to a new line.

When the GOTO routine is executed, it searches for the name of the LABEL and when it finds the LABEL it executes the next line of code. In this case, the label was LOOP. ACOS then looks through the program to find a label called LOOP. As it happens, that label is on the first line of the program, though it could have been in any line. The program execution point is then moved to the label LOOP which happens to be at the beginning of the program in this case. Thus, the text is printed again and again. This situation is called an INFINITE LOOP. That is, the loop will never stop (unless you as operator stops it via RESET or some other means).

After you hit [RESET], you will be faced with a group of choices labeled "RESTART: S,M,Q ?". By pressing "S" you will restart the original program you told ACOS to execute. By pressing "M" you will restart the program in memory. In this case, they are the same, but programs can link to other programs so that the original one is different from the one in memory now. This is helpful for debugging so you can re-start that program in memory without starting with the original program first. By pressing "Q", you will quit ACOS and return to your operating system.

At this point, you have successfully written, entered, and executed an ACOS program. Though this was a simple example, the steps are the same for advanced programs. The following is a summary of the steps involved with writing an ACOS program:

- 1) Enter some form of word or text processor that can accommodate standard text files.
- 2) Type in your ACOS program. All labels start at column 0 while all actual code starts at column 1.
- 3) Save the program to disk adding a ".S" suffix onto your filename (ex: TEST.S) so that ACOS can identify it as an ACOS source file.

- 4) Execute ACOS from your operating system via whatever commands are needed. (ex: -ACOS, BRUN ACOS, ACOS).
- 5) Enter the name of the module you wish to execute if it is different from the default name. Don't add the ".S" suffix or the file will not be found.
- 6) The compiler will then compile and execute your program. If you execute the program again without changing the source code, the compiler will NOT re-compile, it will just run the old code.

The following section contains information on all the data formats, variable types, and disk access methods that can be used with ACOS. A working knowledge of BASIC is recommended to help you along. If you don't know ant other language, try and use the examples as much as possible. They will be the best teacher. Also, try modifying existing code. This is another easy way to learn.

PROGRAM STRUCTURE

Under ACOS the structure of a program is very much "free-form". That is, the compiler is very tolerant of different styles of programming. You are allowed to add blank lines and comments anywhere in your code for ease of reading. Any line within an ACOS source program must be in one of the following formats:

Blank Line: If the line is blank, this line will be skipped by the compiler. Blank lines are a good way to separate blocks of your code apart from other bloacks for ease of reading.

Comment Line: By placing a semi-colon (;) as the first character of the line in column 0, all data until the end of the line will be ignored. In this way, you can enter comments so that when you come back to work on a program, you will have some idea of what you were trying to accomplish.

Label Line: By entering just a keyword of your choice starting at column 0 of the line, you can enter a label. The first character of a label must be alphabetic. The rest of the label can consist of alphanumeric characters. The first 8 characters of the label are significant. That is, the labels TEST and TEST2 are considered different labels by ACOS while SHOWFILE2 and SHOWFILE8 would appear the same to ACOS since the first 8 characters are the same.

Statement line: A statement line is always indented 1 space from the the left side. That is, at column 1, not column 0 like the previous line types. Statements are just entered on the line in the order you want them executed. If you wish to put multiple statements on a line, separate the statements with a colon (:). Statements may be typed in either upper,lower or mixed case.

SPECIAL CHARACTERS

There are several special characters that ACOS recognizes within your program code and uses them for different purposes. The following list show characters that have special meanings to ACOS. There are other characters which when encountered will be ignored. Any character including those below can be displayed by the program without problem, they just have special meanings when encountered outside the PRINT statement.

Character	Meaning
=	space or blank
=	equals sign and also used for assignment statements
+	plus sign also used for adding strings
-	minus sign used for subtraction
*	multiply sign used for multiplication
/	divide sign used for division
(	open parenthesis used to begin a function
)	close parenthesis used to end a function

\$ dollar sign used to indicate a string function
 , comma used as a data separator
 ; semi-colon used for text formatting
 : colon used as a statement separator
 " double quote or string delimiter
 ? question mark or PRINT abbreviation
 \ backslash or new-line character
 < less than for IF statement
 > greater than for IF statement

concerned. The ability to use variable names greater than 2 characters is only for your reading convenience.

You can assign a variable a value the same way you do in any BASIC. You can use: LET VOTE=1 to set the variable VO to a value of 1. As a shortcut, you can just say VO=1, and ACOS will figure out what you mean. The LET is an optional operator. When assigning a string variable to an absolute value, the string to be assigned must be enclosed in quotes and must be no more than 255 characters in length.

ARITHMETIC OPERATORS

There are several standard arithmetic operators that can be applied to numeric and string variables. Though they are somewhat limited in nature under ACOS, most common functions can be accommodated.

Addition: A=B+C or A=B+5 or A=3+7 are all legal operators. Whenever a number is needed for whatever purpose, an equation may be substituted with its place. A\$=B\$+C\$ or A\$=B\$+"HMMM" or A\$="THIS IS "+A TEST" are all legal string addition commands. Under string addition, the contents of the second string are appended onto the contents of the first.

Subtraction: A=B-C or A=B-5 or A=3-7 are all legal operators. It is very similar to using the addition operator. There is no string subtraction operator.

Multiplication: A=B*C or A=B*5 or A=3*7 are all legal operators. If you combine multiplication/division operands with addition/subtraction operands, the multiplication/division will be executed first. ex: 4+5*3=19 not 27.

Division: A=B/C or A=B/5 or A=3/7 are all legal operators. Since ACOS is an integer based language, with division operands, the results are rounded to the nearest integer and the remainders are thrown away. Thus 10/2=5, 10/3=3, 10/7=1, 10/11=0.

Modulo: A=B MOD C or A=B MOD 5 or A=3 MOD 7 are all legal operators. The MOD operand is a sub function of division. Instead of returning the quotient as with division, the remainder is returned. Thus, 10 MOD 2=0, 10 MOD 3=1, 10 MOD 7=3.

Grouping: By using the parenthesis, you can create complex equations and control the method of expression evaluation. Arguments within a set of parenthesis are always executed first. You may also nest several levels of parenthesis if needed. Thus ((3+4)*5)/(3+4) is evaluated in the following steps: step 1 (7*5)/(3+4) step 2 35/(3+4) step 3 35/7 step 4 result is 5.

RELATIONAL OPERATORS

Relational operators are used to compare two values and return a true/false result. Strings may be compared with other strings but not to numbers. The same is true for numbers. A "TRUE" result is returned as the value of 1 while a "FALSE" result is returned as the value 0. The following are the legal relational operators:

Operator	Relation	Example
=	equality	X=Y
<> or ><	inequality	X<>Y or X><Y
<	less than	X<Y
>	greater than	X>Y
<= or <<	less than or equal to	X<=Y or X<<Y
>= or >>	greater than or equal to	X>=Y or X>>Y

examples: (1=0) with the result of false or (0), (1=1) with the result of true or (1), (5<4) with the result of false or (0), (5>4) with the result of true or (1), (7<7) with the result of false or (0), (7>=7) with the result of true or (1).

You may always substitute more complex variables in place of simple variables. You can replace ((X)>(Y)) with a more complex expression like ((4+5*6)>(3/4+12)) or

RESERVED WORDS

Under ACOS, certain reserved words have predefined meanings. These words all correspond to ACOS statements, functions, and operands. When encountered, they will be executed as an ACOS command. These may NOT be used for variable names.

It is always best if you separated reserved words from data or each other by use of a space or a colon or whatever special characters the particular command syntax allows. One of the keys behind writing a good program is making sure you can understand what you wrote. For example, PRINT A\$;B\$,C PEEK(27):HOME uses a (;), a (,), a (), space and a (:) between data.

The following is a list of reserved words:

ADDINT	APPEND	BYTE	CHR\$	CLEAR	CLOCK	CLOSE
COPY	CREATE	DATE\$	ECHO	EDIT	END	FILL
FLAG	FOR	FREE	GET	GOSUB	GOTO	HOME
IF	INFO	INPUT	INSTR	KEY	KILL	LEFT\$
LEN	LINK	LOG	MARK	MID\$	MODEM	MOVE
MSG	NEXT	NIBBLE	NOT	ON NOCAR	OPEN	PDL
PEEK	POKE	POP	POSITION	PRINT	PUBLIC	PUSH
RAM	RAM2	RANDOM	READ	READY	RETURN	REWIND
RIGHT\$	RIPCO	RND\$	SET	SETINT	STR\$	TEXT
THEN	TIME\$	TONE	UPDATE	USE	VAL	WHEN\$
WIDTH	WRITE					

VARIABLES

One of the most powerful parts of any language are the use of VARIABLES. ACOS contains two basic variable types. The common ways of using them are listed below:

Numeric Variables: Under ACOS, numeric variables are just integers. Floating point numbers are not supported. ACOS is not a good language if your application demands heavy math support. The integers are in the range -32767 to +32768. Numbers outside this range will either "wrap-around" or give an OVERFLOW ERROR. Numeric variables are represented as names of your choice. They must start with an alphabetical character, but can contain any alphanumeric characters that you desire. For instance, ABC, Z7, AS76D are all legal numeric variables.

String Variables: Under ACOS, string variables are the same as they are under most BASICs. They can be between 0-255 characters in length, they can accept any type of characters (control, upper/lowercase, numeric, etc.), and can be manipulated in a number of ways. String variables must start with an alphabetical character and can contain any alphanumeric character as can a numeric variable. However, the variable name must be terminated by a dollar sign. For example, ZQ\$, A7\$, NAME\$ are all legal string variables.

Unlike many basics, ACOS does NOT support arrays. Due to speed and memory considerations, array support is impractical. Fortunately, ACOS has been engineered to handle large groups of data that will outperform most normal array systems.

Under ACOS, variable names can be of any length, though only the first two characters are used within ACOS for identification. For example, you can use the variable VOTE throughout your program without a problem. Internally though, ACOS only looks at it as VO. As a result, if you have a second variable named VOLUME, internally, it will be the same as VOTE. Thus the two variables will be the same as far as ACOS is

expressions that are even more complex. If you do have a complex expression on a side, you should put parenthesis around it to separate it from the relational operator so it is processed as one side.

When used in conjunction with the IF statement, you have one of the most powerful statements with in ACOS. When used with the IF statement, you have a conditional branch, the single most important program execution statement.

LOGICAL OPERATORS

Logical operators perform simple logic operations on numeric values. They can be used to increase the power of the IF statement by allowing more conditions to be evaluated. Under their simplest form, logical operators work with true (1) and false (0) values. The following truth tables show the results of all the possible logical operators in action.

z= not x		z=x and y			z=x or y		
x	z	x	y	z	x	y	z
1	0	1	1	1	1	1	1
0	1	1	0	0	1	0	1
		0	1	0	0	1	1
		0	0	0	0	0	0

The following examples show the IF statement being used with the relational and logical operators:

```
IF (X=5) AND (Y=9) GOTO label
IF (NAME$="SHIT") AND (UN=1) GOTO label
IF NOT ((A=3) OR (B=4)) GOTO label
```

Again it is important to use parenthesis when complex equations are being evaluated so that ACOS can understand the order the operand is processed. Since execution order is normally sequential, without grouping, ACOS will be on its own to decide what order you wanted to do things. Many times it will guess correctly, but on occasion, it will guess wrong. Using grouping is an easy way to avoid this problem.

PRINT STATEMENTS

The two most frequently used versatile statements have to be PRINT and INPUT. These are the basic means by which you input data into variables and print data out to the screen. Due to the frequency of use, a basic understanding of these two statements is very important.

The PRINT statement has the function of taking data and displaying it on the console/modem. There are many options in PRINT that can be used. The basic form of print is PRINT [expression]. In the simplest form you can use PRINT [any absolute data]. This would include numbers (PRINT 563) or text within quotes (PRINT "HELLO"). To include multiple arguments, you need not even separate them, though a space or semi-colon between them makes it easier to read. PRINT "THE VALUE 4+5=";9.

Of course, in place of absolute data, you can have statements, equations, and variables. For example the above print statement could be written as: PRINT"THE VALUE 4+5";4+5. If we wish to print a function, just enclose the function within the print statement. For example, PRINT PEEK(456), would display the contents of memory location 456.

To print a variable, just include the name of the variable in the PRINT statement. A PRINT NAME\$ would print the contents of NAME\$ on the screen. To combine multiple statements, just use the semi-colon or a space. PRINT NAME\$;UN;PEEK(465);4+5 would display all the above data.

There are several special characters that can be used with the PRINT statement to format the data. If you use a comma instead of a semi-colon, the comma will also be printed. There is also a print-at character (@) that can be used. PRINT@5,0;"HELLO" will display the word HELLO at vertical location line 5 horizontal location column 0.

INPUT STATEMENTS

The INPUT statement is used to enter data in variables from the console/modem by the user. It also has a quick directive so the text can be displayed (like a PRINT statement) before the data is entered. This works well as a prompt.

In its simplest form, INPUT is used to enter either a string or numeric variable from the console/modem. INPUT NAME\$ would wait for the user to enter a string from the keyboard. That string would then be put into NAME\$.

To enter multiple variables, separate the variable names with either the comma or the backslash character. When you separate variables with a comma, the input must correspond to the number of commas used in the input. For example, INPUT A,B,C would wait for 3 numbers to be entered. Typing 1,2,3 would enter 1 for A, 2 for B, and 3 for C.

If you enter a backslash between variables, then each value must be on a separate line. This avoids having to do multiple INPUT statements all in a row. Thus INPUT A\$;B\$, would enter two lines worth of data into the two string would enter two lines worth of data into the two string

=====

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=====

subset would be a different volume number. For example, "n ACOS config program.

To change drives within ACOS, you can always prefix the filename with the drive specifier. Whenever you access a drive, the default drive is set to the last drive used. Also, to set the default drive without doing any real disk access, the LOG statement can be used. For example, the syntax for LOG is LOG "drive spec" or LOG "B:".

DISK FILES

The last part of this introduction deals with using disk files. This is one of the most important features of ACOS. You can OPEN a file, manipulate the data within, and then CLOSE the file. If you wish to use a new file, the CREATE statement can be used. If you wish to delete an old file, the KILL statement can be used. The following is a list of disk commands:

APPEND	CLOSE	CREATE	INPUT
KILL	LOG	MARK	OPEN
POSITION	PRINT	READ	WRITE

The first thing to do is open the file. You use the OPEN#channel,filename statement. There are 2 disk channels that may be used. The two channels are 1 and 2. Only one file per disk channel may be open at any one time. Thus, there are a maximum of two files open at any one time. The filename format differs from operating system to operating system. ex: OPEN #1,"USERS" would open the file USERS on disk channel 1.

Once you have opened a disk file, all further access is done with reference to the disk channel you opened the file under. At this point, the following commands can be used to access the file.

APPEND #channel - This will set the file so that all new data written to the file will be appended onto the end of the file.

INPUT #channel,expression - This is just like the normal INPUT statement except that input will be taken from the open disk file instead of the console/modem.

MARK (channel) = current byte location within the file. With the MARK statement, you can select the actual byte number from the beginning of the file. This is generally not used.

current location within file= MARK (channel)- In this form, the MARK function will return the current pointer location within a disk file.

POSITION #channel,record size, record number, offset. - The POSITION statement is used in conjunction with random access files. If you wantedd to use a file as random access with record lengths of 64 bytes, you can use: POSITION #1,64, record number. The offset argument is optional and defaults to 0 if not used.

PRINT #channel,expression - The PRINT statement can be used in the normal way except that the output will be directed to the disk file instead of the modem/console.

READ #channel,memory location,number of bytes to read - This is a direct disk to memory transfer method. A maximum of 255 bytes can be read at a time.

WRITE #channel, memory location, number of bytes to write - This is a direct memory to disk transfer method. A maximum of 255 bytes can be written at a time.

After you are finished with the file you are using, you must issue a CLOSE command to tell ACOS you are finished with the file. If you add a #channel after the CLOSE statement, only that channel will be closed. If you just issue a CLOSE without an argument, all the open files will be closed. If you are only using one file at a

time, it is generally a good practice to issue just a CLOSE command with no channel number.

ACOS ERROR MESSAGES

starting module not found

ACOS was not able to locate the starting program module. By default, this file is named "LOGON.SEG", but may be changed via the ACOS loader program.

module too large

the comiled segment was too large to be loaded into memory. If this error occurs, you may want to break the program into several segments.

label not found

The ACOS compiler could not find a label that was referenced in the program.

symbol table full

There are too many labels in the symbol table. ACOS will only allow a maximum of 255 labels within a segment.

syntax error

Missing parenthesis in line, misspelling of a keyword, misuse of punctuation, etc...

missing symbol

There is no label following a GOTO, GOSUB or a PUSH.

undefined label

Execution phrase label. This occurs when a segment is being executed and cannot find a label. During the compiling phase, you will also be informed that the label was not found.

missing data

Occurs when a program statement has no valid argument. For example, X=CLOCK() is missing data because there is no valid number between the parenthesis.

type mismatch

The left hand side of an assignment statement was a numeric variable and the right hand side was a string, or vice versa, or a function which expected a string argument was given a numeric one or vice versa.

overflow > 32767

ACOS cannot handle numbers which exceed 32767.

division by zero

dividing by zero is always an error.

string too long

 An attempt was made to create a string larger than 255 characters.

 gosub stack full

 ACOS will not allow you to nest more than 16 GOSUB or PUSH statements.

 return without gosub

 A RETURN or POP statement was encountered without a corresponding GOSUB or PUSH being executed.

 bad device number

 You have accessed a device that is not OPEN or READY, or you have accessed a device that does not exist.

 illegal filename

 The syntax of the filename is illegal or an attempt is made to use a disk channel that is already open.

 for stack full

 ACOS will not allow you to nest more than 16 FOR statements.

 next without for

 A NEXT statement was encountered without a corresponding FOR statement being executed.

 link label not found

 you attempted to LINK into a segment at a label that is either PUBLIC or does not exist.

 message file not found

 You tried to READY a message file that doesn't exist.

 end of program

 An END statement has been encountered or ACOS has reached the end of a shell.

 bad drive specifier

 An attempt was made to access a drive or pathname that does not exist.

 unable to load external

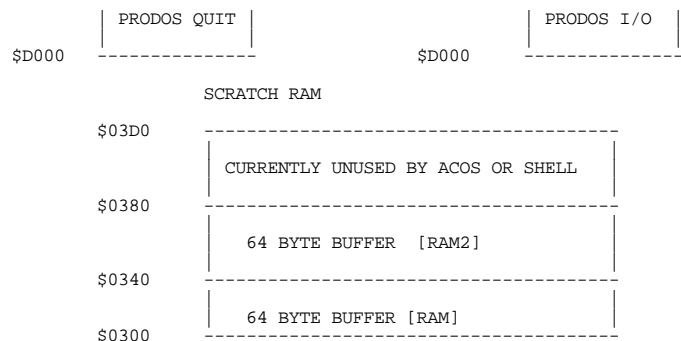
 ACOS was unable to find and execute an external module.

 unclosed quote at EOF

You didn't end a PRINT statement with a quotation mark.

 ACOS MEMORY MAP

\$C000	-----		
	|	PRODOS MLI	|
\$BF00	-----		
\$BE00	-----		
\$BD00	-----		
\$BC00	-----		
\$BB00	-----		
\$BA00	-----		
	|	PROGRAM BUFFER	|
\$6000	-----		
	|	MODEM BIOS	|
\$5E00	-----		
	|	CLOCK BIOS	|
\$5D00	-----		
	|	PRINTER BIOS	|
\$5C00	-----		
	|	CONSOLE BIOS	|
\$5900	-----		
	|	CONFIG DATA	|
\$5800	-----		
	|	ACOS	|
\$2000	-----		
	|	FILE BUFFER #1	|
\$1C00	-----		
	|	FILE BUFFER #2	|
\$1800	-----		
	|	EDITOR BUFFER	|
\$0800	-----		
	|	TEXT PAGE #1	|
\$0400	-----		
	|	PRODOS DATA	|
\$03D0	-----		
	|	SCRATCH RAM	|
\$0300	-----		
	|	INPUT LINE	|
\$0200	-----		
	|	6502 STACK	|
\$0100	-----		
	|	ZERO PAGE	|
\$0000	-----		
		16K CARD BANK 1	16K CARD BANK 2
\$DFFF	-----		\$FFFF
		ACOS DATA	
\$D600	-----		\$E000
			PRODOS KERNAL



* end of file
le

[Ripco] Which 1-241 ?=menu,<CR>=abort:

=====

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```
[-----]
[           A C O S   Tutorial 2           ]
[-----]
```

ACOS COMMANDS & FUNCTIONS

```
ADDINT
syntax: ADDINT (string1 [,string1...])
```

the ADDINT command will add more keys to the existing interrupt keys table. previous keys will not be cleared. the functions of the keys is the same as with the SETINT command.

```
APPEND
syntax: APPEND #device
```

the APPEND statement is generally used to add data to an existing file. if you issue an APPEND statement, the file pointer will be moved to the end of the file. you can also find out the length of a file by doing an APPEND and then using the MARK function. Mark will then return the length of the file in bytes.

```
BYTE
syntax: BYTE=number
       BYTE=(number)
       BYTE=(number)=number256
```

the BYTE function is similar to the FLAG function. it is a low overhead data storage unit. just point to where in memory you want the data to be stored using the first syntax, and you can then access the data using the second or third syntax's.

```
CHR$
syntax: string=CHR$(ascii code [,number chars])
```

appears to be same as in Applesoft with the exception of [,number chars] which allows user to define how many ascii codes are to be assigned to string.

```
CLEAR
syntax: CLEAR
       CLEAR #device
```

the forms to clears share only one thing in common; they both clear data in one form or another. in the first syntax, without an argument, CLEAR will reset all the variables to nil, clear all the addresses from the for-next and gosub-return stack, and close all open files. suggested use is at beginning of program.

in its second syntax, CLEAR is used to clear out device buffers. the legal device channels are 8,9,10. CLEAR #8 will clear the editor so that any output into the editor will be appended to a clear editor. CLEAR #9 will clear the top of screen display. You must clear the top of screen display before you write any info into it. CLEAR #10 will clear the ram drive. any further writes will be appended on to the end.

```
CLOCK
syntax: CLOCK(0)
       CLOCK(1)=expression
```

expression=CLOCK(2)

the CLOCK function/statement is used for setting a time limit. it can also be used to find out how long someone has been using the system. the following options are available.

CLOCK(0)- this statement is used to reset the clock time to zero. it should be executed when your program begins.

CLOCK(1)- you will need to set CLOCK(1) equal to the number of minutes you want as a time limit, or 0 for no limit. when the time limit expires, it will be handled as a "no carrier" situation. The program will jump to the NOCAR routine.

CLOCK(2)- the CLOCK(2) function will return the number of seconds that a user has been connected. divide this number by 60 to find how many minutes they have been connected.

CLOSE
syntax: CLOSE
CLOSE #device

the CLOSE command is used to close a disk file after you are done with it. if you give a device channel with the close command, only that file will be closed. if you CLOSE by itself, all open files will be closed.

COPY
syntax: COPY filename [,#device]
COPY #device [,#device]

the COPY command is used for displaying and copying information from device to device. the first argument can be a filename, in which case, the file is opened and input is taken from that file, or it can be a device. the second device is optional. if present all output will be routed there, otherwise it will be displayed to the modem/console. the second argument may not be another filename. if you wish to copy to a file, open the file with the OPEN command, and copy to that device.

CREATE
syntax: CREATE filename

the CREATE statement is used to create an empty file on the disk. the new file can be opened and read and written to just as any other file would be. this is the only way to create a file under acos. unlike some other basics, acos will NOT create a file using the OPEN command.

CRUNCH
syntax: CRUNCH

the CRUNCH statement is used in conjunction with the MSG commands. it is used to "CRUNCH" together a message file in while messages have been killed. this allows you to maintain a sequential message file and get rid of all the blank deleted entries that might be there.

DATE\$
syntax: string=DATE\$

the DATE\$ function returns the current date in MM/DD/YY format. the input will be taken from whatever device was configured as a clock. if 00/00/00 is returned, then there is no clock in the system and the date hasn't been set.

ECHO

syntax: ECHO=string1
ECHO=""

the ECHO statement is used to set the echo character to be used with the INPUT statement. once the echo has been set, that character will be sent each time a user types a character when entering text. the ECHO statement in the second syntax will reset the echo to the character that is being typed.

EDIT
syntax: EDIT(number)

the EDIT statement is the command used to interface acos with its editor. with the different EDIT statements, you can clear the editor, see how much space is free, etc. the following list gives all legal calls....

EDIT(0)- clears the editor. there will be a total of 4096 bytes free after a clear takes place.

EDIT(1)- enter the editor. if no data is present, the editor will start to accept input right away. if other data is present, the editor will start in the prompt mode.

EDIT(2)- this is a function that returns the number of bytes used within the editor. if this number equals 0 the editor is empty.

EDIT(3)- this is used to set the video width to be used within the editor. any value from 1 to 255 is legal. the most often used widths are 32,40,64,80,128. all operations within the editor will be based around this width. you can also read the current width using EDIT(3) as a function.

EDIT(4)- this is used to set the 'back-space mode' that the editor will use. certain modes allow more control than others. mode 0 indicates that the actual mode is not known. the editor will work fine, but some functions will be disabled. under mode 1, the editor will assume that the user has a 'non-destructible' backspace. this allows all the editor functions to be used and is how the local console is setup. mode 2 tells the editor that the user has a 'destructible' backspace. under this mode, some functions are disabled, but the editor speeds up certain other functions.

END
syntax: END

same as applesoft, terminates program. returns to acos restart state.

FILL
syntax: FILL start,length,data

the FILL statement is used to fill an area of memory with some bytes of data. generally it is used to zero out memory. START is a 16 bit memory address, length is an 8 bit [0-255] number, and DATA is the byte that will be used to fill memory.

FLAG
syntax: expression=FLAG
FLAG=number
FLAG=(number)
FLAG(number)=number1

the FLAG function is a low overhead way to store 1 bit information. you just need to point the FLAG function to a point in memory that you wish to store your data in, and you can manipulate as many flags as you need. each byte of memory can contain 8 flags. to setup the FLAG function, use the first syntax to point the function to a point in memory where the flags will be stored. once the pointer is setup, you can use the FLAG just like a variable using the second and third syntax for reading and writing the flags.

```
-----
FOR
syntax: FOR numvar=number TO number STEP number
        ; NEXT
```

appears to have same function and limits as applesoft FOR-NEXT loops.

```
-----
FREE
syntax: FREE
```

appears to have same function as applesoft FRE(0) command.

```
-----
GET
syntax: GET varstr
```

the GET statement is used to get a single keypress from the keyboard. when encountered, the system will wait until a key is pressed. the key will be returned in <varstr>. control characters will not be filtered out as they are with INPUT.

```
-----
GOSUB
syntax: GOSUB label
```

appears to have same function as applesoft GOSUB. only thing worth noting is that acos uses labels as targets instead of line numbers.

```
-----
GOTO
syntax: GOTO label
```

appears to have same function as applesoft GOTO, again with the exception that acos uses labels not line numbers.

```
-----
HOME
syntax: HOME
```

appears to have same function as applesoft HOME. clears current window.

```
-----
IF
syntax: IF argument [THEN] statement [ELSE] statement
```

appears to have same function as applesoft IF-THEN except it supports the ELSE directive when the statement was false. ELSE is optional. THEN is also optional but if you use THEN, it cannot be followed by a label directly. (use IF arg THEN GOTO label).

```
-----
INFO
syntax: expression=INFO(optional)
        INFO(optional)=expression
```

INFO can be used as either a statement or as a function. it is really a 'catch-all' in nature. many values that are more or less unrelated are returned. the following table gives the meanings of all the INFO data.

argument r/w function

```
-----
INFO(0) r            is there a caller online? (0=no)
INFO(1) r            capacity of current message file.
INFO(2) r            callers baud rate /300 (1=300)
INFO(3) r/w          current number of nulls.
INFO(4) w            top screen stats. (1=chat, 2=exec)
INFO(5) r/w          executive user online? (1=yes)
INFO(6) r            checks bit map for mail/msg bases for room.
-----
```

```
-----
INPUT
syntax: INPUT [#device,] [@number,] [\] ["text"]
        variable [{,\}] variable..]
-----
```

the INPUT statement is broken down into 4 different parts. the first part is the input device to be used. when omitted, the input is taken from the modem/console, otherwise input is taken from that device. the second part is the input mode. there is a restrictive mode placed on the input so that the inputted data is what you desire. the third part of INPUT is the prompt. the prompt is basically just a text string that will be printed prior to getting the input. the newline character '\n' can be used at the beginning of the text. the last part of INPUT is the variable list. this is a list of variables that will be assigned the input. each variable in the list is separated by either a comma or backslash. if separated by a comma, then the actual typed input must be divided by a comma. if divided by a backslash, then the text must be separated by a carriage return.

INPUT default- set the input mode to uppercase, don't accept a blank line.

INPUT mode 0 - set the input mode to uppercase, don't accept a blank line, just return the first character.

INPUT mode 1 - set the input mode to uppercase, don't accept a blank line, don't accept any commas.

INPUT mode 2 - set the input mode to uppercase, blank lines will be accepted.

INPUT mode 3 - accept everything. (upper & lower).

```
-----
INSTR
syntax: expression=INSTR(string,string)
```

the INSTR function is used to search within a string for the existence of another string. the first string is that string which you are searching for. the second string is what will be searched. the case of the text will be ignored. the function will return the number of the first character where the match was found. if the function returns zero, no match was found.

```
-----
KEY
syntax: expression=KEY(0)
        expression=KEY(1)
        expression=KEY(2)
```

the KEY function is used to check and see what if any keys have been pressed. it is generally used to check to see if a routine needs to be interrupted and is used in conjunction with the SETINT and ADDINT statements. this routine does not wait for a key, it returns either a zero for no key or the ascii value of the key. in the KEY(1) form, a non-zero byte will be returned if the key pressed was the 'file stop' character. in the KEY(2) form, a non-zero byte will be returned if the pressed key is the 'file next' key define in config.

```
-----
KILL
syntax: KILL filename
        KILL #MSG(expression)
```

the KILL statement can be used in two different ways. in both ways it is used to delete data. in the first form, with the filename, it will delete the file from disk. in its second form, it will kill a message within the currently active message base. after using KILL on a message, it is always a good idea to follow it with an UPDATE.

LEFT\$
syntax: string=LEFT\$(string,length)

appears to have same function as applesoft LEFT\$.

LEN
syntax: expression=LEN(string)

appears to have same function as applesoft LEN.

LINK
syntax: LINK filename [,string-label]

this statement will allow two program segments to be linked together. it is in this way that the problem of not enough memory is dealt with. the filename argument is mandatory and is in standard filename syntax. if you wish the execution to begin at a point other than the beginning of the module, then add on a comma followed by the name of the label IN STRING FORM. the label must be enclosed in quotes or must be in a string. ex: LINK "A:MSG.SEG","BULLETINS". you must also make use the PUBLIC command within the segment you are linking to so that the labels address is available to the link command.

LOG
syntax: LOG drivespec

the LOG statement simply changes the default disk drive to the <drivespec> drive. if the drive is not legal, a BAD DRIVE SPECIFIER error will occur.

MARK
syntax: expression=MARK(device)
MARK(device)=number

the MARK function will allow you to either set or check the point at which a file is doing i/o. if you want to go to the beginning of a file, you would issue a MARK(1)=0 assuming it was file 1. MARK has a second function in that it can be used to see if a file exists. normally acos will not generate an error if a file exists, so it can be hard to tell if there is one. to see if a file exists:

```
OPEN #1,filename
IF MARK(1) PRINT "FILE EXISTS"
CLOSE #1
```

MID\$
syntax: string=MID\$(string,start [,length])

appears to have same function as applesoft MID\$.

MODEM
syntax: MODEM(number)

the MODEM command is multiple function for controlling the modem.

MODEM(0)- this command needs to be issued before any other modem command is used. its function is to initialize the modem driver for later use.

MODEM(1)- this command waits for an incoming call and establishes a connection. execution will continue when either a call is connected or the user goes into local mode.

MODEM(2)- this command causes the modem to hangup. all further output will be sent to console only.

MOVE
syntax: MOVE start,length TO destination

the MOVE statement is used to move segments of memory around. the only limitation is that only a maximum of 255 bytes can be moved at any one time. both START and DESTINATION are 16 bit memory addresses while LENGTH is an 8 bit [0-255] number.

MSG
syntax: expression=MSG(number)
MSG(number)=expression
device={#MSG(number)}

the MSG function is a specialized function for the acos message handling routines. once a message file has been opened via the READY command, the MSG function is used to access individual messages within the message file. the MSG function has two radically different syntaxs. under the first and second syntax, it is being used to access and set information about a message. for each message, you can maintain one number that gives information about it via the MSG function. the MSG(0) function returns the number of messages within the message file and may not be changed. to access a message, it is used as a device channel. while to show the editor COPY#8 would suffice, since the message file is made up of many messages, it is necessary to tell which message you want to work with. COPY#MSG(3) would show message number three within the currently open message file.

NEXT
syntax: NEXT

similar to the applesoft NEXT statement which is used with FOR-NEXT loops but with the exception you cannot use a variable after NEXT. (NEXT X is illegal).

NIBBLE
syntax: NIBBLE=number
NIBBLE(number)
NIBBLE(number)=number16

the NEXT function is similar to the FLAG function in that it is a low overhead data storage method. with the NIBBLE function, you can store 4 bit numbers that have the range 0-15. use the first syntax of NIBBLE to point to the point in memory where the data will be stored. use the second and third syntax to read and write the actual data.

NOT
syntax: expression= NOT expression

the NOT operator is a boolean logic operator. it changes the value of an expression from true to false or from false to true. in boolean logic, false is considered to be zero while not false or true, is considered to be any other number. the NOT operator is most commonly used in IF statements.

ON NOCAR
syntax: ON NOCAR GOTO label

the ON NOCAR statement is used to setup a routine that can be used whne carrier is lost from a remote user. when the carrier is lost, acos will then hang up the modem.

it will then change the current execution point to the label that was setup. whenever you link to another segment you must set up a new ON NOCAR vector to a routine within that segment. if you don't have a vector set up and a remote caller drops carrier, the system will just sit there until it times out.

os will then hang up the modem. it will then change the current execution point to the label that was setup. whenever you link to another segment you must set up a new ON NOCAR vector to a routine within that segment. if you don't have a vector set up and a remote caller drops carrier, the system will just sit there until it times out.

```
=====
DOCUMENT acos.tutor.4
=====
```

```
OPEN
syntax: OPEN #device,filename
```

the OPEN statement is used to make disk files ready to do i/o with out a program. you open a disk file using either device channel 1 or 2, and all further references to that channel will access the file associated with it. when you are finished with the file, use the CLOSE command. this will free up the device channel for later use. if you try to use a channel that is already in use, or one besides channel 1 or 2, you will get a BAD DEVICE CHANNEL error. if the file you open does not exist, no error will be generated. if you try to read from the file, it will appear to be empty. use the CREATE command to make a file.

```
PDL
syntax: expression=PDL(number)
```

the PDL function is used to read one of the paddles on the system. you can read paddle zero through three. the number returned will be in the range 0-255.

```
PEEK
syntax: expression=PEEK(address)
```

appears to be the same as the applesoft PEEK function.

```
POKE
syntax: POKE address,value
```

appears to be the same as the applesoft PEEK function.

```
POP
syntax: POP
```

appears to be the same as the applesoft POP statement with the exception of it also can be used with the acos PUSH command.

```
POSITION
syntax: POSITION #device,number,number [,number]
```

the POSITION statement is used to position within a random access file. the first argument is the disk device channel number that was used to open the file. the second field is the length of each record. the third field is the record number to be positioned to. the fourth field is the offset with in the record that is to be positioned to.

```
PRINT
syntax: PRINT [#device,] [expression]
        [,expression] [;]
```

rules for PRINT:

control: ',' - the comma is used to separate expressions within the print statement and will be printed literally.

control: ';' - the semi-colon is also used to separate expressions it will not be printed when encountered, if a semi-colon is the last character in the line, then the carriage return will be suppressed.

control: '\\' - the backslash is used to generate a newline character using the backslash, there is no need to put a bunch of print:print... statements.

exprs: TEXT - text must be contained within quotes and will be printed exactly as typed. within quotes, you may have any special characters including return. having an open quote with no close can prove to be an interesting experience.

exprs: STRING- the contents of the listed string will be printed.

exprs: NUMBER- the content of the listed number will be printed.

PUBLIC
syntax: PUBLIC label

the PUBLIC statement is used to make a label within a program module available to other modules to link to. if you wish to link to another program module, and start execution at a point other than the beginning of the module, you will need to make that point public. you can have a maximum of 8 public labels within a program module.

PUSH
syntax: PUSH label

the PUSH statement is a sub-set of the GOSUB statement. it does not actually change the current point of execution, but places a return address in a table so that the next time a RETURN statement is encountered, control will return to this present point. a POP statement will remove the last address added to the return table.

RAM
syntax: RAM

the RAM function is really just a constant pointer. it just points to a free 64 bytes of memory that has been set aside for program use.

RAM2
syntax: RAM2

the RAM2 function is the same as the RAM function except that it points to a different 64 bytes that are available for program use. generally this memory is used in conjunction with the READ, WRITE, NIBBLE and BYTE functions.

RANDOM
syntax: expression=RANDOM(number)

the RANDOM function is used to generate a random number within the range 0-number. a new random number will be generated everytime the system goes to get input. if you take two random numbers in a row, they will always be the same. if you need more than one, use the RND\$ string between. the will do a temporary re-random.

READ
syntax: READ # device,memloc,number

the READ statement is used to load data from a file into memory in its binary form without any processing or changing. the input does not have to come from a file, it can come from the editor or a message file. it is similar to an apple dos BLOAD command.

READY
syntax: READY filename

READY #MSG(number)

the READY statement is used to make a message file ready for use. it is similar to an OPEN statement being used before a file is accessed. after a message file is ready, all the following references to MSG will be directed to that file. once a message file has been made ready, it can also be used in its second syntax to ready a specific message within the file. this is generally used if further references to the file will use the device channel associated with the message base.

RETURN
syntax: RETURN

appears to have same function as the applesoft RETURN statement.

REWIND
syntax: REWIND

the REWIND statement is to change the pointer within a message file to some previously accessed point within the file. normally this is used in conjunction with the READY MSG(x):COPY #7 statements. using REWIND will put the internal pointer back to where it was before the last message operation took place. this is generally used for doing a 're-read' function of sorts.

RIGHT\$
syntax: string=RIGHT\$(string,length)

appears to have same function as the applesoft RIGHT\$.

RND\$
syntax: char=RND\$

the RND\$ function is used to generate random characters. each time RND\$ is accessed a new random character will be returned. be warned: the random number is generated from timing how long a user takes to enter his input. this is really a pretty random number since it is based on the users typing skill and speed. the only problem is that the random character generator can start repeating patterns after about 15-20 characters have been generated and before another input has taken place.

SET
syntax: SET string=memloc,number

the SET statement is another statement set up for the optimum management of memory. with SET you can manually set up pointers for strings anywhere in memory. along with the locations of the string, you can also specify the length. whenever the string is accessed, the text present at the memory locations will be returned.

SETINT
syntax: SETINT (string1 [,string1...])
SETINT ("")
SETINT (number)

the SETINT command is used to set up 'interrupt' keys. once setup the system will check for those keys whenever text is being displayed. if one of the keys are encountered, all further output will be suppressed until an input statement of some kind is encountered or the SETINT is reset. to reset the SETINT command, use the second syntax. if you wish to set the interrupt keys to those pre-defined by the acos config program, use the third syntax. SETINT(1) will set the interrupt key to the 'file stop' character. SETINT(2) will set the interrupt keys to the 'file stop' and 'file next' characters.

STR\$

syntax: string=STR\$(number)

appears to have same function as the applesoft STR\$.

TEXT
syntax: TEXT

used to clear the screen and any window on the local console.

THEN
syntax: THEN

same as applesoft THEN, separates statements within IF statements.

TIME\$
syntax: string=TIME\$

the TIME\$ function is used to get the current time from your clock. if your system is equipped with a clock, the time will be returned in a "HH:MM:SS XM" format. if your clock is in the 24 hour configuration then it will be returned in the "HH:MM:SS" format. if you have no clock, then your estimated time on will be returned. the estimated time is based upon the number of characters output and the speed they were sent. the format for estimated time is "HH:MM:SS ET". when the clock is first reset via a MODEM(0) command, the time will be "00:00:00 ET" and will advance from there.

tone
syntax: TONE (number,number)

the TONE function is used to generate a tone from the speaker in your computer. the first argument is the pitch and the second is the duration.

UPDATE
syntax: UPDATE

the UPDATE statement is used to write any information about the current message base from memory out to disk. normally, certain things are buffered and will stay within memory for long periods of time. in the event of a power failure or a system reset, this data will be lost before it is written out to disk. use the UPDATE statement to force the data to be written out to disk.

USE
syntax: USE filename [,any options]

the USE statement is used to access a routine that is external to the acos language. what happens is that the USE statement loads in an external command and transfer control to that command. the command will normally get parameters from the continuation of the line after the filename argument.

VAL
syntax: expression=VAL(string)

appears to have same function as applesoft VAL.

WHEN\$
syntax: WHEN\$=address
string=WHEN\$
WHEN\$=string

the WHEN\$ function is really just a data compression scheme. you initially point WHEN\$ to a address in memory. at this address there must be 2 free bytes. when you

read from WHEN\$, the 2 bytes will be retrieved from the memory location and translated into a "MM/DD/YY" format. when you assign WHEN\$ a value, the current date will be read and changed into a 2 byte compressed format and saved at the current address pointer.

WIDTH
syntax: expression=WIDTH(number)

the WIDTH function is really an interface to the config program. it will return 4 widths that were setup as the most commonly used widths under config, along with the width that should be used for a default when the video width is not known. WIDTH(1-4) will return the 4 most commonly used widths. WIDTH(0) will return the number of the width(1-4) that should be used as a default.

WRITE
syntax: WRITE #device,memloc,number

the WRITE statement is the opposite of the READ statement. it is used to write unprocessed binary data from memory to a file or other device. almost all the device channels can be written and none will generate errors. just specify the memory location and length to be written.

* end of file

[Ripco] Which 1-241 ?=menu,<CR>=abort:

=====

DOCUMENT acrojet.codes

=====

Codes for Acrojet - Compiled by Mr.Cairo

```
-----
Azure      459    Beige      741
Burgandy   025    Crimson   817
Emerald    356    Flame     283
Gold       992    Indigo    538
Jade       464    Lavender  170
Lemon      076    Magenta   205
Maroon     751    Olive     428
Oker       847    Peach     384
Rose       162    Scarlet   630
Sienna     974    Tangerine 913
Turquoise  290    Umbra     578
Violet     024    Tivir-    757
White      681
-----
```

=====

DOCUMENT acrostics

=====

+++

^: Acrostic Instructions :@

Welcome to the SCI-FI Acrostic Solver. This program presents three acrostic puzzles with famous science fiction authors as the topics. The author's last name is the answer down. Each letter in the author's name is used as the first letter of a word across. By solving the words across, you will spell the author's name down. A clue for the word down appears at the bottom of your screen. Use the ^ arrow keys or Control A and Control Z @ to move from row to row. As you move up and down, a clue for the row where you are working will appear at the top of the screen. You may guess, but the program expects you to solve all words across. Correct words are marked. If you need help with a word, use ^ Control F @ to see the first letter. Once you have completed the first puzzle, the program will automatically move on to the second. If you want to skip a puzzle, use ^ Control N @ to ask for the Next puzzle. You can quit completely by using the [ESC] key. The program will ask you to confirm your choice. If you do quit, you will go back to the UPTIME Menu. If you do not, you will go back the puzzle, resuming where you left off.

^- Modifying Acrostics -@

In this program, you will find a set of acrostics with the same theme. If you are a bit familiar with BASIC, you might look at the data statements starting at line 12000 and change them to create your own acrostics. You may want a set of puzzles for a favorite topic of yours. If digging into Applesoft is a bit beyond your wishes, you can send your suggestions to UPTIME. If we receive enough response, we will either include a new acrostic or (preferably) a set of programs that will allow you to make your own acrostics and save them on the disk for other people to solve. Let us know if you would like a utility which will print these puzzles for you as well.

^ Files Needed @

```
ACROSTICS      - Program used to setup the machine for SCIFI
UPTIME.TITLE   - The introduction to the program
SCIFI          - The main program
FP             - EXEC file used to exit.
GARBAGE        - A quick garbage collection routine
CURSORS        - Various cursors used by programs
]BLOCK        - The following files are the character sets used to
]SMALL SQUARE - print on the HiRes screen.
]SMALL STANDARD
```

```
---- screen.
]SMALL STANDARD
```

~~~



increase from 18k bytes to approx. 28k bytes. In the expanded editor mode, another 7.5k bytes is added above that.

=====  
DOCUMENT ae.pro.pt1  
=====

178

[ The Courts of Chaos ] - [ 312/915-0947 ]

ASCII Express           Southwestern Data Systems  
"The Professional"       Santee, California 92071  
3.4x Version             714/562-3670  
Copyright 1982

AE PRO is part of the "Professional Series" pioneered by Southwestern Data System (SDS). For the first time ever, there is communications software which operates similarly in all three major operating systems of the Apple II computer; CP/M, Pascal, and the native Apple DOS. The comprehensive set of software is conversive with each of its members -- CP/M files can be transferred via modem or direct connect interface to Pascal, Pascal to DOS or any combination.

--> MOST POWERFUL MACRO SYSTEM EVER <+--  
AE PRO provides you with the ultimate in flexibility. Complete system parameter assignment as part of the normal macro library. Now not only do you have full macro libraries with which to make complex operations easier, each separate library can completely reconfigure AE PRO. Things such as the system phone number, baud rate, parity, various menu parameters, even terminal emulation tables are part of this powerful system. Once configured, all you need to do is tell AE PRO which system to call. It will call, connect, reconfigure itself, and complete the log-on automatically while you sit back and watch.

--> UNATTENDED AUTO-ANSWER <+--  
AE PRO allows completely unattended answer mode with password log-on. If the Novation Apple CAT modem is utilized with the Bell 21a option, AE PRO will auto-search baud rates and adjust to that of the caller automatically. In the unattended mode, the caller can view standard text files to the screen, do blind copy of data, or send or receive any type of file in the Christensen error-free mode. The unattended mode can be set up for complete turnkey operation too. If configured to so, you can power-up your computer on the AE disk and automatically enter the unattended remote mode.

--> AUTO-ANSWERBACK MODE <+--  
AE PRO also have the ability to function as an ANSWERBACK DDD or TWX mode to forwarding mail systems such as Telenet's Telemail and many others. In this mode, AE PRO will pick up the phone, and wait for the forwarding system to activate it with special HERE-IS character. AE PRO will then identify itself, and accept the incoming data into its buffer. At the conclusion of the exchange, the forwarding computer will hangup, and AE PRO will automatically save its buffer to disk (the printer may be simultaneously supported also) and wait for the next call.

--> ERROR FREE TRANSFERS <+--  
A wide range of send modes are provided. Everything from the simplest blind block dump, to a very complex packet-oriented error checking mode ensures that you'll be able to quickly and easily transfer all sorts of data to practically any host computer you can find. Even the slowest or most awkward systems are easily accommodated.

--> MENU DRIVEN <+--  
AE PRO is unobtrusive. It remains quietly on the sidelines until you request something. It can display extensive help menus if you want them, or none if you don't. An extra feature, the BRIEF mode allows the more experienced operator to turn off AE PRO's extra prompting. This keeps the screen clear of announcements and prompting you may not always need.

--> SOPHISTICATED INSTALL PROGRAM <+--  
AE PRO's install program is very user friendly and easy to use. It requires no programming knowledge to operate but encompasses all aspect of the basic set-up of AE PRO including various automatic modes which allow you to move AE PRO from one system to another of different hardware configuration. It will figure out what is there and work correctly without further attention. There are no line numbers to change or internal programming changes to make. If AE PRO cannot adjust for a particular hardware incompatibility, it will inform you and automatically run the INSTALL program if present on that drive.

--> MANUAL ABBREVIATIONS: <+--  
Throughout this manual, certain abbreviations for keys or characters may be used:

|     |                          |
|-----|--------------------------|
| c/r | carriage return key      |
| BS  | backspace character (^H) |
| RUB | RUBout character         |
| ESC | ESCApe character         |
| ^   | Control character        |

=====  
DOCUMENT ae.pro.pt1  
=====

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[ The Courts of Chaos ] - [ 312/915-0947 ]

ASCII Express           Southwestern Data Systems  
"The Professional"       Santee, California 92071  
3.4x Version             714/562-3670  
Copyright 1982

AE PRO is part of the "Professional Series" pioneered by Southwestern Data System (SDS). For the first time ever, there is communications software which operates similarly in all three major operating systems of the Apple II computer; CP/M, Pascal, and the native Apple DOS. The comprehensive set of software is conversive with each of its members -- CP/M files can be transferred via modem or direct connect interface to Pascal, Pascal to DOS or any combination.

--> BAUD RATES <+--  
AE PRO supports all standard telecommunications baud rates as well as the higher direct connect rates up to at least 4800 baud when interfaced to conventional 80 column boards, or in excess of 9600 baud when interfaced to an external terminal capable of those higher rates. Its supports full terminal emulation -the ability of AE PRO and your 80 column board or external terminal to mimic screen display characteristics of other popular terminals. Thus you can communicate with host computers which may require a particular display characteristic. This provides maximum flexibility while minimizing connect time.

--> HARDWARE <+--  
AE PRO also supports all currently available hardware for the Apple II including all modems, whether plugged into the Apple mother-board or operating externally, all display devices from the internal Apple 40 column screen to 80 column boards and external terminals compatible interfaced. The same versatility applies to printer interfaces as well. With most printer interface cards, AE PRO's unique printer "ring" buffer prevents the loss of data while on-line with the printer enables simultaneously.

--> COMPACT CODE <+--  
AE PRO is written in very compact efficient form. Code overlays are used frequently which allow different sections of AE PRO's code to share the same section of memory. The result is a very large data buffer without wasting space anywhere in memory. Micro PRO's Wordstar word processor and Microsoft's A.L.D.S. assembler-linker package were used exclusively for its development.

--> POWERFUL EDITOR <+--  
AE PRO contains a powerful built-in editing system. The editor can utilize either the same memory as AE's data buffer, or a special expanded buffer. In the expanded mode, your already large 18k byte data buffer is expanded further by another 7.5k. You can switch between buffers quickly & easily, but may not maintain data in both simultaneously. The Editor is line oriented in nature, but utilizes a flexible screen-oriented editing system in which the cursor may be freely moved around in text. Characters may be added or deleted at will. Also featured are recursive global find and edit commands, which allow you to locate particular characters or strings anywhere in your file, instantly move into the edit mode, make necessary changes, and continue on to find the next find occurrence.

--> BUILT-IN MEMORY MANAGEMENT SYSTEM <+--  
AE PRO goes one step further. If your Apple II is equipped with a standard 16k or greater ram card in slot zero, AE will automatically relocate the DOS operating system to higher memory and increase your data buffer size even further. In this mode of operation, your minimum buffer size will

^# RUBOut character (screen display only)

<c/r> execute c/r

Also note that a HEX value may be indicated by a number being preceded by a dollar sign (\$) or followed by "H" (letter H)

--> AE PRO DISKETTE CONTENTS <+--

| Type | Name        | Description                                                                                                                                                                                                                                             |
|------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| T    | HELLO       | This file is EXEC'd upon boot, and can perform many different set-up steps. See "Advanced Programming Info" for details.                                                                                                                                |
| B    | AE PRO      | AE PRO's itself. Can be BRUN any time.                                                                                                                                                                                                                  |
| B    | INSTALL     | AE PRO's installation program. Can be BRUN any time.                                                                                                                                                                                                    |
| B    | BDOS        | A Library file used by INSTALL.                                                                                                                                                                                                                         |
| T    | MACRO.LIB   | The macro library file. Keeps track of the other various macro files for quick load and access from within a main program.                                                                                                                              |
| S    | STPMS.MAC   | One of several macro data files. They are indexed from within the MACRO.LIB file and can be directly produced and configured from the "U" option of AE PRO. All "S" files are macro data files.                                                         |
| B    | CHFORM      | A utility program which changes the FORMAT or a DOS text file to that of Pascal or CP/M, or vice versa. Use this when you transfer files in protocol mode with AE PRO and one of the other "PRO" series packages, P-TERM (Pascal 1.1) or Z-TERM (CP/M). |
| T    | MPF.A       | An EXEC file which is used to produce a TEXT file from an Applesoft program.                                                                                                                                                                            |
| A    | PFM.A       | Used internally by MPF.A.                                                                                                                                                                                                                               |
| T    | MPF.I       | An EXEC file which is used to produce a TEXT file from an Integer Basic program.                                                                                                                                                                        |
| I    | PFM.I       | Used internally by MPF.I.                                                                                                                                                                                                                               |
| A    | SPACECRUNCH | A program which removes all nonessential spaces and other text from a Basic program file. This utility is also built-in to MPF.A. as a user option.                                                                                                     |
| B    | BFD8        | A utility program designed to produce a TEXT file from a Binary block of data, if that data does NOT reside from \$800-\$A00.                                                                                                                           |
| B    | BFD92       | A utility program designed to produce a TEXT FILE FROM A Binary block of data, if that data does NOT reside from \$9200-\$9600.                                                                                                                         |

NOTE:  
 AE PRO itself does not rely on any non-macro files to operate normally. Therefore, you can produce diskettes which contain on HELLO, AE and associated macro files, to allow you the largest possible disk space. If you also would like to be able to operate INSTALL from AE PRO, you must include INSTALL and BDOS on the AE disk.

--> A TYPICAL QUICKIE SET-UP <+--

For our example, we'll take a pretty "standard" hardware configuration

found in many reasonably equipped Apple II's used in the home. It would consist of:

- 1 Apple II Plus, 48k RAM
- 1 16k RAM card - any manufacture
- 2 Apple mini-drives on one controller card
- 1 80 Column board (optional)
- 1 Hayes Associates MicroModem II
- 1 Epson MX70/80/FT Printer
- 1 Parallel Printer Interface

First, like running any other new software, MAKE A COPY OF AE PRO DISKETTE. Any conventional copy program may be used. When done, put the master aside, and "use the copy". Insert the AE PRO copy disk in you boot drive, and either power up the computer or type PR#6 to initiate the boot process. After a few seconds of disk activity, AE PRO will attempt to run and discover it has not yet been installed. It will display a message on the 40 column screen.

The first install--RUNNING INSTALL

Another few seconds will pass the screen will again clear and you will see:

```

ASCII EXPRESS "THE PROFESSIONAL"
INSTALLATION PROGRAM
FOR AE VERSION 3.4x
(C) 1982 BY
SOUTHWESTERN DATA SYSTEMS
CAN YOU DISPLAY LOWER CASE? (Y/N)
  
```

If you can ON THE DEVICE THAT WILL BE USED WITH AE PRO, answer YES. If you cannot under any circumstance, display lower case, answer NO.

Then it will ask: CAN YOU DISPLAY IS NOW? (Y/N)

If you can, at the moment, display lower case on your 40 column screen, answer yes. This question only affects the display of Install's menus.

Since you are running AE PRO for the first time, the screen will again clear and you will see the next display stage:  
 (This level also accessed by option I of install's main menu)

YOU MUST SELECT ONE OF THE FOLLOWING:

- 1 Novation Apple CAT
- 2 Hayes Assoc. Micromodem II
- 3 CCS 7710A/D, 7711, SSM AIO, Apple Comm-Card, Prometheus VersaCard
- 4 Mountain Computer CPS
- 5 ESI Lynx
- 6 MPC MicroConnection
- 7 Apple Super Serial Card

Current: 0           New: ---

Since for this example, you have a MicroModem II installed, select option 2

Next: SLOT of communications device (0-7)

Current: 2           New: ---

Enter the slot in which you modem is installed.  
 The message: Installing Communications Driver!

Will appear indicating you choice is valid and the proper code has been installed. If you had given invalid answers to the previous questions, Install would inform you and allow you to try again. AE PRO configures itself automatically for various display devices, as well as most printer interfaces, so for this installation, all that remains is to tell AE PRO which slot the printer interface (if present) resides, and which slot the display board (if present) resides.

No other hardware adjustments need be made.

The printer slot may be set with the "P" option and the display slot with the "L" option. Most other user parameters have already been set for you and need not be changed at this stage.

Look at the various options of Install and their descriptions in the instructions. You need not make any further changes now, but make a note of any changes you might want to make in the future after you understand this program better.

When your through looking around, use the "S" command at Install's main menu to save the changes you have made and run the program.

-----  
 ==> End Of Dox File #1 <==  
 THE FIRST RUN:

As AE PRO is running, it configures itself for the various hardware you have installed in your computer. It should always come up onto the selected display device with:

```
ASCII EXPRESS "The Professional"
Version 3.4x (c) 1982 by
Southwestern Data System
```

"->"

The "-">" is the system prompt as long as you are NOT currently connected to a host computer. At this point you can type "?" or "1" to display command menu #1 or "2" to display command menu #2.

DIALING A NUMBER:

You type "D" to dial a number. AE PRO responds: Number?

You enter the phone number of the system you wish to call and hit return. If you change your mind, just enter a c/r (carriage return) alone to abort this command.

AE PRO has the number now and displays: AE: Dialing: 853-1212

The numbers are output to the screen as they are dialed. When dialing is completed, it reports: AE: Waiting for connect.. and "listens" for the host computer's carrier. If no carrier is detected within about 40 seconds, the message: AE: Connection terminated -> will overprint the previous message, display the "-">" prompt and wait for further instructions. If carrier was detected, a different course of events occurs. First the screen will clear, and the message: AE: Term--> will appear in the upper left hand corner of the screen. You are not in terminal mode. Anything you type now, will be directed to the computer you called. Any time you wish, you can temporarily exit the terminal mode with the ^Q key (control-Q). AE PRO will respond with: +> This is the TERMINAL ESCAPE key. At this prompt you can issue most AE PRO Commands. For Example: If you wish to record a session, you would type "^QR" and the message:

AE: Copy ON  
 AE: Term-->

will display. To turn the copy buffer OFF, just type "R" again, or "^QR" from terminal mode if you are connected. For now, you have the copy flag enabled, but are not currently connected. Call the same computer again, but since AE PRO remember's previous commands, type "D" to invoke the dial mode. Instead of re-entering the number, enter the "/" character. "/" recall the last input used for most commands that require a more than one character response.

AE will again dial the previously specified number and attempt to connect.

Once carrier is established, sign on to the system as you did before. Remember that now we are copying all data on your screen to the copy buffer Wait for the host computer (the one you called) to ask you a question (a time when it is not sending anything) and type "^QF". AE will display something like: AE: Used-456, Free- 17009

AE: Term-->  
 this means you have 456 characters in the copy buffer, and 17,009 unused. Remember, you are back in terminal mode at this point. Now type "^QV". What happened. You just saw a repeat of everything you just did in signing on to that computer. This was the "V" view buffer command. At any time, you can view the contents of your buffer. To clear the current buffer at any time, type "^QC". AE PRO will respond:

Ok to clear? (def=n)  
 to make sure you really want to do this. Answer "Y" if you do, or any other response if you don't. Experiment with some of the other basic commands such as "^QW" to write the current buffer to disk or "^QI" to catalog the current disk. Remember that most any of the commands can be executed while on or off line and AE PRO will always keep you informed of your connect status and various other parameters.

If at any time you want a complete summary of current system parameters, type "!" or "^Q!" from the terminal mode.

-----  
 WHAT ARE MACROS?:

Now that you have been able to connect to a system and operate the dial option, the copy buffer and possible the printer,we'll take a brief look at another powerful section of AE PRO-Macros!

By definition, and AE PRO macro is a two key sequence that represents a whole string of characters. The first of the two keys always begins with the TERMINAL PREFIX CHARACTER defined in INSTALL (the shipped default is ^W.

When the terminal prefix character is typed, a special mode is set within AE PRO which performs an analysis of the NEXT character you type. If that second character is not designated in the keyboard substitution table, it will check the macro table. If it finds no match in the macro table either, the character you typed will be sent out to the host as-is.

Macros are numbered form 0 to ";" in this order: 0,1,2,3,4,5,6,7,8,9,; ;

If you were to type "^W0" from terminal mode, the string in the zeroth element of the currently loaded macro, would be sent to the host computer. It can consist of any data and is programmed by you in the "U" section of the program.

MACRO STRUCTURE FUNDAMENTALS:

AE PRO's macro system is quite versatile and allows you to define a whole set of basic parameters for each host computer you intend to communicate with. There are four basic pieces to the macro system structure:

## 1. THE MACRO LIBRARY FILE:

The library file which indexes all other macro files is "MACRO.LIB". Its sole purpose is to keep track of the other macro related data on disk, and provide quick access to it for loading or display purposes. It is this file's contents that are displayed when the "M/" command is issued.

## 2. THE MACRO DATA FILE:

The macro data file is that which contains all data pertaining to configuration, emulation and the actual macro elements themselves. You can create a separate data file for each host computer you intend to deal with, and each of these data files can be configured, saved or loaded from within

AE PRO. These are "S" type files on the disk and the file-name always ends with ".MAC".

### 3. THE MACRO DATA:

This is the part of the data file which actually performs the configuration changes to AE PRO when that respective macro is selected.

### 4. THE MACRO ELEMENTS:

This is the part of the data file which contains the actual sequences unique to each dual keypress, index numbered "0" to ";". Any one of these may be called from the terminal mode keyboard by the ^W prefix character. Additionally, one of the elements may be selected to be executed automatically when the host it represents is called.

### MAKING A SIMPLE MACRO:

Let's take one of the macro files on the AE PRO disk and use it as an example and a basis to start from in creating your own macro. You should still be sitting at the "->" command prompt. At this point you can type:

```
"M" to select a macro request
"/" to view the contents of the library file
```

Your display should look something like this:

```
A PMS Santee stpms
D Source source
E Online online
I MicroNet mnet
J Smartmodem hayes
```

Basically this is giving you a library list of the various macro files you have to choose from. Of course, this can be customized to suit your individual needs.

If you were now to type "M" "A" you would be directing AE PRO to load the file for PMS Santee which on the diskette is an "S" file names "STPMS.MAC". The second field displayed is the system which the first field selection represents, and the third field is the name of the macro data file which will be loaded at that time.

```
AE PRO should respond: PMS Santee <macro loaded>
->
```

### DISPLAYING MACRO PARAMETERS:

Now let's check out what we actually loaded. Type the "U" command (this is displayed on menu 2) to enter the macro configuration section. You'll see a complete display of the data parameters of that file:

```
Current loaded: STPMS.MAC
Phone: 561-7277!:
```

|                                 |         |
|---------------------------------|---------|
| B = Baud rate                   | 300     |
| D = Macros display/edit         |         |
| E = Duplex                      | FULL    |
| F = Data word format            | 8N1     |
| K = Chat mode                   | OFF     |
| L = Load macro from disk        |         |
| N = XON character               | \$11=^Q |
| O = XOFF character              | \$13=^S |
| P = Change macro phone #        |         |
| S = Set terminal parameters     |         |
| T = Transpose ^H/RUB            | OFF     |
| U = Update from current macro   |         |
| W = Write macro to disk         |         |
| X = Exit to main command prompt |         |
| Z = Format screen               | OFF     |
| \$ = Emulation mode             | ON      |
| ^ = Apple CAT port              | INT     |

We won't get thru all this now, but rather step through a basic macro set-up to get you going in the right directions. First pick a system that you can call so you have a "target" for this macro fill. We'll consider it a bulletin board for simplicity, but the same procedure would apply to any set-up. Update the phone number displayed to that of the system you are creating this macro for. Do this with the "P" command.

```
AE PRO will respond:
Enter new number:
```

Enter the phone number of the new system followed by c/r. For the purpose of demo, we'll call it "BBS Yourtown". After the number is correctly entered, the menu will re-display and the number just entered should be in place. Change any other obvious parameters dealing with that system, such as baud rate or parity in a similar manner. Once you are done with the parameters section, enter the "D" command to enter the actual macro element editing section.

### EDITING MACRO STRINGS:

```
AE PRO will display:
```

```
#0 g;n
#1 yourid
#2 yourpassword
#3 alt'%)y'
#4
#5
#6
#7
#8
#9
#: <a programmed macro>
#: <a programmed macro>
```

```
Macro to edit? (C=Clear)
```

### -----

### P=PRINTER INTERFACE/DRIVER SELECT:

```
Previous: Main Install
Menu Current: PRINTER SETUP
```

```
A = Printer msg.terminator....^@ ($00)
I = Install printer driver
L = Line feed strip (Y/N)..... NO
P = Message:
S = Printer interface slot.....1
X = Exit Choice?
```

This section defines all aspects of standard printer operation.

### A=Printer message terminator:

This defines the key used in Install which signals the end of the Printer message string (see "M" below) when being entered into computer. Since carriage returns (^M) are sometimes needed within set-up strings, it must be typeable as part of the string. By setting string keyboard terminator to something else (like,control-shift-P or ^@"null") the c/r may be typed just as any other character. If you have no need for imbedded c/r's, you may assign it as the terminator. Your keyboard must be able to produce any characters entered in this,or any other string entry mode.

```
I=Install printer driver:
```

```
Previous: Printer set-up
Current: PRINTER INTERFACE TYPE
```

- 0 = Auto
- 1 = User routines (PRINTER.USER)
- 2 = 6522 parallel card
- 3 = Comm-card
- 4 = Apple serial card
- 5 = Apple parallel card
- 6 = Special
- 7 = CPS
- 8 = CCS-7728 parallel card

Current 0      New:

Choices are somewhat similar to video display options. If zero is selected and as long as AE PRO can, it will recognize the interface card installed & configure automatically.

ALWAYS SELECT ZERO OPTION UNLESS YOU HAVE SPECIFIC REASON NOT TO!!

Like video, if you do not desire the auto function, or have a card not recognized by AE PRO select one of the below.

- 1 = User routines is a custom section, you may install a custom driver.
- 2 = An interface using the 6522 chips
- 3 = Comm-type card in any interface using the 6850 chip.  
Examples: SSM AIO board, CCS 7710 SERIES, standard Apple comm. card, modified as printer driver. The firmware on these is NOT utilized.
- 4 = Apple HS Serial Card: Only one card that fits this - the original Apple High Speed Serial-some firmware IS used on these cards, but part of it dealing with linefeeds or protocol.
- 5 = Apple Parallel card- This is the most popular, as well as the most copied interface mode. Most printer cards designated as parallel will fall into this section, including many of the universal types of EPSON printer, its own parallel card and many others.
- 6 = Special is any type card using TYPE 6 FIRMWARE protocol.  
Apple SSC BOARD, GRAPPLER & MICRO-BUFFER.
- 7 = CPS-- only one card in this category - MOUNTAIN COMPUTER CPS card-- may be used as serial or parallel driver. If selected you will be asked as to the mode of drive. Be careful here if using same CPS card for both modem, screen driver, as well as printer driver. Inadvertently specifying the same section as two different drivers may cause unusual results. As screen driver, it may be used ONLY in the serial mode.
- 8 = CCS 7728 Parallel card or Micro-Buffer system.

L=LINEFEED STRIP:

AE PRO supplies linefeeds directly to the printer at all times.

This normal default mode is not dependent on the type of printer interface you are using, only the printer internal drivers themselves. If printer is doing double-linefeeds all the time when driven by AE PRO set this to YES. Otherwise set at NO.

M=PRINTER MESSAGE:

If your printer requires any kind of initialization characters be sent when accessed, set them up here. These don't include sequences which are normally designated as FIRMWARE initialization. Things such as ^I are usually firmware initialized are ineffective here. Thus it is unnecessary to send ^I commands to set printer column width as that is a function of the interface card firmware rather than the printer itself. The message to the printer can be entered directly from the keyboard, including all control characters.

Current printer setup message:

Enter new message or RETURN:

(you type)      HELLO THERE ^S ^S ^[ ^[

Of course, HELLO THERE control-s control-s ESCape ESCape won't do anything useful to your printer and is shown only as an example. Entering c/r as the FIRST character of the line, will immediately exit this mode and leave the original string intact. Note each time printer is enabled from AE PRO

these characters are sent. If you want to clear the entire contents of the printer set-up buffer, enter the printer terminator character as the first and only character.

S=PRINTER INTERFACE SLOT:

- 0 = No printer installed
- 1-7= Printer interface slot

Current = 0      New:--

Set to slot in which printer interface card resides.

--> End Of Dox File #2 <--

T=PREFIXED TERMINAL KEYS:

Previous: Main Install Menu  
Current: PREFIXED TERMINAL KEYS

Prefix key      Output character

|    |        |    |        |
|----|--------|----|--------|
| ,  | (\$2C) | [  | (\$5B) |
| .  | (\$2E) | ]  | (\$5D) |
| ^O | (\$0F) | ^_ | (\$1F) |
| O  | (\$4F) | -  | (\$5F) |
| /  | (\$2F) | -  | (\$5C) |
| ?  | (\$3F) |    | (\$5C) |
| ^H | (\$08) | ^# | (\$7F) |
| ^# | (\$7F) | ^H | (\$08) |
| !  | (\$21) |    | (\$7C) |
| =  | (\$3D) | ~  | (\$7E) |
| (  | (\$28) | {  | (\$7B) |
| )  | (\$29) | }  | (\$7D) |
| '  | (\$27) | ^  | (\$1C) |

A)dd    D)delete    eXit?

The terminal prefix key is very powerful. It commands all macro functions as well as a means of producing any ASCII character from the keyboard. In the prefixed terminal table, you program which characters are to be converted, and to what, when preceded by the terminal prefix key, up to 16 substitutions.

NOTE: If you are operating install pgm. totally in upper-case, or intend to use AE PRO in upper case only, some of these characters will actually display as their upper-case counterpart. Thus {, |, ~, will be [, ^, . This is unavoidable because Apple see some ASCII values this way.

A=Add character:

This mode allows you to add a character substitute. Either the character prefixed, or the character to be output, you can enter from the keyboard, or "\$xx" as the HEX value.

D=Delete character:

Just like the above "A" mode, except it deletes the character and its substitution from the existing table.

U=UNATTENDED REMOTE PARAMETERS:

Previous: Main Install Menu  
Current: UNATTENDED/REMOTE PARAMETERS

- C = Ring count before answer..... 1
- R = Remote password: .AE.

S = Slots remotely accessible:

4 5 6

X = Exit

Choice?

C=Ring count before answer:

Sets the number of incoming rings before AE PRO will pick up the phone.  
Values are from 1-9.

R=Remote password:

This is the sequence of characters which must be entered by a called at the "ENTRY:" level of AE PRO. No reaction from AE will occur unless exactly the correct combination of characters is entered. Any alphanumeric characters including control char. are legal except ^M, (c/r), ^H, ^J. A maximum of six char. may be installed.

S=Disk slots remotely accessible:

Only those slots specified here will be legal for remote access.  
If not legal, will be ignored.

-----  
1=SYSTEM DEFAULTS (menu 1)

B = Auto disconnect .... ON  
C = Copy ..... OFF  
D = Duplex..... FULL  
E = Emulation ..... ON  
F = Data word format .... 8N1  
G = Screen formatting .... OFF  
H = Chat.... OFF  
I = Baud rate..... 4  
J = Apple CAT using aux port.. NO  
K = Keyclick ..... OFF  
N = XON char.... ^Q (\$11)  
O = XOFF char.... ^S (\$13)  
P = Printer... OFF  
S = Control-show... OFF  
T = Transpose ^H/RUB OFF  
X = Exit Choice?

B=Auto-disconnect:

Determines the run-time default of the ":" auto-disconnect function.

C=Copy:

Determines whether the "R" copy flag comes up on or off.

D=Duplex half/full:

Determines if the duplex default comes up half or full.  
This may be superseded by a macro file, if active.

E=Emulation:

Determines if the AE emulation mode (\$) mode comes up on or off.  
This too may be changed by a macro file.

F=Data word format:

Determines the default word length, parity and number of stop bits the modem will default at run-time.  
Can be changed by macro file.  
Install will show another chart which allows all possible combinations.  
Select by # or c/r's

G=Screen format default:

Determines whether the "Z" screen format command in on or off.

H=Chat:

Set run-time for the chat (K) mode.

I=Baud rate (0-8):

Sets default baud rate, also modifiable by macro files.

|                       |         |
|-----------------------|---------|
| 0= deaf (45.5 BAUDOT) | 4= 300  |
| 1= 50                 | 5= 1200 |
| 2= 75                 | 6= 2400 |
| 3= 110                | 7= 4800 |
|                       | 8= 9600 |

not all baud rates are supported by all modems and interfaces,  
consult modem or interface manuals.

J=Apple CAT using Aux port:

Set port default. NO means the internal modem is being used.  
YES directs all I/O to external port. Macro files can also modify.

K=Keyclick:

Set the default for the audible key-click option (").

N=XON character:

Sets the char. which is used to re-start a sending host temporarily on "hold" by the auto-save mode. Install displays the ASCII char. as well as its HEX value. When install request input, you can type from the local keyboard or type in "\$xx" Hex value.

O=XOFF character:

Sets the char. which is used to stop a sending host while in the auto-save mode. Option same as above. It also responds to chars. sent from the host while in ASCII mode.

P=Printer mode:

Sets the run-time default of the printer (P) mode.

S=Control-show:

Sets the run-time default of the control-show (A) mode.

T=Transpose ^H/RUB:

Sets the run-time default of the transpose (T) mode.

-----  
2=SYSTEM DEFAULTS (menu 2)

See above menu breakdown, the letters are different but the menu construction is the same. This is menu 2 of the default system.  
Typed below are the explanations of that menu in order as to how they are viewed on the screen:

B=Prefixed break key:

This is the second char. of the break key sequence. In the current setting, to send BREAK, you would type ^W^B from within the terminal mode. ^W char. can be defined as can this, the second char. It is recommended that it be a control char., as a dual control char. sequence is easier to type than if the second of the two is non-control. ^B is easy to remember for the word break.

C=BREAK send time:

The standard BREAK time is actually 250ms (milliseconds) but many systems may require a break to be sent for as long as 500ms (one half sec.).  
Try it this way first (menu setting) and redefine it necessary.

D=Dial mode default:

Novation Apple CAT only.  
Set the dialing default mode, pulse (rotary type) or TouchTone.

E=Screen clear char.:

Actual screen clear char... \$0C ^L      Lead-in      ... \$00 ^@ (none)  
Defines the char. when used internally will cause the display screen to clear.

**Note:**

This serves a different purpose than the similar function in the Terminal emulation table. The emulation table converts incoming characters to those required by your display. This option, is used only by AE PRO during internal clear screen option. The "Actual" screen clear char. above serves an additional function when used in the 40 col. screen mode. In 40 col. the defined char. determines which INCOMING char will cause 40 col. screen to display while in terminal mode.

**F=Screen clear delay:**

Some external terminals may require a small "settling" time directly after a clear screen before it can accurately accept further data. This value is equivalent to the time delay in milliseconds.

**G=Backspace char.:**

This causes your display device to move the cursor one space to the left-non-destructively. DO NOT confuse this with the key to type on your keyboard. That will ALWAYS be the BS or RUBout (left-arrow) key. There are a handful of terminals that might require a char. other than ^H to perform this act.  
DO NOT CHANGE THIS FOR LOCAL SCREEN OR 80 COL.BOARD USAGE.

**H=Copy ON char.:**

Like the "here-is" char., the copy on char. is that which when received in terminal mode cause AE to immediately turn on its copy buffer. It is normally at ^R. To disable, enter zero.

**I=Copy OFF char.:**

Corresponds to the copy on char., except that when encountered in terminal mode, instruct AE to turn OFF its copy buffer. Normally set to ^T. To disable, enter zero.

**J=Literal send mode:**

This mode sets whether or not blank lines in ASCII text file are being sent non-protocol, are sent exactly as-is or "padded". Padding converts blank lines (c/r alone) to space-c/r. Most host computers take a blank line (c/r alone) as a command, so this sequence would occur during a text send, the host would change mode. If the literal send mode is OFF, any blank line consisting of c/r would be converted to space-c/r to avoid being taken as a command. This in no way modifies the appearance of the text. Set to suit. AE PRO is shipped with this mode disabled (off).

**K=Keyclick duration:**

The Apple speaker will emit a "click". The higher the value the longer the delay, and the louder (or more obvious) the click. The range is 1-40.

**L=Pre-sub case insensitive:**

This decides if prefixed char. are to be sensitive to input case. Example: you have defined ^WA to send ^A or another char. What this option determines is whether the case of the letter you type after the ^W is significant. If set to YES, case would be insensitive, thus a lower case A would be treated the same as an upper case A. If NO, lower and upper case letters are regarded as different chars.

**Q=Brief AE PRO:**

This selects default condition for the Brief (non-verbose mode). It is also managed by the "#" command in the main menu.

**S=Shift key hardware mode:**

This is between the connection of your keyboard and PB2 of the game I/O connector that is used with 80 col. boards. You can install this jumper even with 40 col. screen in use and tell AE to use the shift key for its case shifting.

**V=View speed:**

Sets the default of all commands which display text on the screen, and is controlled from within by the non-shifted "<" & ">" keys. Command affected are "V", "J", & "L" within the editor. Range is 0-14 with zero

being no delay.

**W=Screen formatting width:**

In the forced width of the display device when the (Z) is selected. Use this for 80 col. boards that can't perform their own screen wrap if a line exceeds its total width.

**3=SYSTEM DEFAULTS (menu 3):**

See menu 1 break down.

**A=Auto-dial from boot:**

This determines whether or not AE should dial in the number at run-time. Note the difference between this and the "D" dial after loading a macro. The "D" will cause the macro to be automatically dialed after a macro is loaded any time EXCEPT right after boot or the first run of a session.

**B=Bells after connect:**

This works only if you are in auto-redial loop with a cycle number ("/x" or "//"). It selects the number of ^G's (bells) your Apple or external terminal will sound if and when you are connected to the host. Set from 0 to whatever you can tolerate up to 255. If a high number is chosen you can terminate by pressing any key.

**C=Case toggle key:**

Is the key in 40 col. mode which will shift between upper and lower case. Lower case is the starting default. Typing this key once, shift to upper case for the next character only. Twice in a row is a shift lock. Once again after twice returns to lower case & etc. The key is normally (and recommended) as the ESCape key.

**D=Dial after loading a macro:**

This determines whether you automatically dial the host after loading the macro file. If set, dialing will start immediately after a successful macro load. If not set, dialing may be done only by first selecting "D" to dial followed by "M" to select macro.

**E=Terminal escape key:**

This key, if in terminal mode, exits that mode and takes you to the prompt "+>". You will remain connected to the host.

**F=80 column board firmware:**

This determines whether chars. coming from your Apple keyboard are to be processed by the firmware in your 80 col. board. If you do not wish to use the "features" some of the boards have, set this option to NO. Since bypassing the 80 col. board also stops shifting capabilities AE automatically handles these according to shift mode and toggle. Note this is similar to "V" described later, except "V" only affect control chars. typed.

**J=Run from hard disk (or 8" drive)**

This has to do with AE and DOS volumes during load, save and catalog. If this option is set to NO, the disk volume default is zero, which allows exchange of disks freely without concern for volume parameters. If YES the vol. which AE runs from becomes the default for further load, save and catalog operations do not default to zero wildcard, but to the specified volume. The hard disk option may also apply to 8", single, double density systems which vol. parameters are significant.

**S=Send LINE delay:**

This default delay value of AE's "N" command, the delay after each line sent in the NON-prompted send mode. Legal values are from 0 (no delay) to nine (maximum)

**R=Block mode send rate:**

This default RATE is which char. are sent out the modem port in ALL send

modes except Character mode. It is continuously variable during the actual send with the "<" & ">" keys (non-shifted). Each time "<" key is pressed the speed will slow one "notch". The reverse is true for the ">" key. Range is 0 (full speed) to 7 (very very slow).

T=Terminal prefix key:  
This key serves as the prefix to special chars.and macros.

--> End Of AE Dox File #3 <--

[ The Courts of Chaos ] - [ 312-915-0947 ]

[ 09/10/88 ][ 10:04:21 AM ]

[74][ Documentation ]

[ Library ] Read #(1-193)/(U)pload a file/[Q]uit:

:  
This key, if in terminal mode, exits that mode and takes you to the prompt "+>". You w

===== DOCUMENT ae.pro.pt2 =====

Ae Pro Docs continued

4=SYSTEM DEFAULTS (menu 4)

Same as other menu's--following instructions below.

A=User abort char.:

This char. is used as a way of "escape" from any command operation. It can be entered at any time within a string input.

J) do not operate any disk utility pgms "fix file sizes".

Permanent damage to the disk and contents.

k) if AE has been run, and exited while still connected to host, the next time it is run (no power-down done) many modem related defaults will be the same.

L) response for prompts are from operator, specific defaults are assumed if c/r is entered,or def=n or def=y or specific answer.

----- KEYBOARD HARDWARE/SOFTWARE OPTIONS: -----

S = Shift key hardware mod (menu 2)

C = Case toggle key (menu 3)

F = 80 col board firmware (menu 3)

S & C options:

S&C are used together. If 40 col. screen & "S" is set to ON, it assumes you shift key has been electrically connected to game port like some of the 80 col boards are. If "S" is set to OFF, it assumes case conversion will be done via software and the key will be typed to act as shift in the "C" option. ESCape key is defined as toggle for upper/lower case. ONE press next char. will be typed, TWO presses shift-lock enabled.

F option:

This is used to process incoming chars. you can support case shifting in the same fashion as the card would have done, but without the extra processing it may perform on chars like ^A ^V ^K. This is accomplished by turning "F" OFF and "S" ON. If you like all of the functions of your 80 col. board then set "F" to ON. Then make necessary substitutions in the editor cursor key definition table.

----- MAIN COMMAND MENU: Menu 1 -----

MENU DISPLAY IS !,C,D,F,G,H,I,J,L,M,P,R,S,V,W,X,-,2 = 40 col.

In 80 col. the format will change to split screen left and right

Note: Anytime you are connected to a host, you can re-enter terminal mode by press SPACE BAR.

-> = NOT presently on line

<- = ARE " " "

! = Display Program Status:

|             |              |
|-------------|--------------|
| Used        | Free         |
| Interrupts  | Control show |
| Baud select | Transpose    |
| Emulation   | Format       |



|                 |             |
|-----------------|-------------|
| Copy            | Printer     |
| Auto-save       | Answer-back |
| Auto-disconnect | Keyclick    |
| Chat            | Cat         |
| Brief           | Duplex      |

Above display a status report of parameters.  
It can be called any time from "->" or "+>" by "^Q"

#### C=Clear Buffer:

Clears any data currently in copy buffer. If brief mode is OFF, you will be asked if you're sure you want to continue.

#### D=Dial or Connect:

Prepares to accept a number to dial or macro dial. If you modem doesn't support dialing capabilities, this is ignored. "#" & "\*" are valid. Also special characters.

#### Special dialing command char.:

A=AutoSearch mode this char. appears as the first and only char. specified. AE will pick up the line and search back & forth between answer and originate until it finds a valid carrier. This auto mode ends the need to know which mode you in.

C=Carrier wait - use this to "pace" dial. Novation CAT modem will stop the dialing in progress to wait for a second "carrier" or steady tone. You would use this for "pace" or switchboard outgoing lines. Tone waiting is auto at the initiation of the dialing

H=Hold for keypress- this will work with any dialing modem. Halts any dialing sequence in progress, displays the fact on screen and prompts user to type any key to continue dialing, or ESC to abort.

M=(as first and only char.)- dial from currently selected macro file.

Mx=(as first and only char.) - dial from currently selected macro file and auto-log with element "x" of macro instead of one selected. If space is specified instead of "x", direct AE to auto-log at all,even if auto-log operation is specified within macro

P=Pulse mode. Only effective with Apple CAT modem. Will start or continue dialing with pulsing dial instead of TouchTone.

T=Tone mode. APPLE CAT only - Returns to Touchtone mode if previously set to pulse mode.

=Delay character.Causes dialing to pause for approximately two seconds.

+Receiver one. Cause the APPLE CAT earpiece to be turned on so you can monitor the phone line. Does not enable the mouthpiece. It will remain on until carrier is received from host. "+" if first char. in dialing string the receiver will activate immediately when on-line, if first picked up instead of first digit is actually dialed.

&=Voice mode APPLE CAT only. If at end of dialing string, will enter voice mode at completion of dial sequence. If encountered prior to end, will immediately abort dialing at current position and jump to voice mode. If dialing is completed a human answered, manually enter "&" , you will abort loop & enter voice mode as if you are talking on a standard phone.

/=(as first and only char.) repeat last sequence executed at this level.  
/= (as first and only char) repeats the last sequence executed at this level "x" times. "/", repeat, indefinitely. Use this on auto-redial very busy systems and keep doing x times until connection is made. When connection is made, a number of bells will sound, as specified in Install.

#### F=FREE BUFFER SPACE:

Number of bytes currently used in the date buffer & total space remaining.

#### G=GET FILE FROM HOST (protocol)

Special protocol file receive mode. Note: "/" =if used with "Filename?" will recall the last filename, optional drive parms can be specified.

Example: "TEST,S6,D1" is the same as "TEST,S6D1" either is OK.

Also c/r with "Filename?" =catalog current drive, any key displays next page of catalog. c/r or ESC will return to "Filename?".

#### H=HANG UP:

Only effective with modem with auto-dialing.  
If Brief is OFF, there will be a double-check to hang-up.

#### I=DISK COMMANDS:

CATALOG,DELETE effective. Catalog will also show remaining space on disk. One page at a time-SPACE BAR =continue.Abort=c/r or ESC  
Delete - after specified a c/r alone will catalog disk.

#### J=VIEW DISK FILE:

Display any sequential text file--any key will stop or start.  
ESC or c/r will abort. "<" ">"(non-shift) --fast/slow speed.  
If "P" enabled file will go to printer.  
Other commands same as "G" this instruction

#### L=LOAD FILE TO BUFFER:

Loads sequential text file into buffer. Same as ".G" in editor, also append to file is active here. If buffer size is exceeded by file being loaded, option given to restore buffer to original (no new data) or accept data that has been loaded so far. If latter buffer will be in full status

#### M=MACRO SELECT/REVIEW:

Select "/" or "?" to review particular macro group.

#### P=PRINTER ON-OFF:

Turns printer on/off. If turned on will initialize printer with string from Install pgm. "^I80N" and others are not necessary.  
For most printers the 255 byte "ring" buffer is automatic, except Apple High Speed and customer user drivers.

#### R=COPY BUFFER ON-OFF:

Toggles buffer on/off. ON-all data seen on screen in terminal mode is stored in buffer. If free space is exceeded "BUFFER-FULL-COPY-OFF \*beep\*" is displayed and copy flag is disabled.

#### S=SEND A FILE:

Sends a disk file or current memory (M) to the host. Enter filename, drive specs., or enter just (M) follower by c/r.  
M=send Memory-the contents of the current buffer. Contents can be data loaded from disk,created in editor,or captured from another host, or any combination. If sent from memory all send modes except Christensen protocol are supported. If Char (K) is enabled, the send is non-protocol mode (standard ASCII), linefeeds will be appended to outgoing text's c/r's automatically.

Send Options:-Protocol- send a file in the Christensen protocol

Standard- L = text will be sent one line at a time until whole file is transferred. "<" ">" apply here also

C = data will be sent one char. at a time, the next char. will not be sent until echo of previous is read

Prompt? - c/r = text will be sent in continuous stream, with specific delay after c/r or "N" option. Any other char. typed at this level will be taken as the char. to wait for after each line.

Example-Bulletin board- boards line prompt "?", you would enter "?", one line of data would be sent and then wait for host to send the "?". You could also set up a manually controlled "pulse" send mode by specifying a prompt char. that could not come from the host, and enter the char. manually each time from your own keyboard to send another line.

Note: during standard ASCII text file block sends (line mode with no prompt),AE will respond to XON/XOFF char. To abort any of the above ESC.

#### V=VIEW BUFFER:

Displays current contents of data buffer. "<" ">" apply here also.  
If (P) is enable,text will go to printer.

#### W=WRITE BUFFER TO DISK:

Writes current buffer data contents to disk.When the data has been saved to disk,it will automatically clear buffer.

## X=EXIT PROGRAM:

Terminates and returns to operating system it was in at execution time. If BRIEF is on, and double-checks will be in effect.

## =DISPLAY PREFIXED CHARACTERS:

This shows its character substitute table as defined in Install pgm. It's a visual "reminder" to you as to the set-up.

## 2=DISPLAY MENU TWO:

Will display menu 2, when pressed.

## SECONDARY COMMAND MENU: Menu 2

MENU DISPLAY IS: A,B,E,K,N,O,T,U,Y,Z,1,:,^,+,"/,,\$,#,%,':

40 col.display/ 80 col.will be split. Anytime connected to host, you can re-enter terminal mode by pressing SPACE BAR.

-> = NOT on-line      +> = ARE on-line

## A=SHOW CONTROL CHARACTER ON/OFF:

If enabled, shows the upper case equivalent of control characters being represented. RUBout is displayed as "^#". Linefeed not preceded by c/r will be shown. This is useful in trouble-shooting problems.

## B=BAUD RATE:

Displays current baud rate.

## E=ECHO DUPLEX FULL-HALF:

Toggles to full from half duplex, or half to full. In full, chars. you type do not appear on your screen unless echoed by host. In half it is assumed that host is not echoing. If you see two of each char. you type, or none at all, toggle between full or half.

## K=TERMINAL CHAT ON-OFF:

Enable or disables the interactive terminal chat mode. Used when typing to another terminal package, or when typing to a host which requires linefeeds after any c/r typed. It also puts you in half duplex so out-going char. are displayed on the local screen. If Chat is enabled during a text file send (not protocol mode), linefeeds will be appended to each c/r sent during transfer. If linefeeds are necessary during keyboard communication, they will be needed during transfers as well.

## N=SET DELAY (0-9):

This is used in standard send mode when line at a time with no prompt checking is used. It sets a fixed delay interval after sending each line of data. Zero is standard, approx. 60 ms delay. If host has no prompt to handshake, and host cannot receive incoming data without losing some of the first chars. try setting this mode. Increase by one, the number of default for each char. that seems to be lost. This value is not used in send mode using prompted handshaking.

## O=AUTO-SAVE ON-OFF:

If a file is specified, this option will be enabled. All disk options are valid. c/r alone will disable command. After name is specified the copy flag "R" is enabled. When the buffer gets to within 1k of full, used defined XOFF char. will be sent and a wait for data sending stop will go into effect. Data will be automatically saved to disk when buffer is full, the added name ".AEx" will be added to the file name. (x= save cycle number). First file will be .AE1, second .AE2, etc. After save, buffer will be cleared, there will be a beep to indicate that another buffer is being started and the XON char. to the host is sent to tell it to continue sending. This process is indefinite as long as there is space on the disk. You are free to exchange disks between saves, should you get a full disk message during one of the saves, put in new disk, use

the "W" command to continue. Used "/" as the filename to save under. This will get the files intact. When the save is over, manually type the XON char. from the keyboard to signal the host to continue. From then on its back to automatic mode. By using the "/" command you are recalling the last name used in the related buffer.

## T:TRANPOSE ^H/RUB ON-OFF:

Left arrow sends the BS (backspace) char. which tells the host to backspace one char. Some systems, require a RUBout char. to be sent to perform the same operations. RUBout is not available on the Apple keyboard. Two solutions-- One = defin the char. in the substitution table, then invoke by typing "^W^H" (^H is a backspace, or left arrow) this retains the left arrow key. Two-if you do not want to do two keystrokes, you can enable Transpose mode (T), this converts the left arrow key to send a RUBout instead of a backspace.

If Transpose OFF = ^H is ^H and ^W^H is RUBout  
" " ON = ^H Is RUBout and ^W^H Is ^H

## U=ENTER MACRO UPDATE/DISPLAY SECTION:

See section on MACROS

## Y=EDITOR:

System Editor. It has its own command chars. Contents of data buffer will remain intact and become that of the editor unless you clear it either before or after entering the editor mode. Upon entry, display will be the buffer status and your prompt will become the next new line after the existing text.

## Z=SCREEN FORMAT ON-OFF:

Normally OFF, when OFF it does not modify the display of incoming data. When ON it will cause the screen to wrap to the next line at a pre-set column width set up with the master Install pgm. This is useful for 80 col. that does not handle its own line wrap when the column width is exceeded.

If must be OFF to use terminal emulation mode for actual emulation.

--> End Of AE Dox File #4 <==

## 1=DISPLAY MAIN MENU:

Displays the main command menu.

## : =AUTO DISCONNECT ON-OFF:

Normally ON. When ON, and AE loses carrier while connected to host it instructs AE to immediately terminate the connection by hanging up. If disabled prompt "->" will return indicating carrier is lost, but will not have disconnected the line. This is useful when you have to deal with unstable connections and there are momentary losses of carrier, that are so short that connection can be maintained as far as host is concerned. Press SPACE BAR to re-enter terminal mode. If host has hung-up, you can't re-enter terminal mode. To end issue the "H" command.

^ = APPLE CAT PORT SWITCH: (INTernal/EXTernal)

Normally internal. The EXTernal port will function at any baud rate, whereas the INTernal port external 212a card mode will function only at 1200 baud.

+ = AUTO ANSWER (data)

This command enters the unattended remote mode. It works only with modems capable of direct dial and answer capabilities, or externally interfaced modems that can answer independently of the Apple and control the DCD (data carrier detect) line to indicate valid carrier.

" =KEYCLICK ON-OFF:

Default is in master Install pgm. If ON, speaker will emit a "click" for each key pressed. Intensity of sound is adjustable.

/ =Do CRC:  
 Performs a Cyclic Redundancy Check On a specified file. Is not accurate on Random text files. Use for verification of accurate transfer or determine it two files of the same name exist. It is also the final status check of Christensen protocol transfer. If this matches, which it will 99.9% of the time, the transfer is perfect.

\$ =EMULATION ON-OFF:  
 Normally ON, directs AE as to whether or not to consult the terminal emulation table defined in the macro section. If on the table conversion chars are installed and it will convert as per the table. Use this with 80 col or external terminal. If you don't want a particular conversion to take place, or are talking to host, that does not sent l/f char. after each c/r, you must disable. L/R's will be appended by AE.

% =RUN INSTALL PROGRAM:  
 Quick update of Install program.  
 Must operate on 40 col. ONLY. Be prepared to switch if in 80 col.

' =ANSWERBACK ON-OFF:  
 This is used when you wish to operate a mail receive node for automatic DDD or TWX forwarding messages. Much like auto-save in command and filenames. "O" performs exactly the same when enabled.

# =BRIEF MODE ON-OFF:  
 This mode determines how much operator prompting AE does when various commands or displays are issued. When OFF, its in VERBOSE mode. If will ask for confirmations to various commands or display additional information to other commands when issued. It is recommended that you use the program for awhile with brief OFF and become familiar with the various options.

-----  
 UNATTENDED OPERATION-- Christensen Protocol:

SDS THE PROFESSIONAL, Z-TERM, P-TERM, PASCAL, CP/M

Auto-answer mode:  
 "+" enter mode by this command.  
 Call received = number of call received to date since the running of pgm. Waiting for ring = pick up line and wait for carrier without seeing initial ring pulse add another "+".  
 Apple CAT= auto-search between 300 - 1200 baud and select the rate of the caller to operate.  
 Press user abort key (ESC) will exit and return to command prompt.  
 When a call comes in and prompt Entry: is displayed, caller is required to type the password defined in the Install pgm. If not password or incorrect AE will hang-up and recycle. Once the correct password is issued "->" will appear at this point caller must use the following commands:

C=Copy incoming data:  
 Will ask for filename under which to save, if ok prompt "!" will appear, signaling that AE is ready to receive data. It can handle dumps at full speed with no regard to c/r or l/f. If file already exists caller will be notified. Two "^C"'s received in a row will cause the copy mode to close and save it contents to disk. No further data can be received until another "C" is issued. Two "D"'s in a row will abort the copy mode and return to remote. Data in buffer will be cleared and no data will be saved.

D=Directory:  
 Display the directory of currently logged or specified drive.  
 c/r will catalog. ESC or c/r will abort.

H=Help:  
 Short menu of options available at this level.

R=Receive file:  
 Enter the Christensen receive mode. Will open specified filename (drive

parms accepted) and let you know when its ready to receive data. If file exists and message will appear. If a maximum number of errors is exceeded during receive, abort will be valid. Re-dial and try again.

S=Send file:  
 Enter the Christensen send mode. Any file of any type or size may be sent to another AE PRO in this mode. The file will be opened and the caller will be told how many Christensen blocks there are to send and the wait for the receiving AE PRO to signal it is ready. Ten consecutive sending errors will abort transfer. In certain type of files sending might be in LETTERED instead of NUMBERED blocks. This is a special info packet of data.

V=View ASCII text file:  
 Same as previous commands, display of the contents of any sequential text file. ^S Will stop display any key continue. c/r or ESC will abort.

-----  
 REMOTE ANSWER-BACK OPERATION:  
 To be used with DDD or TWX forwarded messages.  
 "here-is" function valid here.  
 The calling computer will dump forwarded mail at 300 baud (if DDD) or 110 baud (if TWX).

-----  
 THE EDITOR:  
 This powerful editor can be used anytime, on-line or off-line. You can modify data, be it just loaded from disk, captured from another system or from any other source. It's really a minimal word-processor for composing letters, mail, or other data files, or creating programs or EXEC files. You have line oriented editing for listing and text display or screen oriented edition on an individual line of text. You can enter and exit the editor anytime, the editor is a "overlay".

Expanded Buffer:  
 The editor shares the same buffer as the capture buffer (18k). There is a special mode, that enlarges it by 7k. This is the "R" command. In this mode the editor is NOT common to the main data buffer & the two may not co-exist. Therefore, to continue work on data that originally was in the data buffer, you have to save it to disk, issue the "R" command and re-load from disk. The reverse is true on exiting. If you wish to save the editor buffer, the data must be saved to disk.

Editor Commands:  
 Command can be displayed in brief form any time from within the editor, by typing .H or .? command. All editor commands are in the DOT COMMAND. Each command begins with "." as the first char. of a line of text. It can be input at any level within editor, as long as its the first char and not the line being currently edited with "E" edit command. Any text NOT preceded with dot, is taken literally. To type a line that ends up with a dot as its first char. you must type two dots.

EDITOR COMMANDS: .C .D .E .F .G .H .I .L .M .O .P .R .S .X .

.C=Clear buffer:(C<y>)  
 This resets the buffer to zero. You will be asked to confirm before actual clearing. If you get tired of being asked and wish to anticipate inputting the answer, you can type "CY".

.D=Delete lines:(Dxx,<yy>)  
 This will delete a single line or range of lines. The line ranges are optional, if not specified, AE will ask. If a single line is specified as ".D4", just line 4 will be deleted. If a ranges is desired ".D4,6" will delete lines 4,5,&6. If FROM or TWO is out of range a range error will be displayed. If TO range is high, it will take the highest line number as a wild card. If you had 10 lines of data and typed ".D4,50" all lines from 4 to the end (this case 10) would be deleted. NOTE: since editor is line

oriented, it is assumed each line is ended with a c/r. If it is not, the new line prompt will be the same number as the last line listed, AE will give a range error. Solution hit c/r once as a new line, the use ".D" to delete it. Also you can't edit a line that is not properly terminated by c/r. Example: editing data that was just captured--when the "R" command is turned off it sets the end of file. This may not correspond to the c/r at end of line. Thus, there may be several char. left-over that are not ended by c/r.

## .E=Edit line:(Exx)

This is the screen oriented edit mode. This means actual display of data you about to edit. You can move the cursor around within the line to add, exchange, insert, or delete chars. The chars. that effect cursor movement are setable by you, from the factory they are set as follows:

^A = cursor left one WORD. Cursor will settle on first char. of a word.  
 ^S = cursor left one character. Control chars. are displayed as uppercase, with "^".  
 ^D = cursor right one ^U, (right arrow) is the same, but not redefinable.  
 ^F = cursor right one WORD. Same rules as ^A.  
 ^X = cursor to beginning of line.  
 ^C = cursor to end of line.  
 ^P = prefix character. Example: If you want to enter ^C into text, you type ^P^C. ^C normally can't be entered cause its a cursor command. To enter ^P itself enter ^P^P,  
 ^G = gobble character. Destructive forward delete and not user definable.  
 ^H = delete char. to left of current cursor position. (left arrow). If using external terminal RUBout key will do same. These keys are not definable.  
 ^R = recalls original line unedited. Use to quickly restore garbaged line to original condition.  
 ^V = toggles editing insert. If ON, any other char. typed will be inserted into existing text at cursor position. If OFF, any char. typed will be exchanged for whatever char. cursor is currently on. As insert is toggled the bell will sound to indicate change. Do not confuse this with the editor .I operation in the editor itself.  
 ^Z = zaps the current line. Completely eliminates the contents of the line being edited. If accidentally pressed, typed restore with ^R. To exit this level, c/r. Note: Since editor is line oriented each line is terminated with a c/r. If not new-line prompt will be same number as the last line edited.

## .F=Free space/buffer status:

Displays current number of chars. in buffer, as well as the number remaining.

## .G=Get file from disk:

Load sequential text from disk. If no file is specified, AE will ask. The last file can be recalled by "/". A c/r alone will Catalog Directory can be scrolled by pressing any key. c/r will abort catalog. AE will check to see if buffer is full, and you will be asked to append/load a new file if buffer has data. If buffer has data typing anything except "A" (including c/r), will clear the buffer. If file is to large for buffer message will be displayed-any key except "N" will cause whatever has just been added to the buffer to be disregarded. If "N" is entered, whatever part of the file that was loaded will remain to the end of buffer.

## .H=Help:

Displays the editor menu-all options available in edit mode.

## .I=Insert lines:

Enters repeating insert loop starting at whatever line number specified. The editor prompt, which is usually ">n" (n is the line # you're working on), will change to ">n>" in insert mode. You can remain as long as you like, all dot commands are valid here. If N is included in the insert directive, the line numbers prompt will be turned OFF (this is "blind" insert mode). .I = OFF .In = ON

## .L-List lines:

List line on screen. If no starting point, list will start from beginning. A specified range is possible. .lxx,yy= xx is starting line, yy is ending line. "N" is valid and "<" ">" .

## .M=Margin set (right):

Sets the column that will no longer accept input in any mode, also screen edit. Preset to 78 chars. per line, can be modified by the Install pgm. Value 1-255.

## .O=Output to printer:

Outputs specified range of line to printer. Normally line numbers are not printed, but if "N" is also entered line number will be supplied too. All other options are the same as .L.

## .P=Put file to disk:

Write the current buffer contents to disk. Options same as .G command.

## .R=Reset maximum memory:

This is a special mode that expands memory capabilities (buffer size) by just over 7k. If does this by overwriting particular parts of AE that are disposable when your NOT using them at this time. You cannot maintain your current buffer when you enter this mode. Buffer must be written to disk, mode activated and file loaded back in. Also you cannot exit the editor without first clearing your buffer. If you wish to retain data with the .C command, then you can exit. When exited, overwritten part is restored automatically. Use the mode when you just need the editor itself with a larger buffer and not on-line.

## .S=String search:

Searches entire buffer for the specified string (series of chars.). When match is found, the line the match is on will be displayed on screen. To find the next occurrence of the same match type ".", if no match the message "Nothing" will appear. If you want to edit the line where the match was found type .E by itself, the cursor will position itself at the end of the match found, edit the line and accept with c/r. If you want more matches after edit type "." again to continue. If any other command is issued the operation is aborted and must be restarted. If ":xx" (xx=line #) is added to search, the search will begin on the line specified instead of the beginning of the file.

## .X=eXit editor:

Exits the editor and returns to main command mode. May not exit if under the ".R" mode. If not in ".R" mode, you can move back & forth between edit and main part of pgm. with no changes to the current buffer.

## .=Search for next occurrence:

A manual recursive search mode used only after a search has been initially entered.

-----  
 ==> End Of AE Dox File #5 <==  
 PREFIX CHARACTERS-SUBSTITUTION:

This prefix char. system allow complete versatility in producing char. that are not normally available on the Apple keyboard. A prefix char. is one that signals the system that the NEXT char typed should be acted upon a special way. By prefixing, new chars. & macros can be produced without sacrificing any other keys including the prefix key itself. Example: Install pgm. table converts ", " to a "[", we don't want to lose typing a ", " so we prefix the comma with TERMINAL PREFIX KEY (usually a ^W). Now when we type "^W,", we actually output a "["

## INTERRUPTS:

One of the powerful features of AE is the ability to INTERRUPT. An interrupt is a function within the Apple's 6502 processor which causes

it to halt an operation currently in progress, do something else for awhile and then resume what was going on originally. Under normal conditions the processor does only one thing at a time. Each step takes thousands of processor "cycles" to complete. When that project is done, it will do the next in line. Any pgm. may take millions of these operations to do something simple like printing a menu of commands on the screen. Since a new operation can't begin until the processors has finished the previous one, it is clear to see that multiple operations cannot normally be carried out.

----Enter INTERRUPTS----

With Interrupts, a whole new world of possibilities emerges. When interrupt occurs, the processor is internally told to "put on hold" what it is doing and to handle the interrupt request. When the interrupt request has been fulfilled, the processor will pick up exactly where it left off.

Interrupts will allow you to operate various menu commands, status displays or status changes such as COPY ON or OFF, PRINTER ON or OFF all without losing any incoming data. There are limitations, YOU MANY NOT PERFORM DISK ACCESSES SUCH AS LOAD, SAVE OR CATALOG and expect incoming data to be intact. DOS does not allow interrupts to remain enables while accessing the disk, so a small portion of incoming data may be lost at these times. Also, modems do not support interrupts as shipped, & may need minor modifications before they become operative in that mode, there are a handful of modem that flat out do not support interrupts at all. It possible employ interrupts. At 300 baud you can live without them, but 1200 baud & up THEY ARE MANDATORY if using 40 col or any 80 col boards. These hardware devices simply can't maintain the throughput required at all time, and tie up the processors while writing to their screens. Since interrupts put precedence on incoming data, none will be lost with the slowest of displays. As a rule, external terminal will not require them, but unless you have a specific reason not to use them, use them.

INTERRUPTS Apple CAT:  
Novation Apple CAT comes ready to operate in an interrupt driven mode and is completely controllable from software. No hardware changes are needed. AE will automatically enter the interrupt mode with this modem.

MicroModem:  
Hayes II is capable of operating in interrupt mode if a certain jumper is installed on the card itself. Soldering is necessary, if not experienced let a technician do it.

MicroConnection: hardware modification is necessary--soldering again.

LYNX:  
No provision for operation of the ESI LYNX in an interrupt driven environment.

CPS CARD:  
Not normally available but with simple hardware change they are enabled.  
--Soldering again--

SSM AIO board: Hardware modification is necessary--soldering required.

CCS Card: Already supported with no hardware changes.

Comm Card: Hardware modification is necessary--soldering required.

SSC Card:  
Fully ready and is automatically compensated for at run-time.  
SW1 switch be enabled see SSC MANUAL for further details.

## EMULATION INFO:

There are two parts to terminal emulation. Input & Output.

Input is always what the data will be coming in, i.e. the codes for the terminal your host THINKS it is talking to. The output is what those incoming codes are actually converted to for whatever terminal you are actually using. 80 col. boards used the DATAMEDIA terminal, the codes are always entered in ASCII HEX.

Terminal emulation Table -software/input-Vt52

bytes 1-12 1a 20 2a 1B 3a 0C 4a CA 5a CB 6a 00 7a 00 8a C8 9a D9  
10a C1 11a C3 12a 00

Hardware/Output-Datamedia-

bytes 1-12 1b A0 2b 00 3b 0C 4b 0B 5b 1D 6b 00 7b 00 8b 19 9b 1E  
10b 1F 11b 1C 12b 00

BYTE 1 - Cursor offset - this has to do with actual ASCII values used to direct the cursor during a gotoxy sequence. Such a sequence has 4 char., but some may require 3. Start with lead-in char., followed by address cursor char. The next 2 bytes after the x,y coordinates, usually transmit in yx order. Most terminal used ASCII 20h are the "base" or 0th row or column at upper left corner. That is the space char. (space bar), as you add positions, you increment up the ASCII chart for the different locations on the screen. All terminals do not use the same offset. When converting from one type of terminal to another this offset must be known for both terminals. We make two uses of the same byte, high bit clear, we assume a normal sequence order of YX, high bit set-the terminal requires the sequence in XY order. Example: Bytes 1a & 2a both indicate a cursor offset of 20hex, but the 2nd one, A0hex, (a 20h with the high bit set) tell us the coordinates will need to be sent in reverse order.

BYTE 2- Lead-in char- many terminals use a lead-in char. to perform certain functions on the screen. This char. will precede one of several function chars. Doing this can build functions in the screen without taking up more ASCII chars. Typical lead-in char. ESC (1Bh), when a function requires this char., it high bit will be set in the table.

BYTE 3- Clear screen- the clear screen in this example is 0Ch(^L) for both input & output. Whenever these locations are the same, the exact results can be produced by setting both to 00, no modification, just passing the ^L right on thru unmodified.

BYTE 4 & BYTE 5 - Clear to end of page and line - not available on all terminals, set to zero if not implemented.

BYTE 6 & BYTE 7 - Hi-lite ON/OFF - this char. if encountered, will cause the terminal to go into or out of a highlighted or inverse text mode.

BYTE 8 - Home cursor - causes the terminal cursor to "home". Most terminals it will be the upper left-corner, some, lower left-corner.

BYTE 9 - Load cursor- part of the gotoxy sequence - tells the terminal to look at the next two chars. as the actual xy coordinates for positioning. May be prefixed with previous described chars.

BYTE 10- Cursor up causes the cursor to non-destructively move up one line.

BYTE 11- Cursor forward - non-destructive move forward 1 char.

BYTE 12- Extra - this is an extra value which may be used for code conversions, to support functions not already being converted.

Remember-- if any two terminals or setups requires the same char. sequence to execute a particular function (except the first two bytes of each half of a table), the entry position in both sections of the table may both be zeros, so the original sequence will pass through unaltered.

UTILITY PROGRAMS: The following utilities on on the AE disk.

MPF.A - converts Applesoft Basic programs to ASCII text.  
 MPF.I - " Integer " " " " " "  
 BFD8/92- " Binary blocks of data to ASCII text.

Once conversion has taken place, this text may be transferred to any practically any dial-up computer system. Typical use is to forward a program file to anyone in another part of the country via the Source or other public access time sharing system. The file would be temporarily stored on the mainframe until downloaded, once transferred back to an APPLE, it may be EXEC'd into memory and appropriately saved to disk.

MPF.A Applesoft->text:

To create a text file from an Applesoft pgm. first type "FP" and "LOAD" the pgm. from disk. Then, type "EXEC MPF.A". MPF.A is an EXEC file that manipulates internal Applesoft pointers and the LOAD PFM.A, which is the pgm. that actually does the file writing.

PFM.A is not runnable--it may only be used by MPF.A.  
 Next, you will be prompted for the filename to create & which slot/drive you want the file written to. When the file is written to disk, you will be asked if you want to CRUNCH it. Crunching removes all spaces and punctuation from a file which has been created from a pgm. This should be on occasion when crunching is not used unless it is on files that were not created from a Basic pgm. When CRUNCH begins, it asks what the maximum line length should be. Defaults 160 chars. uploading a pgm to another APPLE you could use 255. Example: uploading to the Source you use 140, cause that is the maximum legal line length. CRUNCH doesn't cut off lines, it just keeps track of which lines are too long & how much. If you need to modify the lines, load them into the editor. The crunched version of the file will be the same name as the original with a /C appended to the end. Crunched files can be 35 percent smaller than a non-crunched one.

MPF.I Integer->text:

MPF.I and PFM.I do the same as MPF.A & PFM.A do for Applesoft, except the crunch is not built into it. A crunched Integer file will not show quite the savings an Applesoft file will.

SPACECRUNCH:

SPACECRUNCH is the pgm which is used in MPF.A. It can just as easily be used as a stand alone to crunch previously uncrunched files, or to crunch Integer files as well.

BFD8/BFD92 Binary->text

These two create text files from binary blocks of data.  
 The only difference between the 2 versions is their location in memory.  
 BFD8 = \$800 (2048 DEC.) BFD92 = \$9200 (37376 DEC.) Select appropriate the one to use depending on where the binary block resides. BLOAD the block of data into memory, then BRUN BFD from Applesoft basic. It will NOT work from Integer. You'll be asked starting & ending addresses of the block, give address in HEX & the new filename.

CREATING A PROGRAM FILE - SCENARIO

Example: Applesoft pgm called "KLUDGE" that has a binary called "KLUDGE.OBJ". You want to make a file from the two and send it. Load pgm and a look at the really long lines, break them up into two smaller ones, (being careful of internal logical operation). Then "EXEC MPF.A" and follow the prompting and crunch it. Now "BLOAD KLUDGE.OBJ". Find out its starting & ending addresses. One way is to CALL-151, TYPE AA60.AA73, the last 2 bytes of the displayed block are the starting address, and the first 2 will be the length. Now "BRUN BFD8", again follow prompting, after all of this is done type FP to reinitialize Applesoft pointers. Now "BRUN AE" and use the Y to get into the editor. In editor type .G to get converted file into the buffer. Keep in mind that this file will eventually be EXEC'd into another APPLE. INSERT at the beginning of the file (.I0):

FP

MONI

on separate lines in UPPER case. Then exit the insert mode of the editor by a "." by itself. This insures that when the following pgm. lines are EXEC'd the system will be clear and initialized. "MONI" also allows you to see the contents of the EXEC file being loaded into memory. Now .G the binary part of the file, & APPEND it to the current buffer. Remember the last editor line number of the basic part of the pgm, once loaded, start listing 5 lines before your noted line. You should see the Basic part of the pgm & 2-3 blank lines, the binary pgm. Now ".D" (delete) the blank lines. Now, INSERT at the junction of the end of the Basic part and beginning of the binary part, these lines:

CALL-151

MONI

Go to end of file and add,

3D0G

SAVE KLUDGE

BSAVE KLUDGE.OBJ, A\$300, L\$B0

your file is now complete, use the ".PUT" command to save the finished file to disk. You may delete the earlier two parts. When EXEC'd into an Apple all loading will be automatic & save everything to disk.

CHFORM PROGRAM:

This is used when necessary to transfer ASCII text in Christensen Protocol to software unlike AE, like SDS "PROFESSIONAL", P-TERM, Z-TERM, CP/M. ASCII text stored on disk in APPLE DOS does not include linefeeds after c/r's; CP/M text files require linefeeds after c/r's.

-----  
 --> End Of AE Dox File #6 <--  
 ADDENDUM FOR = VERSION 3.46B

I=INSTALL:

8 - Intra computer PSIO serial card -  
 9 - Apple /// serial port.

L=LOCAL CONSOLE SELECTION:

Select #6 for 40 col. mode only option, not only when using the APPLE with its 40 col screen, but also with another device such as a modem plugged into the default screen slot.

P=PRINTER INTERFACE/DRIVER SELECT:

3=System defaults (menu 3)

G= deaf letter set key-

H= Videx Enhancer- take full advantage of your Videx keyboard.

I= Half duplex auto-linefeed

K= Expand tabs - 80 col.

4=System defaults (menu 4)

G= Here-is RUBout key, as described in the manual incorrectly labeled "F"

M= Re-send with bell

N= wait after-bell (recommended ranges 100ms (as shipped) to 1000ms (one second))

O= Printer host XON/XOFF

P= console Output w/pass thru

U= Update macro immediately -

SENDING A FILE:

S= send a file- additional option for those that us

CHARACTER mode of sending for timeshare system

N= Null (set delay after c/r)-used before for sending data, now its in addition to handshaking.

MACRO CONFIGURATION SECTION:

- = Printer - Host- determines if the status of the printer buffer will

cause XON/XOFF protocol to be in effect while printing is in progress.  
If not sure how to use leave OFF.

L = Load Macro File- now the first time you access any old format macro file, whether it be in Macro Configuration or main command prompt (";" or "-") with the "Mx" command, an automatic update will occur and the modified macro save back to the disk under the same name.

S= Set terminal parms -  
B= Change single parms -  
M= cursor down (before "extra")-most terminal this will be ^J (\$0A)  
N= extra- reserved for additional conversions  
O= extra- " " " " " "  
P= Printer ON -this option is only operational if on the INPUT side of the emulation table.  
Q= PRinter OFF-  
" = Internal command char:  
G= Get another macro file and execute a specified element "Gx<filename>  
This is an instruction to GET macro file (do not use .MAC extension) & when loaded, execute element #x.  
S= Set current macro parms.- synonymous with "U".  
<xyzz> Macro string handshaking:  
Handshake whole word or phrases syntax is <string>.  
<" "> are required to delimit the search string.

Example: \*\*\*^C%:70315,1305'%'password'<ok>r maug  
\*\*\*^C = wait 3 time intervals and send ctrl-c to "wake-up"  
Compuserve node  
%: = handshake (wait for) the ":" char before outputting account number  
70315,1305'= account number followed by c/r  
%: = wait for next ":" char before sending password  
password' = send account password follower by c/r ('')  
<ok> = wait for OK string sent by Compuserve before sending next command (assuming you have default set to exit)  
r maug = following the above release of the macro,send the "r maug" command to Compuserve to Run the MicronetApple UsersGroup bulletin board (maug)

## PROTOCOL ERRORS:

As data is being transferred,there are little messages on the screen that indicate the current status such as block number being sent, re-sent, error indication and type of error and error count. The first of the two numbers in the error counter indicate the total number of errors that have occurred in this session, the second number indicates the total number of consecutive errors.

If more than 9 consecutive errors occur, the send will abort.

Examples: <ERR# 1-1> Host did not send an acknowledge of block #2.  
<ERR# 2-1>Someone got confused and sent the wrong block.  
<ERR# 3-1>Still confused.  
Timeout error (no activity within x time)s  
Checksum error.  
Received total not what was sent  
Bad start.  
Improper data format usually.  
Wrong block # received.  
Filetype specified invalid.  
SYNC ERROR! Irrecoverable synchronization error

Non AE PRO Protocol: CP/M used the XMODEM program (vers 4.3)

--> End Of AE Dox File #7 <--

=====

DOCUMENT agate.069

AGT×T069

AGATE MANUAL

Tony Marques

## LEGALITIES

AGATE is copyright 1991 by Tony Marques, and is released as ShareWare to be freely transferred and copied for the purpose of distribution. However, as ShareWare there is an expectation that users register the software with the author, and offer whatever they may feel the software is worth. Registered users shall be entitled to any future updates. AGATE bears no warranties or guarantees and it shall not be libal for any damage or loss incurred during it's use or possession.

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AGATE was archived as AGATE069.SHK and contains the following members:

|              |                   |                                    |
|--------------|-------------------|------------------------------------|
| AGATE.SYSTEM | - system file     | - essential component              |
| AGATE.SCREEN | - title screen    | - not necessary for execution      |
| AGATE.URDATA | - user data       | - essential component              |
| AGATE.PIECES | - AGATE pieces    | - essential component              |
| AGATE.FONT8  | - graphic fonts   | - not necessary for text operation |
| AGATE.MANUAL | - 'documentation' | - not necessary for execution      |

## REQUIREMENTS

AGATE requires an enhanced Apple II computer with 128k. AGATE will disconnect the 64k ProDOS /RAM disk located in Slot 3, Drive 2 on 128k machines. AGATE does not support disk swapping so source and destination paths have to be on-line when performing select disk functions. Consequently, multiple drives are recommended. It is also recommended that AGATE be placed on a /RAM or /HARD disk when used.

WARNING: To ensure that AGATE is compatible with your /RAM disks, it is recommended that the first time you use AGATE check the validity of your /RAM disk before and after use. It has no problems with AE /RAM or GS /RAM disks and most others.

## ON-LINE

AGATE has not been provided with dialing facilities and acts as a dumb terminal. Consequently, dialing and other modem commands must be issued by users using the basic 'AT' commands. Refer to your modem manual to learn about the 'AT' command set and how to use them.

Basic commands include:

|        |                                |                                                                      |
|--------|--------------------------------|----------------------------------------------------------------------|
| ATE1   | - 'AT'tention, 'E'cho on ('1') | - turn on echo while in command mode.                                |
| ATD911 | - 'AT', 'D'ial '911'           | - 'T'one or 'P'ulse may prefix the number to determine dialing mode. |
| +++    | - three '+' with brief pauses  | - enter command mode after connected                                 |
| ATH    | - 'AT', 'H'ang up              | - after '+++'                                                        |
| ATO    | - 'AT', 'O'n-line again        | - after '+++'                                                        |

## EMULATION

AGATE's ANSI (DEC VT100) emulation has been further refined and now also supports ANSI Music (which may someday be tuned for all computers).

---

## OMEN (OA-A)

The option menu allows you to configure some stuff. The left and right arrow keys shift menus while up and down select settings. Pressing OA-S saves whatever you have chosen to disk.

Of the several options two need to be explained.

SAY -o This option allows you to tell AGATE the system speed of your SPEED computer. AGATE is incapable of setting or reading the system speed and so it relies on you to SAY what the system speed is. The value of the system speed controls the cursor blinking rate, the length of the tones, and most crucially timing during file transfers. This is a MOST important setting.

KEY -o This option re-interprets keystrokes. Naturally, keys pressed in MAPPING conjunction with the solid apple key have their most significant bit set and so they are interpreted as an IBM characters.

|                                                                                                  |                    |
|--------------------------------------------------------------------------------------------------|--------------------|
| o KEYPAD allows those users without keypads to more easily emulate them. Uppercase is important. | SA-Q W E --> 7 8 9 |
|                                                                                                  | A S D --> 4 5 6    |
|                                                                                                  | Z X C --> 1 2 3    |

o ARROW causes the arrow keys to send the ANSI sequences as opposed to the true arrow control codes. To allow you to send the actual arrow control codes while this option is active, solid apple combinations will send the arrows.

NOTE: LFT and CTRL-H, RGT and CTRL-U, DWN and CTRL-J, UP and CTRL-K are all synomous on Apple computers.

---

## FILE UTILITIES

Generally, AGATE ignores all file errors. AGATE is also incapable of handling volumes which are off-line so it is necessary to keep the SOURCE and DESTIN paths in the drives at the same time -- no disk swapping is supported.

PIZZA AGATE supports unZIP and is capable of unSTOREing, unSHRINKing, EXPLODING members of .ZIP archives. AGATE is currently unable to unREDUCE members, but because of it's GREAT rarity no one should miss it's presence. AGATE recognizes ZIP files by their .ZIP extensions. PKZIP and ZIP are registered trademarks of PKWARE.

.ALZ Before writing PIZZA, I gained some practical experience in the field of data compression by writing my own shrinker. The 12bit LZW algorithm is capable of producing compressed files smaller than either LZW/1 from SHKiT or LZW/2 from GSHKiT, and this is taking into account the overhead produced by NuFX archives. It is not as effective as SHRINKing as implemented within PKZIP, but not because I am not capable.

- o To prevent it from becoming used as a compression utility, this implementation intentionally lacks any means of preserving file attributes including filename or filetype, and it also is devoid support for multiple members, disk archival, or other any other features
- o Compressed files are named 'FILE.ALZ', but they may be renamed and any file may be decompressed which has the '.ALZ' suffix. Decompressed files create or replace 'FILE.UNC'.

VIEW The view option may be slowed with the Open Apple or stopped with the Solid Apple. The space bar pauses while ESC abort the viewing.

---

## TRANSFER PROTOCOLS

Currently, only YMODEM and ZMODEM downloading has been implemented.

Those of you who feel that the user interface is lacking, I must agree.

YMDMR This YMODEM implementation, by default, supports YMODEM-4k as proposed by Morgan Davis, but will also fall back supporting XMODEM-1k or -CRC, and even plain XMODEM. Optionally, you may select to use 4MODEM by responding 'Y' to the initial prompt. This variety of YMODEM has been implemented within METAL and ACOS, but it is also called YMODEM-4k. Files downloaded without BATCH (i.e. with any of the XMODEMs) will be downloaded under the name 'DOWNLOAD'. Finally, all downloads will be placed within the current DESTIN path and will replace existing files.

- o ESC - Abort

ZMDMR The ZMODEM implementation will again download to the DESTIN path, but it will not replace existing files. Instead, it will attempt to resume the file transfer from the end of the file, and allow you to resume incomplete, interrupted, or aborted transfers.

- o ESC - Abort      TAB - Skip file

---

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---



```

S key           slows movement
Control Q       exits game
Control S       sound on/off
Control M       music on/off
Up/down arrows  adjust volume
    
```

## Player controls

| Movement | keyboard | joystick |
|----------|----------|----------|
| Up       | 8 or i   | up       |
| Down     | 2 or (.) | Down     |
| Left     | 4 or j   | left     |
| Right    | 6 or l   | right    |
| Bounce   |          |          |

```

=====
DOCUMENT airball
=====
    
```

## AIRBALL

```

Typed in by the ===== ROAD WARRIOR
                        { 6/27/89 }
    
```

### System requirements:

Airball will run on an APPLE IIgs with at least 768k and a color monitor. A joystick is recommended, but not necessary. To load the game, simply place the master disk in your default disk drive, then double click on the "AIRBALL.NODRAG" icon ( the fastest mode of play). Or "AIRBALL.DRAGONS (has the dragon on both sides of the screen but sacrifices some speed) the game will then load.

### Introduction

"Now you're really in trouble" said the Evil Wizard. "I've warned you about trespassing in my mansion. Now, since you did not take heed of my warnings, I'm turning you into a ball of air and sending you deep into my mansion of over 250 rooms, to search for my spellbook that may give you clues on how to transform yourself into a human again. It will not be a simple task, for you, as the ball of air, have a slow leak, and you'll need to jump on the air pump in some rooms to stay inflated. Take heed, for if you pump up too much you will burst! If you are lucky enough to find the spellbook in these rooms, you'll next have to pick up the objects I've left such as: crosses, tins of beans, a Buddha, a dragon statue, a pumpkin, a flask and even crates that you'll need to get over treacherous obstacles! This is your one chance of survival", he cackles.

"Sounds easy," you laughingly boast to the evil wizard. "Oh! Does it now!" He sneeres. "Well I'm also putting spikes in these rooms that will take your breath away, as well as killer pads on the floor. You have no chance for success...Hee! Hee!"

### Playing instructions

At the start of the game you will be put on a pump. As long as you remain on the pump your internal pressure will increase. If your pressure becomes too high you will burst. At the bottom of the screen your pressure is represented by a yellow bar, pay close attention to this bar because this is how much air you have left until you find another pump.

Once you have acquired sufficient pressure you must search for the spellbook. Watch out for hidden dangers, as your skin is easily punctured. There are rooms that require help to gain access. {Hint: you need to find the flashlight to enter the dark room.} If you are lucky enough to find the spellbook, return it to the starting room and follow the wizard's advice.

### Game controls

```

Tab           selects keyboard/joystick
Spacebar      starts game
Escape        pause/restart
Delete        forfeit game/aborts demo
F key         speeds up movement
    
```

```
=====
DOCUMENT airball.cht
=====
```

```
---AirBall Cheat by >>Joe User-----
```

```
---Call the InfoManiac: (813)-584-4447-----
```

```
Note from the Author
=====
```

Ok, the reason I didn't make one of my regular cheats is that AirBall required modifications which couldn't practically be applied on a relocatable (S16) file. The AirBall cheat is therefore a CDA. This in itself poses a problem, as the program must be searched for in memory (after all, it IS relocatable). The advantages of having extra code space for the cheat in memory, however, outweigh the AirBall-relocation-searcher problems. Because of the CDA, I was able to actually install an extra key-command into AirBall, as documented in the use of the cheat below.

```
How to Use the Cheat
=====
```

First of all, put the CDA into either your /AIRBALL/SYSTEM/DESK.ACCS/ sub-directory, or in the corresponding subdirectory on your hard drive, if you like to launch AirBall from the Finder or whatever. Reboot your system to get GS/OS to load the CDA.

Next, launch either AirBall.Dragons or AirBall.NoDrag. The cheat does not completely work with the dragons version; this is because I like the no-dragons version better. Therefore, you're better off running the no-dragons version.

Get to the point where the AirBall is being inflated on those air-blower gizmos, and press Control-Open Apple-ESC. Select "AirBall Cheat by >>Joe User".

If the cheat installs fine, it will make a low-pitch to high-pitch chirp and then put you on Quit in the Control Panel. If you haven't loaded AirBall and you try to run the cheat (or AirBall has been damaged), the cheat will wait some time then give you a high-pitch to low-pitch chirp. (The reverse of the other one!)

The first thing you'll notice upon returning to AirBall is that you have infinite men. (This works on either the dragons or the no-dragons version.)

When you press Control-C, the cheat will give you a low-high chirp, telling you it's on. Your AirBall will no longer leak air, nor will it explode when you stay too long on the blower gizmos, and it is now INVUNERABLE to those various pointy objects lying around the castle. Press Control-C to turn the cheat off again, giving you the high-low chirp. (Control-C crashes in the dragons version.)

```
Hints
=====
```

Having an invulnerability cheat can get you into T-R-O-U-B-L-E. The original author of the game (Jason Harper) didn't intend for that little AirBall to be in some of the places you can get it to with the cheat. Therefore, if you find yourself hopelessly stuck somewhere (happens all the time), press Control-C to turn off the cheat. You'll die, but you DO have infinite men, and you'll be returned to the last air-blower gizmo you touched. This is a good reason to land on every air-blower gizmo you see, even though with the cheat you don't need to use them.

Have fun!

```
>>Joe User
```

```
=====
DOCUMENT airsims.3
=====
```

```
*-----*
!           AIRSIM-3 COMMANDS           !
*-----*
!   PRESENTED BY BETS C. FOR:         !
*-----*
! APPLE MANOR   (716) 654-POOF! !
* THE SOUTH POLE (312) 677-7140 *
! THE OUTPOST  (312) 441-6957 !
* TEMPLE OF DOOM (805) 682-5148 *
!-----!
```

PADDLE 0  
Alleron/Rudder, clockwise right

PADDLE 1  
Elevator, counterclockwise up

/  
Toggle throttle

->  
Increase throttle gradually

<-  
Decrease throttle gradually

. (Period)  
Brake

A  
Toggle alleron sensitivity

E  
Toggle elevator sensitivity

F  
Toggle flaps

H  
Toggle HSI/VOR display

I  
Instruments only

J  
Look left

K  
Look right

L  
Level the wing

M  
Move with joystick mode

N  
Navigational Aid adjustments

P  
Initialize radar scale

R  
Radar

S  
Scenery

X  
Toggle alleron/rudder coupling

+  
Increase radar scale gradually

-  
Decrease radar scale gradually

@  
Initialize radar scale

CTRL C  
Continue the simulation

CTRL I  
Initialize the simulation

CTRL T  
Transport the airplane

CTRL Y  
Your approach mode

[ESC]  
Pause

ESC 0-9, Q-0  
Select scenes

===== DOCUMENT alertsound =====

Alert Sound Control Panel Device (CDEV)  
By Joshua M. Thompson  
Copyright (c) 1991 Frontier Technologies

This program contains material from the ORCA/Pascal  
Run-Time Libraries, copyright 1987-88  
by Byte Works, Inc. Used with permission.

Apple IIGS and Macintosh are trademarks of Apple Computer, Inc.

Disclaimer

-----  
I have tested this program extensively and found no problems with it. However, this does not mean that the program is guaranteed to function under all possible conditions. Neither Joshua Thompson nor Frontier Technologies are responsible for any damages, direct or indirect, resulting from the use of this program.

Introduction

-----  
Alert Sound is an accessory to the graphic control panel NDA which allows you to change the beep sound on your IIGS. Unlike other such programs currently available, Alert Sound works from within the control panel, and also allows you change your beep easily and instantly (no more copying a new beep file and rebooting). Plus, Alert Sound gives you control over the sound volume and over the pitch of the standard beep, making the old Sound Cdev unnecessary.

Alert Sound is \*shareware\*! You may try this program out free for one week. After that, either send in the shareware fee of \$8.00 or delete all copies of this program from your system. By paying the fee, you will help support future projects from Frontier Technologies. The address can be found at the end of this file (please make all checks payable to JOSHUA THOMPSON).

See the section "Revision History" for a list of changes made in this version.

Requirements

-----  
First and foremost, Alert Sound requires System Disk 5.0.4 or higher. While it will work with any version above 5.0, versions below 5.0.4 contain some nasty bugs with resources and may cause problems in the future.

System Disk 5.0.4 is available on America Online or from your local Apple dealer.

Your boot volume will need at least 14k of free space to install Alert Sound Cdev. If you wish to install the default sounds as well, then you will need an additional 40k of free space. I strongly recommend a hard drive if you don't already have one.

Alert Sound will not function with the program launcher Wings by Vitesse. It appears that Wings installs its own beep routines for its custom beeps, and disconnects Alert Sound. At this time there is no known way around this.

Installation

-----  
Installing Alert Sound is very simple...simply copy two files!

The first file you must copy is the file "AlertSound". This is the actual Cdev, and must go in your \*:System:Cdevs folder.

The second file to copy will depend on how you want to run Alert Sound. If you wish to use the default sounds included with the Cdev, then copy the file "Sounds" into your \*:System folder. If you don't want to install the default sounds, or don't have enough space free, then copy the file called "Sounds.Empty" into your \*:System folder and rename the copy of the file to "Sounds".

Please be aware that these files contain resource forks, and must therefore be copied with the Finder or another program which is "Post-System 5.0" (such as ProSel/16 by Glen Bredon or Wings by Vitesse).

Once you have successfully installed Alert Sound, you can delete the Sound Cdev from your \*:System:Cdevs folder. Alert Sound duplicates the functions of the Sound Cdev, making it unnecessary.

Using the Cdev

-----  
Functionally, the Alert Sound CDev is very similar to the Macintosh Sound CDev.

The first thing you must do is open the Control Panel NDA (isn't this so easy?). If Alert Sound is not already selected, then click on its icon to select it. After a short pause and some disk access, a list of available sounds will appear. Below the list will be four buttons: "Beep", "Add", "Remove", and "Extras". And below the four buttons will be two scroll bars labeled "Volume" and "Pitch".

To change your beep sound, you simply highlight it in the list of available sounds presented to you. To return to the normal GS beep, select the sound labeled "Standard Beep", which is always at the top of the list. You can hear the currently selected beep sound by clicking the "Beep" button.

I have set up Alert Sound with an initial set of sounds, all taken from the Macintosh. These are Simple Beep (the standard Mac beep tone), Clink-Klank, Boing, Monkey, and Mac II Chime (the startup chime for the Mac II). To find out how to add your own sounds, keep reading!

The volume scroll bar is used to control the sound volume. Any changes to the volume will be saved in your battery RAM and reflected in the text control panel.

The pitch scroll bar is only useful if you are using the standard beep. It is used to change the pitch of the beep, and like the volume control, the setting is saved in battery RAM. If you are not currently using the standard beep, then the pitch control will not affect the beep.

The "Extras" button is for future use, and is currently dimmed.

The "Add" button is used to add more sounds to the list of those available. After clicking this button, you are presented with a Standard File dialog from which you can select the sound file you wish to add to your list (this sound file must be a standard raw data file; Alert Sound cannot currently handle any special sound formats such as ASIF). After selecting the file to add, you are presented with a window in which you can type in a 1-32 character title for the sound. When you are finished typing the name, click the Add button in this new window, and Alert Sound will go to work and add the file to your list. If for some reason an error occurs, Alert Sound does its best to clean up after itself, including removing any resources which were created. However, no error message is displayed since it will be obvious if an error occurred as the new sound will not be in the list.

To remove a sound from the resource file, simply select the sound in the list of sounds, and click on the "Remove" button. The sound will be removed from the Sounds file, and the Standard Beep entry will be selected. Please note that you cannot remove the Standard Beep sound.

Due to the nature of the Resource Manager, deleting a sound does not make the

Sounds file physically smaller. However, the space used by the deleted sounds will be freed up, and as you add new sounds to the file, this space will be automatically re-used.

The limit to the number of sounds you can have is 16,383. If you need more sounds than that, then perhaps you need a larger computer!

Quirks, etc.  
-----

From time to time I have noticed that Orca/Pascal programs can do strange things. The Add and Remove function of Alert Sound is written with Orca/Pascal, so if they does anything strange, please let me know so I can attempt to remedy the problem. Often times I can simply "program around" bugs in Orca/Pascal.

Make sure that any sounds you add are terminated by at least four consecutive zero bytes. If you don't, you may get a small burst of static or noise (very short, but annoying) at the end of your beep sound. Many sound programs will do this for you when you save, so check the documentation of your favorite sound program.

I have noticed that some sounds would not play completely when added to the sound list. It turned out that these sounds had spurious zero bytes in them which caused them to end prematurely. Once I filtered them out, the sounds played perfectly. At this time I have absolutely no idea why Alert Sound seems to be more sensitive to these zero bytes than some other programs.

If the program which you are currently running makes use of the Sound Tools, then Alert Sound will simply beep normally (until you exit that program). Right now there is no way to avoid this, since Apple has stated that any program using the sound tools has total control over the sound hardware.

Alert Sound does not function with the program launcher Wings by Vitesse. It appears that Wings installs its own beep routines which disconnect Alert Sound. At this time there is no way around this.

The Future  
-----

At this time, I have further plans for this CDev, including ideas such as direct digitization and the ability to handle other sounds formats (ASIF, Sound Shop, etc). However, much of this depends on how much response I get regarding the cdev.

If you have any more ideas for Alert Sound, or even ideas for other nifty programs, drop me a line at one of the places listed at the end of the docs. I'm always looking for something to program!

Revision History  
-----

v1.0 : First release.  
v1.1 : Added "volume" and "pitch" controls, making the old Sound Cdev unnecessary.

Added "Remove" button to remove sounds from the resource file. Also added an "Extras" button for future use.

Wrote a built-in check so that Alert Sound will realize when it's been disconnected (ie, by Wings). When such a situation occurs, Alert Sound simply displays an error message informing the user that Alert Sound has been disconnected and cannot function.

Fixed a strange bug that caused Alert Sound to blow up when the system beeped while inside BASIC System.

About the Author

-----  
I am currently a freshman at the University of Michigan-Dearborn, studying computer and information science. Some of my other projects include Nupak (an uncompression utility), some parts of the Metal BBS software, and Future Vision (a networking BBS which runs under Metal).

A Personal Message from Steven Yuhasz  
-----

I'm very pleased to be able to say that Frontier Technologies is again releasing another fine product by Joshua M. Thompson. I am proud to have Joshua as a fine partner in a growing company. Our first product, Nupak, (the first StuffIT file unpacker for the IIGS) was mentioned in March 1991 issue of inCider/A+ and has made us realize that all is not impossible. Frontier Technologies is dedicated to new and innovative products that bridge the gap between Apple II and Macintosh computers. Expect more exciting products to be released in the next few months as Frontier Technologies makes its return to the computer scene.

Steven Yuhasz  
President  
Frontier Technologies

Technical Stuff  
-----

Alert Sound hooks itself into the bell vector using the Miscellaneous toolbox call \_SetVector. The beep routine installed has several "dummy" instructions which are used to store important parameters across uses of the Cdev (such as Alert Sound's permanent user ID number and the handles of the sound parameter block and the wave form). Since the Cdev code is disposed of when Alert Sound is closed, these parameters cannot be stored in the cdev code itself. The ID check added in version 1.1 is necessary to prevent Alert Sound from retrieving erroneous parameters when another program patches out the bell vector.

Sounds are stored in the Sounds file in the System folder. This is essentially huge resource fork containing four types of resources: an rListRef resource (\$801C), rPString resources (\$8006), rSoundSample resources (\$8024), and an rCDevSetup (\$0004).

The rPStrings are simply the titles of the sounds. No big deal.

The rSoundSamples are exactly as defined in Technical Note #76 for the GS, except that I ignore the Rel Pitch and Stereo Channel fields. Again, no big deal.

The rListRef resource consists of 10-byte members with the following format:

+0 : reference to title string. Should be ID of pstring resource  
+4 : item flags. Always leave the low two bits set to %10 to signal refIsResource  
+5 : unused, but makes the record an even # of bytes  
+6 : reference to sound resource. Should be ID of rSoundSample resource

The rCDevSetup resource is 64 bytes long (only 8 of which are currently defined). It basically looks like this:

+0: Total number of available sounds  
+4: rSoundSample resource ID of currently selected beep sound.  
+8: Unused and reserved, 56 bytes.

Miscellaneous  
-----

I would like to thank Steven Yuhasz for both beta testing of the Cdev and for supplying me with the Macintosh sounds. I'd also like to thank Tom Stechow for his help in beta testing, as well as his comments and suggestions.

If you're a CDev author, please contact me! I've got a ton of room in the Sounds file where you can put just about anything, like config information, desktop patterns (hint, hint!), or whatever. I really despise a bunch of little data files all over my hard drive (aren't the Finder.Data files enough?) :)

Credits, etc.  
-----

Most of Alert Sound is written in assembly, except the add and remove, which are written in Orca/Pascal.

Shareware fees (make checks payable to JOSHUA THOMPSON), as well as comments, questions, or ideas, can be sent to:

Snail Mail : Frontier Technologies  
2128 Scotten  
Detroit, MI 48209-1667

America Online : Frontier T

I can also be reached as The Magnetic Monopole (user #2) on :

The Electronic Gateway : (313)422-8073 300/1200/2400 bps  
Home of the Future Vision software

Look for more great products from Frontier Technologies in the future!

===== DOCUMENT algebra.tutor =====

+++

Algebra Tutor  
By: David Leithauser

The Algebra Tutor program teaches students how to manipulate algebraic equations from one form to another, such as converting an equation in the form Y=function of X into X=function of Y. The basic mathematical principle of such transformation is that if you have two quantities that are equal (the two sides of the equation), you can do anything to both sides and they will still be equal. The trick is finding exactly what operations to perform to convert the equation from its present form to the desired form.

Algebra Tutor teaches this skill by performing the operations, demonstrating and explaining each step. The program can use an equation provided by the student or can generate an equation of its own to solve. It is primarily intended for high school students who study algebra.

Operating Instructions

The Main Menu has six choices. To make a selection, just press the number corresponding to your choice. It is not necessary to press [RETURN].

The first four choices solve an equation provided by the user. The only difference is the amount of explanation the computer gives as it manipulates the equation. Number 1 gives the solution without any explanation. This would be for the student who has worked out the problem and merely wants to verify that his or her answer is correct. Number 2 manipulates the equation and shows the result of each step, but does not explain what the step was. Number 3 shows the result of each step and provides an explanation of what operation was performed. Number 4 is the same as number 3, except that the computer pauses until the user presses the space bar after each operation to allow the student as much time as necessary to study each step. Choices 1 thru 3 will allow the user to send the output to the printer.

If the user selects one of the first four Main Menu options, the computer will first ask for the equation to be solved. Type the equation and press [RETURN]. Typical equations would be  $Y=A*\text{SIN}(X^3)$  or  $A^(X+B)=\text{SQR}(Y-C)$ . After you enter the equation, the computer will ask what variable to solve for. Enter the variable (such as X or Y) and press [RETURN]. The computer will solve the equation for the indicated variable.

Besides the variable and the equal sign, the equation may contain parentheses and the following operations.

- + Plus
- Minus
- \* Multiply
- / Divide
- Unitary negation
- ^ To the power
- SIN() Sine
- COS() Cosine
- TAN() Tangent
- ARCSIN() Arcsine
- ARCCOS() Arccosine
- ARCTAN() Arctangent
- SQR() Square root
- LOG() Natural logarithm
- LOG10() Logarithm base 10
- EXP() E (natural log base) to the power

There are limitations to the equations you can enter. The variable you are solving for can appear only once in the equation. Although the other variables in the

equation can have several characters, the variable to solve for must be a single letter. Two adjacent operators must be separated by parentheses for clarity. For example,  $X^{-2}$  must be written  $X^{(-2)}$  and  $A^{-X}$  must be written as  $A^{(-X)}$ . Mathematical operators must be clearly stated, not implied. For example,  $2X$  must be written as  $2*X$ . All variables are converted to upper case by the program for consistency.

If you choose number 5 in the Main Menu, the program will generate an equation for you to solve. First it will ask you what difficulty level you want. Press a number from 1 to 8. It's not necessary to press [RETURN]. The higher the number you choose, the more complicated the equation will be.

The computer will show you the equation in the form  $Y = \text{function of } X$  and will tell you to solve for  $X$ . The computer then asks you what level of explanation you want. The four levels of explanation are the same as the first four choices in the Main Menu. After you press the number of the level of explanation you want, the computer will solve the equation.

After the computer has solved the equation, whether it is one you gave it or computer generated, the computer will display the message "Finished". Press [ESC] for the Main Menu.

To Exit ALGEBRA TUTOR and return to UpTime choose option 6 from the main menu.

NOTE: When solving a long equation that requires many steps it is possible for the screen to scroll up.

Press [`] - [7] to run Algebra Tutor.

Files needed:

ALGEBRA TUTOR  
~~~

```
=====
DOCUMENT alkemstone
=====
```

```
-----
ALKEMSTONE
-----
```

CONTROLS:

```
<RET> FORWARD
--> TURN R
<-- TURN L
'S' SOUND (TOGGLE ON/OFF)
'U' LOOK UP
'D' LOOK DOWN
'^P' BIRDS EYE VIEW
```

OBJECT:

FIND CLUES BY LOOKING ON WALLS TO SOLVE RIDDLES...SOUND FUN??

INVERSE CHARACTERS.

AND WE SHOULD MENTION...

IF YOU ARE USING ALPHA PLOT AND WANT TO EXECUTE A DOS COMMAND (FOR EXAMPLE, UNLOCK A PICTURE FILE), YOU MUST EXIT ALPHA PLOT (CTRL-@ OR <RESET>), TYPE THE COMMAND, AND THEN 'RUN ALPHA PLOT'.

SCRUNCH WILL SAVE THE MOST SPACE ON IMAGES CONTAINING MUCH BLACK OR WHITE.

THE X & O OF THE XO CURSOR WILL BECOME DOTS AT THE EDGE OF THE SCREEN.

R WILL NOW ROTATE THE DRAWING CURSOR FROM DRAWING MODE.

SIDEWAYS PICTURES MAY BE EASILY CREATED WITH ALPHA PLOT BY TURNING YOUR MONITOR ON ITS SIDE (LEFT OR RIGHT OPTIONAL).

=====

DOCUMENT alpha.plot

=====

Alpha Plot - brought to you by MasterDisk

TYPE & DRAW SWITCHES

CTRL-T WILL DIRECTLY ENTER THE TYPING MODE FROM DRAWING MODE.

CTRL-D WILL DIRECTLY ENTER THE DRAWING MODE FROM TYPING MODE.

EXITING ALPHA PLOT

CTRL-@ HAS BEEN ADDED AS A QUIT-KEY. <RESET> AND CTRL-C ALSO WORK, BUT COULD LEAVE A CURSOR IMPRINT ON YOUR PICTURE. ALWAYS SAVE BEFORE QUITTING ALPHA PLOT.

DRAWING WITH PADDLES

A PDL-0 BUTTON-PRESS CAUSES ZERO OFFSET (SAME AS <RETURN> IN KEY MODE).

A PDL-1 BUTTON-PRESS DRAWS A LINE & CANCELS OFFSET (SAME AS "-" IN KEY MODE).

APPLE COLOR BUGS

COLOR LINES (NOT SOLIDS) ON COLOR BACKGROUNDS OFTEN PRODUCE STRANGE EFFECTS DUE TO APPLE'S COLOR-GRAPHICS HARDWARE. RESULTS DEPEND ON WHICH COLORS YOU ARE ARE USING...

GREEN-ORANGE OR VIOLET-BLUE COMBINATIONS WILL MAINTAIN TRUE COLORS, BUT LINES WILL BE THICK AND STAIR-STEPPED. OTHER COMBINATIONS WILL PRODUCE A MIXTURE OF COLORS.

FOR MOST APPLE GRAPHIC APPLICATIONS, BLACK IS THE BEST BACKGROUND "COLOR".

RELOCATING COLOR SECTIONS WILL PRODUCE INACCURATE COLORS IF YOU MOVE OTHER THAN 14 PLOTS LEFT OR RIGHT (ARROW KEYS). MOVING SEVEN PLOTS LEFT OR RIGHT WILL PRODUCE COMPLEMENTARY COLORS!

TYPING NOTES

CTRL-E PRINTS A LEFT SQUARE BRACKET ([). CTRL-F PRINTS A BACKSLASH (\). CTRL-I PRINTS AN UNDERSCORE (_).

LOWER CASE VERSIONS OF THE THREE SPECIAL CHARACTERS ABOVE, AS WELL AS @,] AND ^, WILL PRODUCE SOME NICE ASCII CHARACTERS YOU MAY NOT BE FAMILIAR WITH. ALSO...

CTRL-B PRINTS ALPHA PLOT'S CAPS CURSOR. CTRL-P PRINTS THE LOWER-CASE CURSOR.

THE LAST NORMAL CHARACTER TYPED ON A NON-BLACK BACKGROUND MAY APPEAR INCOMPLETE. TYPE A SPACE OR CTRL-J TO FIX IT.

TO INCLUDE DESCENDERS, ALPHA PLOT'S INVERSE BLEEDS AT THE TOP INSTEAD OF THE BOTTOM. IF YOU WANT, ADD A WHITE LINE TO THE TOP OF YOUR


```
=====
DOCUMENT amdos.info
=====
```

list

List (Unformatted): AMDOS.INFO

This file must be called "AMDOS.INFO" on your computer.

AmDOS 3.5
Copyright 1985 Gary B. Little

AmDOS 3.5 (Amateur Disk Operating System version 3.5) is an Apple II program for initializing 3.5-inch UniDisk disks in such a way that they will boot the DOS 3.3 operating system and work properly with it. To use it, first LOAD your Applesoft greeting program into memory and then BRUN the program called AMDOS INIT. After you press the space bar to clear the "user-supported program" notice, enter the slot and drive number of the disk to be formatted and then the name of the greeting program; once you do this, insert the disk to be formatted and press "F" to start the process. Formatting takes approximately one minute.

AmDOS logically divides a formatted 3.5-inch disk into two discrete 400K volumes; there are 50 tracks per volume and 32 sectors per track. Use the ",D1" and ",D3" drive parameters (as well as a slot parameter, if necessary) with your DOS 3.3 commands to select the first and second volumes of drive 1. Use ",D2" and ",D4" to select the first and second volumes of drive 2. For example, to catalog the second volume on drive 1, use the command "CATALOG,D3". As with standard DOS 3.3, if you don't specify a slot or drive parameter, the most recently specified value is implicitly used.

Compatability

With AmDOS installed, the INIT command is disabled. If you need to initialize a 5.25-inch floppy disk, you will first have to boot a disk that contains a standard copy of DOS 3.3. To re-install AmDOS after you've loaded standard DOS 3.3, boot from a previously formatted 3.5-inch disk.

AmDOS makes use of two data areas in the high end of memory: \$BD12-\$BD14 and \$BEAF-\$BFA7. These areas must not be used by any DOS 3.3 "patches" you might install. AmDOS also uses a 512-byte I/O buffer at \$9AF9-\$9CF8; the standard DOS 3.3 file buffers are installed just below this area. AmDOS sets MAXFILES = 2 (two file buffers) when it boots up; this means that HIMEM (the top of memory pointer) initially contains \$9653. The DOS 3.3 default of MAXFILES = 3 is not used because that would result in a HIMEM of \$9400, instead of the usual \$9600, and any program that used the area from \$9400 and \$95FF for data storage would not work properly because the file buffer area would be overwritten. Such programs erroneously assume that HIMEM is always \$9600.

If you want to run a program that expects three file buffers to be active (there are not many programs like this), enter the DOS 3.3 "MAXFILES 3" command before running it.

You can use a slightly-modified version of the FID utility program on the DOS 3.3 system master disk to transfer files to and from AmDOS-formatted 3.5-inch disks. Here are the steps to follow to make the modifications to a copy of FID:

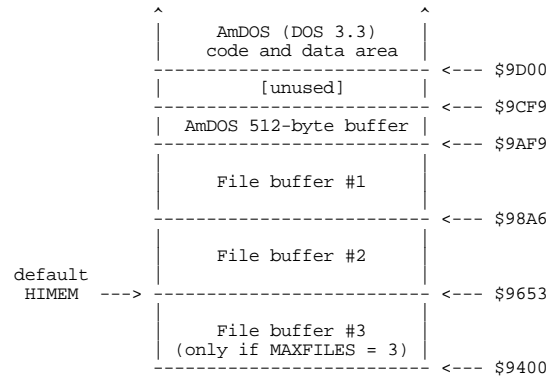
```
JUNLOCK FID
JLOAD FID
```

```
]CALL -151
*0973:B5
*09BF:B5
*11ED:4C 89 16
*1414:B1
*1689:8D 31 19 B9 8B 19 8D 32 19
*1692:B9 8C 19 8D 33 19 0D 32 19
*169B:0D 31 19 4C F2 11
*3D0G
]BSAVE FID,A2051,L4686
```

The modified FID will still work properly with standard DOS 3.3 and with 5.25-inch floppy disks.

Memory Map

Here is a memory map showing the arrangement of buffers below the main AmDOS code and data area beginning at \$9D00:



AmDOS 3.5 is a user-supported program. Try it for 30 days and if you find it useful, send \$15 (U.S.A. funds) or \$20 (Canadian funds) to Gary B. Little, #210 - 131 Water Street, Vancouver, British Columbia, Canada, V6B 4M3 (Telephone: (604) 681-3371). Otherwise, pass your copies along to others or erase them.

ACTION> (Next, Down, Xm, List)

```

=====
DOCUMENT ancent.art.1
=====
-----t
ANCIENT ART OF WAR AT SEA DOCS
    brought to you by the Gauntlet of CODfish
    a Circle of Dickz file
    ware cracked by Coast to Coast

    CODfish is in no way affiliated with Coast to Coast, or with it's releases.
-----
Anyone who d/l'ed this ware should know how to boot it up, so I'll skip that.
NOTE: This is the main section of the documentation. All the specific
      definitions for terms found throughout are contained in the glossary,
a separate file being sent out with the doc file #1 (this).

```

: JOYSTICK CONTROLS :

```

-----
Button 1      - same as the Enter Key
Up and Down with
  button 1 pressed - scrolls the map
Button 2      - moves between Screen and Command Line
Button 1      - selects a command
Button 2      - same as the space bar

```

. The keyboard can still be used when the joystick is activated /

```

-----
: MAP FEATURES :   Repair Port: looks like a fort. Increases the condition
-----
                    of a ships sails and hull.
Supply Port: looks like a town. Provides supplies to ships.
Crown: A crown provides both supllies and repairs to ships of the same color
and represents the heart of a sides homeland. When either side's crown is
captured the game ends.
Rough Water: represented by dark water areas. Dangerous for Frigates, Safe
for Ships-of-the-line, Flagships and Merchantships.
Shallow Water: represented by light water areas. Dangerous for Ships-of-the-
line and Flagships. Safe for Frigates and Merchantships.

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SHIPS:
Squadrons: a group of between 1 and 3 ships
Fleet: all of the squadrons of the same color form a fleet.
Flagship: This is a ship-of-the-line with an Admiral aboard. It is
the most powerful ship on the high seas.
Ship-of-the-line: a mighty warship, nearly as strong as a flagship.
Frigate: a small and fast warship.
Merchantship: brings supplies to ports.

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HINTS:
x To receive supplies or repairs from a port or a crown, you must
anchor where there is a flat shore across the entire length of
the port. Check a squadron's "Info" to see if it is "in port".

x The cannons can only fire out of the sides of the ship and the crew
can only be on one side of the ship at a time.

```

HOW THE CAMPAIGN ENDS:

- [1] When the last ship on either side is captured or sunk, or
- [2] When the last flagship on either side is captured or sunk, or
- [3] When one side captures the other side's crown or,
- [4] When either side surrenders.

-----:

```

: TO LEAVE THE GAME :-----:
:-----:
:
: From the TITLE PAGE: Press + or - until "Quit" appears on the banner,
: then press Enter.
:
:
: During a CAMPAIGN: If you want to continue a game later, you can save :
: it by pressing Alt S (be sure to have a blank :
: disk or data disk handy). If you don't want to :
: continue later, press S to Surrender.
:
:
: Quick EXIT: At any point in the game, press Ctrl, Alt and Del
: keys all at the same time. This will
: immediately exit the program and leave you with :
: the A> prompt.
:-----:

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TRAINING SESSION : Prepare for WAR !

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-----
: CHOOSING A CAMPAIGN : Campaign: A series of military operations that form
-----
a war.

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Start at the title page. "GO TO WAR" should be displayed on the sail. If not, press + or - until it is. Press ENTER. The sea scroll will open, revealing the titles of a variety of campaigns. Most of the scrolls in the game are about two screens long, so use the + or - keys to see all of the information.

From this point, until you press ENTER after choosing your opponnent, you can go back (all the way to the title screen, if you wish) by pressing ESC.

Following the directions at the bottom of the screen, make sure the sabre is pointing to "The Bane of Oldain" and ENTER. The sea scroll will close, and when it reopens, will reveal the story behind this campaign. After you read through the story, press ENTER. The scroll will close and reopen again, this time showing you the rules. The rules have been individually preset for each campaign, but you can adjust them. However, it's a good idea not to make any changes until you are more familiar with the game. After you have read the rules, press ENTER.

Now you will meet your opponent.

CHOOSING AN OPPONENT

You can fight any of the enemy leaders portrayed on the screen. Each has a different fighting style, as well as different strengths and weaknesses. At the top of the screen, you will see the enemy's name and a brief description of his fighting style. Use the + or - keys to move the cursor box through the opponents. (HINT: the easiest opponent is Thor Foote.)

When the cursor frame is on the enemy you want, press Enter.

VIEWING THE WAR MAP

As the campaign begins, you have a sea gull's eye view of the war map. At the bottom of the map are two ports. The port on the left side of the screen is a Repair Port. To improve the condition of a squadron's sails and hulls, anchor it at a Repair Port. The port at the right side is a Supply Port. To increase a squadron's supplies, anchor it at a Supply Port.

Between your ports are two white crowns. If an enemy ship reaches a white crown and defeats any white squadrons at that crown, you will have lost the campaign (the enemy's crown is at the top of the map). Crowns will also repair and supply ships.

Dark ocean areas represent rough water, and are dangerous for frigates to sail through. Light colored ocean areas represent shallow water, and are dangerous for ships-of-the-line and flagships to sail through. The Wind Cherubs at the top center and bottom center of the map indicate which direction the wind is blowing only if the wind is set to "realistic" in YeOlde Options Shoppe. The wind direction will occasionally change during a

campaign.

The white cross-shaped object near the center of the screen is the marker which lets you scout out the enemy squadrons and command your own.

The ship and anchor symbols represent squadrons of ships. You control the white squadrons, and the enemy controls the black ones. A squadron symbol with a flag on it means there is a flagship in that squadron.

To scroll the map, use the - key to scroll up (+ key to scroll back down). You can jump quickly to the top or bottom of the map by pressing the Shift key and the + or - key at the same time. You can use Ctrl in place of +, and Tab in place of -. This is especially helpful if you are left handed. If you are using the joystick, hold down button #1 and move the joystick to scroll the map.

You will receive messages during the campaign indicating enemy ship sightings, imminent encounters and other events. These messages will appear at the bottom of the screen, just above the command line.

YOUR MISSION

Win by capturing or sinking all of the enemy's flagships while protecting your own. You can also win by capturing a black crown. In the Ancient Art of War at Sea, the most skillful player does what it takes to win the campaign with a minimum of fighting.

COMMAND OPTIONS

At the bottom of the current screen are several command options. Throughout the AAOwA, command options will appear, usually at the bottom of the screen. To select an option, press the letter key that corresponds to the first letter of the command. In this example, the commands are as follows:

(T)ime -- You can alter the speed of the campaign at any point when Time appears on the command line by pressing T. Four different settings are possible. (You may want to use a slower time when you're making your plans, then speed up time when you've got everything set.)

(F)leet -- Press F and the size of both fleets will be displayed. You will see the types and total number of ships on both sides. The game will freeze while you are doing this. Press End (or any other key) when you are done.

(C)lear -- Use Clear to remove old messages from the bottom of the screen. Clear will not appear when there are no messages displayed.

(P)ause -- Use Pause to freeze the game. To get things going again, press any key. Clear will sometimes take the place of Pause on the command line, but pause will still work.

(S)urrender -- You can surrender at any time during the game when Surrender appears on the command line by pressing S.

Saving the Game -- Press Alt S if you want to save the game so you can resume playing where you left off at a later time. The computer will prompt you to insert a data (or blank) disk -- just follow the instructions on the screen; the program takes care of the rest.

There are command options available when you have the marker positioned over one of your own squadrons.

(M)ove -- To "move" a squadron, press M (notice that the marker changes its shape to an open box). Move the marker, using the keyboard or joystick, to trace the path you want the squadron to follow, and press M again to mark the destination (a small white mark will appear here). The squadron will follow the exact same route that the marker took. Collisions between squadrons will not occur.

Occasionally, while you are tracing a squadron's path, the computer will mark a destination before you press M. This means the computer's memory for keeping track of squadron paths is temporarily full. Once the squadron reaches the marked destination, you will usually be able to move it ahead to

the final destination. This shouldn't happen very often though.

(I)nfo -- Press I to see what ships are in a squadron. It will show you their names, type, the condition of their hulls, supplies on board and sailing speed. While you are in Info, you can change the squadron's sailing speed by pressing S. A frigate at half sails will move at the same speed as the larger ships will full sails. Press E when you are done.

You can gather limited information about an enemy squadron by placing the marker over it, and pressing I for info.

(D)etach -- To detach part of a squadron, press D. Use the + or - keys to select a ship and then press S to switch it to the new squadron. When you are done, press E.

(J)oin -- If two squadrons are close enough, you can Join them (up to a max of 3 ships in a squad). Press J and then join them in the same way you detached a squadron. If Join is not shown at the bottom of the screen, you can use the Move to bring the squadrons closer together.

(Z)oom -- This option appears on the command line when you place the marker over a squadron that has encountered an enemy squadron and changed into the battle symbol of crossed sabres. Zoom gives you an exciting, animated close-up view of the battle where you can give tactical commands to your ships.

(P)ractice -- Use this option to familiarize yourself with tactical operations. Practice is the same as Zoom except it is used when the enemy is not present. When you are done practicing press E.

TACTICAL OPERATIONS

Tactical operations begin after choosing either Zoom or Practice. During this phase, movement on the war map will stop. You can choose between two views, a long view of the entire tactical battle area, or a closer view of a portion of the battle area. The white ships on the screen are yours and if the enemy ships are present, they will be black.

The long view lets you see the relative positions of all the ships involved. This is useful for setting up your tactical plan and watching the enemy's plan of attack. Time will move faster when using close view.

During a long view, you will see the view frame over the water. The ship in the center of the frame is the selected ship and info about it is displayed at the top of the screen. You are "on board" the selected ship and can give it orders. If there is more than one ship in your squadron, use + or - to select another ship. The selected ship will blink and be centered in the view frame.

(S)peed: Adjust the sails to control the speed of the ship.

(G)un : Change broadsides to fire from the other side of the ship.

(A)im : Change the barrel elevation to adjust the range.

(F)ire : Shoot the cannon.

(O)rders: Change the ship's orders

(T)ime : Adjust the speed of the game.

(V)iew : Switch between close-view and long-view of the battle

(P)ause: Freeze the action temporarily.

(L)ease: Leave the battle, return to the battle map.

The view frame will follow that ship until you use the keypad to move the view frame around the battle area. When you press the Space bar, the view frame will center on the selected ship and begin following it again.

The view frame can also be used like a magnifying glass by pressing View. This gives you a close view, causing the area inside the view frame to fill the whole screen. You can also move within this close view by using the keypad. For example, press 7 to move Northwest, 6 to move East, etc. The close view is useful for precision maneuvering and combat. Holes in damaged sails and hulls can also be seen during a close view. In long view, a disabled ship will show damage marks. To return to a long view, press View.

"not realistic" in the Options Shoppe, it will not affect the Speed Bar.

CANNONS

To the right of the Sail Indicator are the controls for the ship's cannons. You decide which side of the ship the men will be on and when to fire.

If ship is not selected, it will automatically shoot at enemy ships.

GUN

Your crew can man only one side of the ship at a time. If the crew is at the cannon on the right, the ship will fire out of the right starboard side. To change broadsides, press G for Gun and your crew will move to the left cannon.

To help you visualize which direction your cannons will fire, look at the gauge at the top right of the screen. Your ship is in the center and the red square shows the direction that your cannons will fire.

AIM

Aim is available to the player only when "Manual Aim" is selected in the Options Shoppe. If Manual Aim is not selected, the crew will automatically aim the cannons for you, and this option will no be available.

You cannot aim or fire a cannon unless your crew is on that side of the ship and in firing position (standing behind the cannon with the firing punk ready)

To aim your cannons, press A. Use + or - to raise or lower the aim.

FIRE

On the top of the cannon barrel is a small hole with a bit of gunpowder in it. When you order "Fire!", a slow burning punk is touched to this hole. The flame from this flash runs down to the base of the charge and the cannon fires. Your crew will quickly reload and you'll be ready to fire again.

When realistic reload is selected in the Options Shoppe your crewman go through a longer procedure. The crew may skip some of the loading procedures depending on the reload time setting in your Options Shoppe.

You will see a flash on the target ship when a cannonball hits. Damage from sail hits is evident as the ship's sails become increasingly tattered. A hit on the hull will destory cannon and crew and leave holes. Damage to sails and hull can be seen most clearly when the side of the ship is facing you.

ORDERS

Battle orders are given to ships in your squadron individually. To change a ship's orders, press O, then use + or - to rotate through the available orders. You can also press O again if you prefer, since it works the same as +. Some of the orders are not always available. While Orders is selected, time stops. (Orders is selected ?? Shouldn't that be are selected ??)

General Chase: Make your best speed and course to individually attack the enemy.

Follow Ship in front: Try to maintain a single-file line if it is behind another ship.

Mimic Ship in front: Copy the maneuvers of the ship ahead.

Avoid Battle: Stay away from the action.

Course: Player controls the heading of the ship. When you select this order, a box will appear on the perimeter of the gauge at the top right of the screen. Use + or - to move the box around the gauge, and the ship will turn to the heading indicated by

If enemy ships are present, try moving the view frame so that enemy ships are within it's boundaries and press View to see the condition of their sails and hull.

If two ships are close enough where part of one is being covered by the other, the nearest ship will become partially transparent so you can see the hidden ship.

If a ship goes far enough off the edge of the battle area, it has retreated and you can no longer use it during this battle.

If a ship is stopped, it will drift in the direction of the wind.

If the battle takes place near a shore, avoid the hidden coral reefs and shoals that occur near land.

Time moves a little slower when you are using close view than during long view. But even the slowest time setting in the game is considerably faster than the pace real sailing ships moved at during actual battles.

Time, View and Pause can be used almost always in tactical battle mode, even if they are not displayed on the screen.

If you decide you want to leave a tactical battle before it is over, press Leave. You will return to the strategy level and the battle will continue and resolve on it's own.

COMMANDING A SHIP

When you have selected a ship in a tactical battle, you are responsible for the ship's speed, course, orders and cannons. When using a command, it will be highlighted. When appropriate, additional instructions will be shown on the command line at the bottom of the screen. To leave a command and clear the command line, press Enter.

If you are using a particular command you can usually go directly to another command without having to formally leave the first command. Just type the first letter of the new command.

SAILING SPEED

The speed of the ship is determined by the condition and trim of the sails and the direction of the wind.

The trim of the sails is represented at the top left corner by the Sail Indicator. Press S and then use + or - to adjust the trim. The more sail that is put to the wind, the faster the ship will move. If no sail is shown, the ship will come to a halt. Press Enter when you are done. To quickly go to full sails, press S twice. If the sails are already full when you do this, they will switch to no sails. As a ship's sails become damaged the Sail Indicator will start to turn blue, indicating decreased effectiveness of the sails.

The wind direction Indicator is to the upper left of the Sail Indicator. The wind can blow from any of the 4 primary compass points. The Wind Direction Indicator will only appear if wind is set to "realistic" in the Options Shop.

Momentum is a factor when moving a ship through the water. A stopped ship will take a few moments to get up to speed after giving it full sails, and a moving ship will take a few moments to stop after cutting the sails all the way back. A ship that loses momentum will drift in the direction of the wind.

To the right of the Sail Indicator is the Speed Bar. It works like a speedometer. The Speed Bar will be full when a ship is in perfect condition, using full sails and on a course that takes full advantage of the wind. Trimming the sails, sail damage and beating into the wind contribute to reducing your speed and are reflected in the Speed Bar. If the wind is set to

the box. A quick way to change a ships orders to Course is simply to press C (you don't need to press Orders first).

Board: Grapple a disabled ship.

At the upper right of the screen is the compass. At the center of the compass is the "heading Indicator" which shows the active ship's current heading. The red square is the "Gun Indicator." It shows which broadside will shoot when you press Fire. When a ship's orders are "Course", the white "Course Box" will appear showing the current course assigned to the active ship. The "Heading Indicator" will always point at the "Course Box" except when the active ship is turning to that course.

BOARD

If two ships come together, side by side, they will grapple. If neither ship is disabled or extremely overmatched, you will have the opportunity to command the battle yourself. When you receive the message that two ships have grappled, select Zomm to take command and meet the enemy man to man.

There are two types of fighters, sailors and marines. Marines shoot rifles and their orders are to take their station and fire at will. Sailors fight with swords and will respond to your commands.

Two ways to win when boarding.

1. Capture the enemys flag.
2. Defeat the enemy sailors and marines.

The Four Zones: The raised deck at the stern of your ship is the Poopdeck. (don't look at me). The lower deck is the Quarterdeck, except for the area by the enemy ship, which is called the Railing. The foruth zone is the area around the flag.

Commands: You command your sailors by assigning them to a new zone to fight in. To do this, press the first letter of the zone the sailor is in, followed by the first letter of the zone you want him to move to. For example, to move a sailor from the Poopdeck to the Flag, press P and then F. To repeat a command, press (A)gain. If you select a zone to move from and then change your mind, you can cancel it by pressing Backspace or Esc. From the Poopdeck to the Railing you can command a sailor to (C)ross. A sailor with this command will try to fight his way across the enemy ship and try to reach their flag. Once a sailor is told to Cross, he will be dedicated to that mission and you will not be able to recall him.

To begin the battle, press (A)ttack. If you would rather leave and let them fight it out for themselves, press (L)eave.

SAILING TO WAR

Now you've learned how to command squadrons, gather information on a strategic level and command battleships on a tactical level! Remember - the enemy squadrons are on the move while you're getting ready to meet them, so act quickly !!

The campaign can end in any of four ways:

- [1] When the last ship on either side is captured or sunk.
- [2] When the last flagship on either side is captured or sunk.
- [3] When one side captures the other side's crown.
- [4] When either side surrenders.

After the campaign is finished, you will see the results of the battle. A chart will show how many warships on each side were sunk or captured and the number of flagships that were sunk or captured.

END OF TRAINING SESSION

The purpose of this training session was to show you how to use the program.

*** NOTE 'O' FRIENDS OF SVEN ***

There isn't anything you can do in this part of the program that will have a permanent effect, so feel free to "cut loose!". You can change any or all of the rules and choose a different opponent if you wish. Each campaign can be very different, depending on the rules and the enemy, but the next time you play the game, everything will return to the way it was before you started.

SHIP DISCRIPTIONS

The warships in The Ancient Art of War at Sea are of the late 18th century variety. You will encounter four types of ships in The Ancient Art of War at Sea.

* MERCHANTSHIPS *

Merchantships supply ports with food, provisions and various nautical equipment. They are lightly armed and built for carrying supplies, not fighting. Merchantships have their own orders and you have no control over them. You can intercept enemy merchantships to capture their supplies.

* FRIGATE *

Frigates are small warships. They usually had one gundeck in addition to cannons on the quarterdeck and forecattle. The classic frigates carried between 30 and 44 guns. Fast and maneuverable, they could escape a ship-of-the-line and were powerful enough to handle any other vessel.

A frigate in the AAOwAS is a sleek, fast, two-decker with 44 guns and a crew of 250.

* SHIP-OF-THE-LINE *

A ship-of-the-line in the AAOwAS is of the classic type: a four deck, 74-gun warship, including 10 carronades, and a crew of more than 600.

* FLAGSHIP *

A flagship in the AAOwAS contains an Admiral and is of the classic type: a massive four deck, 130 gun warship, including 22 carronades and a crew of 875... the most fearsome sight on the high seas.

: STRATEGY :

Concentrate your Power.

When facing an enemy fleet of equal or greater size, isolate small groups of enemy ships. Attack partial fleets with full fleets. Isolate one ship and fight it with two or three ships. This is the way to defeat an enemy both strategically and tactically.

Usually try to keep squadrons full with three ships instead of splitting them into smaller squadrons. If you split them up, you'll end up with two or three weak squadrons instead of one powerfull squadron.

Before deciding to battle, compare the strength of your squadron to the strength of the enemy squadron and determine your chances of victory. (Strength is determined by the number of ships on each side, the type of ships on each side and their condition.) Then, try to engage in battle only from a position of strength. The condition of the ships involved can have a major effect on the odds of winning.

Focus your attention on enemy flagships (where their Admirals are). Since a fleet cannot function without any Admirals, eliminate their flagships

and they will be defeated. Cut off the head and the body will die.

Use your crown or supply ports to keep your ships stocked. A well fed crew is an efficient crew. Use your Crown or Repair ports to keep your ships in good condition. One fresh ship is better than two badly damaged ships. If a squadron's supplies decrease below 20%, the condition of the ships in the squadron will start to deteriorate. This is because the crew has to ration food and can't work as hard to keep the ship in good condition.

Anchor near a food port to increase supplies. Anchor near a repair port to improve condition. To be sure your ship is receiving supplies or repairs from a port, check its Info after it is anchored. Instead of indicating speed, it should say "In Port". A Crown will increase both the supplies and the condition of any ship in its harbor. A ship cannot be repaired unless its supplies are above 20%. Another way to increase a squadron's supplies is to capture enemy merchantships or intercept friendly merchantships.

Frigates are the fastest ships on the high seas. But a squadron can only sail as fast as its slowest ship. If you need speed, make sure your squadron is made up exclusively of frigates.

Merchantships and Ports

Ports supply or repair any squadrons that are anchored in their harbor as long as the port has supplies. When a port's supplies get low, it will send for a merchantship to replenish its depleted stock. If a merchantship is captured before reaching port, the port will send for another merchantship but may soon run out of supplies. When a port changes colors, it is out of supplies and closed to any squadrons in its harbor.

To blockade a port, use a squadron to intercept merchantships enroute to that port. The enemy will lose supplies and your squadron will gain supplies. Frigates are effective interceptors since they are the fastest ships on the sea.

You can also intercept your own merchantships at sea to increase a squadron's supplies. If the squad's supplies are below 50%, the white merchantship's supplies will be used up and it will disappear. You cannot capture a merchantship after it reaches a port's harbor.

You may want to send warships to escort friendly merchantships if the enemy presents a threat to your supply line.

Rough Water/ Shallow Water

Larger ships (flagships and ships-of-the-line) can sail through rough water without fear or damage, but frigate will often sink, depending on how rough the water is. This factor can be adjusted in the Rules scroll just before starting a campaign.

It is very dangerous to try to sail large ships through shallow water. When a flagship is lost in shallow water, the Admiral will board another ship-of-the-line that is in the same squadron. If there is none, the Admiral will go down with his ship. Frigates have no trouble in shallow water. Merchantships can sail through rough or shallow water without fear or damage.

Wind

A major factor in the speed of sailing ships. If wind is set to realistic in Ye Olde Options Shoppe, look for the Wind Cherub on the map to see which way the wind is blowing. Generally, the more you try to sail into the wind, the slower your squadron will move. The wind may change during a campaign. Wind speed varies from 5 to 15 knots.

If you plan to attack an enemy squadron, try to gain the wind advantage

by meeting him with the wind at your back. The position of the crossed sabre symbols in relation to the wind on the strategic level determines the two squadron's position in relation to the wind after you zoom to the tactical level.

: TACTICS : Note: Due to difficulties and lack of time I've had to skip
----- MOST parts of this chapter.

ORDERS - Each ship in your squadron will be given individual orders. The orders that you can give will vary dependin on the situation.

Course: This is used when you want to take charge of a ship's navigation.

General Chase: Make your best speed and course to attack the enemy.

Follow Ship in Front: You can use this order to try to maintain a line.

Mimic Ship in Front: A ship with this order will turn the same amount as the ship in front of it even if they are on different headings.

Avoid Battle: If your ship gets hurt badly you may want to use this.

Boarding: A ship with this command will sail to and board a disabled enemy ship. It can also board a friendly ship and make enough repairs to put it back into action.

: ENEMY COMMANDERS : If you know the enemy, and know yourself, you need
----- not fear the results of 100 battles. -- Sun Tzu

THE PLAYER

Strategy: Your strategy is up to you
Tactics : Your coannon range is surpassed only by Jones and Nelson.
The accuracy of your shots can be increased (or decreased)
by taking charge of firing the cannons yourself. (manual)
When grappling, 75% of your crew will be sailors, 25% marines.
(Sailors are swordsmen, and maries are riflemen).

Cannon Range *****
Reload Speed ****
Accuracy *****
Seamanship *****

Crew Quality adjustable in rules (green= 1 *, average= 4 *'s, crack= 7 *'s)

THOR FOOTE 871

Strategy: If Thor thinks too hard, it makes his head hurt. So, he will
will not put alot of thought into his strategic plans.
Tactics : His short-range cannons are manned by poorly trained crews.
Neither his sailors, or marines are skillfull fighters.
When grappling, 95% of his crew will be sailors and 5% marines.

Cannon Range ****
Reload Speed ****
Accuracy ***
Seamanship ****
Crew Quality *

DUKE OF MEDINA SIDONIA 1588

Strategy: Sidonia tends to pick an objective and then move towards it
enmasse.
Tactics : Sidonia's cannons can only shoot a short distance so his
ships will try to fight at close range. His Spanish
galleons are slow and bulky ships that were built to carry
marines. His goul is to bound your ships where he can use

his superior marksmen to defeat you. His sailors are not skilled in the art of fencing.

When grappling, 25% of his crew will be sailors and 75% marines.

Cannon Range ****
 Reload Speed ***
 Accuracy *****
 Seamanship *****
 Crew Quality ****

BLACKBEARD 1718

Strategy: Blackbeard will fight anyone in sight, regardless of strength, and will never surrender.
 Tactics : Beware of Blackbeard's bloodthirsty pirate crew: they are the most deadly swordsmen on the high seas ! He will try to close with your ships where he can board and fight man to man. Motivated by greed, the pirates can reload their cannons faster than any other crew.

When grappling, 95% of his crew will be sailors and 5% marines.

Cannon Range ****
 Reload Speed *****
 Accuracy *****
 Seamanship ***
 Crew Quality *****

MARTEN TROMP 1639

Strategy: Tromp is a conservative strategist and will patiently wait for an opening or weakness in his enemy's forces.
 Tactics : His cannons are more accurate and will shoot farther than any enemy leader that came before him. The skill level of his marines and sailors are average. The maximum range of his cannons is equal to yours.

When grappling, 80% of his crew will be sailors and 20% marines.

Cannon Range *****
 Reload Speed ****
 Accuracy *****
 Seamanship *****
 Crew Quality *****

JOHN PAUL JONES 1779

Strategy: The "Yankee Pirate" does not back out of a fight and will never give up.
 Tactics : His cannons shoot farther than any other leader's except Nelson's. The fighting skills of his sailors and marines are above average.

When grappling, 80% of his crew will be sailors and 20% marines.

Cannon Range *****
 Reload Speed *****
 Accuracy *****
 Seamanship *****
 Crew Quality *****

HORATIO NELSO 1805

Strategy: The finest strategic thinker in the age of the fighting sail, Nelson puts great emphasis on training. His crews are very efficient, and won't tire easily.
 Tactics : Nelson will try to fight your ships from a distance to take advantage of his destructive, long-range cannons.

When grappling, 75% of his crew will be sailors and 25% marines.

Cannon Range *****

Reload Speed *****
 Accuracy *****
 Seamanship *****
 Crew Quality *****

[CAMPAIGN DESCRIPTIONS]

The Ancient art of War at Sea contains eleven campaigns, each offering a unique challenge.

A brief description of each campaign follows. Difficulty is rated on a scale of 1 to 10, 10 being the most difficult. Time is also on a scale of 1 to 10, 10 being the lengthiest. (Of course, if your opponent is much craftier than you, it might make a long game very short.) Time and difficulty will vary if you change the rules or the enemy leader.

THE BANE OF OLDAIN

The massive enemy fleet is setting sail in the north. Your fleet is harbored in the south. This may be the first campaign, but that doesn't mean it's going to be easy ! A balanced offense and defense could be the key to victory.

Difficulty: 3
 Time: 5

THE RACE FOR THE CROWN

You have 3 warships, the pirates have 26 warships. They are between you and your crown. What could be more fair !? The emphasis in this campaign is on strategy.

Difficulty: 2
 Time: 3

RUNNING THE GAUNTLET

Again, you find yourself cut off from your crown by a huge enemy fleet. It will take an understanding of many aspects of the art of war to be standing victorious when this campaign is over!

Difficulty: 4
 Time: 4

THE LAST CROWN

You've managed to corner your enemy at his crown. You've also managed to lose most of your once powerful fleet in the process. To clinch a victory will require a clever game of cat and mouse.

Difficulty: 5
 Time: 6

ATTACK OF THE SUPERPOWER

Anticipate the enemy's strategy and strike where he is weakest (Aiken Drum)

Difficulty: 5
 Time: 5

1588 THE SPANISH ARMADA

You command the British defense fleet that is standing between the Armada and its target, London (the white crown). To stop their advance you will need to rapidly deploy your squadrons to where they will be most effective. During combat, take advantage of your technologically superior ships and cannons.

Difficulty: 7
 Time: 10

1676 SICILY, 1798 THE NILE

You are thrust into the middle of a pair of famous battles that

occurred a century apart. it will require strategic brilliance against the French on two fronts to avoid a visit to Davey Jone's Locker !

Difficulty: 6
Time: 5

1759 QUIBERON BAY

This time, you are placed in command of a French fleet that is being hard pressed by a strong British presence. to take a bold, offensive position or a more cautious defensive position, that is the question.

Difficulty: 4
Time: 4

1805 TRAFALGAR

This battle was Admiral Horatio Nelson's most brilliant victory, But what if you were in charge of the British sea force instaed of Nelson ? Can you find the weak link in the French chain ?

Difficulty: 8
Time: 8

1941 BISMARCK

What if the battle of the Bismarck had taken place 200 years earlier ? You command the mighty Bismarck but the British are sending every available ship on a single mission: to sink you !

Difficulty: 8
Time: 4

YOU ONLY LIVE THRICE

We saved this one for last. Some players swear that this one is impossible to beat. They're wrong.

Difficulty: 10
Time: 9

[[DATA DISKS]]

A data disk is used when you want to make your own campaigns, play a campaign that you make, or resume a campaign that was previously saved. You can make as many data disks as you want. Each data disk can hold up to 11 new campaigns and 1 saved game.

PREPARING A DATA DISK

Before you start, you will need to have a blank or expendable disk to use as your Data Disk. The program will tell you when you need to insert your disk. If your disk is not formatted, the program will do this for you. Just follow the prompts to swap disks when necessary, and the computer will do the rest. Make sure the Data Disk option is set properly in the "Options Shoppe."

PLAYING A CAMPAIGN

To play a campaign that you created and saved on a Data Disk, select "Go To War" at the title page and then choose the last selection on the titles scroll, "Data Disk"

If you are using the Data Disk and you want to play a campaign on your War Disk, choose the first selection "(WAR DISK)", on the data disk titles scroll.

SAVING A GAME IN PROGRESS

A game can be saved only on a Data Disk. If there already is a saved game on the Data Disk, taht game will be ERASED when you save the new game.

You can save a game in progress when the war map is on the screen and the pointer is not over a squad (any time "View" is on the command line).

When you are ready to save the game, hold the Alt key down and press S. The program will tell you when to insert your Data Disk. You will automatically

exit the game after it is saved.

RESUMING A SAVED GAME

Select "Go to War" at the title page. Select the last title on the first scroll, "(DATA DISK)". The program will tell you wehn to insert the Data Disk with the Saved Game.

When the program asks if you want to continue with the saved game, press 'Y'.

-----,OTE:
These are not the full docs, but is a summary of all the important info..

Call this excellent system...

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the Gauntlet - CODfish text files (c) 1988

-----h

===== DOCUMENT ancient.art.2 =====

----- ANCIENT ART OF WAR AT SEA DOCFILE #2 - GLOSSARY OF TERMS
brought to you by the Gauntlet of CODfish
a Circle of Dickz file (c) 1988 -----

```

:
: CAMPAIGN: A campaign is a series of military maneuvers that form a
: war. The AAoWaS comes with eleven separate campaigns,
: each set at a different location and time. Using the
: Game Generator you can design your own campaigns.
:
: COMMAND
: OPTIONS: Are used to move through the program and to give orders to
: your ships and squadrons. Command Options will change
: during the game but can usually be found on the bottom
: line of the screen. After Zooming, command options can
: also be found at the top of the screen. To use a Command
: option, press the key that is indicated or, if no key is
: indicated, press the first letter of the command.
:
: CONDITION: Cannonfire and low supplies will decrease a ship's
: condition. A ship's condition is determined by her hull
: and sail damage. When the condition of the sails decrease
: the ship's speed and maneuverability also will decrease.
: When a ship's sails are destroyed, the ship will also be
: disabled. When the condition of a ship's hulls
: deteriorates, cannons are damaged and firepower decreases.
: A ship with severe hull damage will sink.
: To improve the condition of a ship, it must be repaired at a
: repair port. During a battle, some repairs can be made to
: a badly damaged ship by boarding with a stronger friendly
: ship.
:
: CROWN : A crown represents the heart of a side's homeland. A war
: can be won by anchoring a ship next to a Crown of the
: opposite color, but first, all enemy ships at the Crown
: must be defeated. A Crown provides supplies and repairs
: to ships of the same color. Crowns are supplied from
: inland and do not require merchantships.
:
: DETACH : If a squadron contains more than one ship, and ther are
: fewer than 40 squadrons on the map (including any enemy
: squadrons not shown), you can divide the squadron in two.
: Put the marker over the squadron. When "Detach" appears
: on the command line, press D. Use + or - to select a ship
: and then press S to switch it to the new squadron. When
: you are done, press E. The new squadron will appear just
: to the right of the original squadron. By typing J (join)
: you can move ships back to the original squadron.
:
: ENCOUNTER: If one of your squadrons comes close to an enemy squadron,
: an encounter will be reported, and both squadrons will
: turn into the shape of crossed sabres. You can either
: take command of that squadron and lead it into battle, by
: Zooming, or let the ships fight without your help. If the
: two squadrons start flashing, it means they have started
: fighting without you. You can check the size of both
: squadrons while they are flashing to see who is winning
: but you cannot take command after the fighting has
: started. To adjust the amount of time between an
: encounter and the start of a battle, go to "Ye Olde
: Options Shoppe." With "fight delay" set to medium, you

```

```

: have about 30 seconds between an encounter and the start
: of a battle.
:
: ENEMY : The enemy are the black squadrons and ships. The enemy
: are lead by one of six historical military minds, each
: with his own style of waging war.
:
: The mass tactics of the Duke of Medina Sidonia.
: The aggressive attack of Blackbeard.
: The formal tactics of Marten Tromp.
: The determination of John Paul Jones.
: The brilliance of Lord Admiral Nelson.
: The unpredictability of Thor Foote
:
: FLAGSHIP: Is a strong ship-of-the-line with an Admiral on board. It
: is the most powerfull ship on the high seas. Sinking the
: last flagship on either side wins the campaign.
:
: HELP
: LINE: Is just above the Command Line at the bottom of the screen
: It appears when using certain commands to tell you what
: to do.
:
: INFO : To get information about a squadron, move the marker over
: it until you see "Info" on the command line. Then press
: I. If two or more squadrons are directly over each other
: on the map, you will get information on only one squadron.
: Using the Info command, you can learn the name of the
: ships in the squadron, their type, condition and supplies.
: You can also adjust their sailing speed.
:
: JOIN : If two squadrons are close enough, you can Join them (up to
: a max of 3 ships in a squadron). If "Join" is not show at
: the bottom of the screen, you can use "Move" to bring the
: squadron closer together. Put the marker over the
: squadron. When "Join" appears on the command line, press
: J. Use + or - to select a ship and then press the Space
: bar to move it to the new squadron. When you are done,
: press E.
:
: MARKER : Is represented by the white crosshairs on the screen. Use
: the arrow keys or joystick to move it. Place it over a
: squadron to get information, give orders or move the
: squadron. When the marker is over a squadron, you will
: hear a peep and the command line will change. It will
: beep once for every squadron under it, so if two or more
: squadrons are in the exact same location, you will hear
: more than one beep.
:
: MERCHANT
: SHIP: Merchantships supply ports. Warships can intercept enemy
: merchantships, capturing their supplies and sinking them.
: Your warships can also get supplies by intercepting white
: merchantships. If the intercepting squadron's supplies
: are above 50%, the merchantship will have enough supplies
: left to continue on it's destination.
:
: MESSAGES: During a campaign your ships will sometimes report
: information to you. Messages will appear at the bottom of
: the screen just above the Help Line. Up to two messages
: can be shown on the screen at the same time. When a new
: message comes in, the previous message will move down and
: the new message will take it's place on top. To remove
: the messages on the screen, press C to clear them.
: Reports and sightings are give in terms of map location,
: not in terms of the squadron sending the report.
:
: Some of the messages are:

```

```

:      x Enemy Sighted: One of your squadrons has visual contact      :
:      with an enemy squadron. It will also report the enemy        :
:      squadrons location on the map. * NOTE * Occasionally,        :
:      tired sailors ill report a false sighting.                    :
:      x Encounter: Your squadron is preparing to fight another       :
:      squadron. You have a short time after receiving this         :
:      message to Zoom to the battle before the fighting starts     :
:      if you ant to command your ships individually.              :
:      x Fighting: The two fighting squadrons will flash to show that :
:      a battle is in progress. You cannot Zoom in on a squadron   :
:      while it is fighting.                                         :
:      x Battle Won/Lost: The results of fighting will be given when :
:      you don't Zoom.                                               :
:      x Flagships: The capture of a flagship is a major event. When :
:      a flagship is won or lost, it will be reported.              :
:      x Lost in Rough Water: Rough water is a dangerous place for   :
:      frigates to be.                                               :
:      x Lost in Shallow Water: Shallow water is a dangerous place   :
:      for ships-of-the-line and flagships.                          :
:
: MOVE      : To move a squadron, place the marker over a friendly  :
:            squadron until "Move" is shown on the command line, then :
:            press M. Now trace the route you want the squadron to  :
:            take. When you've reached the end of the route, press  :
:            M again. A white dot will appear there, marking the    :
:            destination.                                             :
:
: PRACTICE: To improve your skills as a tactical commander, move the :
:            marker over one of your squadrons and press P. You can :
:            then practice using the combat                          :
:
opt%3      {Ü{= M"?ÁÈ P jf ,Ø't s+?Ü@9@, @f i ?!·^N Z/Ü _ÄvAGO'Ü~$s¥ÍB}Êf : 9
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'w¥mm 'Yo'«o',W ?'=?· Ü+§AA,A'Ü's ¥ÍB'3]!Ü' " :C-
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Ø <O'D<O' Ü'»wÄvAH\ M" 00'1Ä'A9<mf {¥Ø 'm supplies from
merchantships. It takes approximately two
: merchantships to provide enough supplies for a badly
: damaged ship-of-the-line. When a port receives supplies,
: it will begin fixing any ship in it's port. Naturally, it
: will take longer to receive repairs in a crowded port.
: When a port runs out of supplies, it will change colors
: and you will hear a tone.
:
: RETREAT : When you've "Zoomed" in on a battle, you can have your
:            squadron retreat by sailing off the edge of the screen. A
:            turning ship can disappear off the edge of the screen and
:            then come back (if it doesn't stray to far off screen).
:
:
: RULES : Some rules will change with each campaign. you will see the
:            rules scroll before a campaign begins. Advanced players
:            may wish to change the rules of a campaign for variety.
:            Most rules apply to both you and the enemy, although some
:            may be different for the enemy depending on who their
:            leader is.
:
: SIGHTINGS: When one of your squadrons gets close to an enemy squadron,
:            it will report sighting the enemy. When the visibility is
:            not set to unlimited, the squadron that is sighted will
:            appear on the map. It will stay on the map until your
:            squadron loses sight of it. The "rules" determine the
:            visibility. If a sighting is reported and you can't find
:            an enemy squadron in that area, it is because your men
:            lost sight of it quickly. After sighting an enemy
:            squadron, you can trail it, try to run from it or close in

```

```

:      to fight.
:
: SUPPLY
:   PORT: A supply port will provide supplies to any ship anchored in
:         its harbor. When a port receives supplies, it will
:         gradually transfer them to any ships in port. Naturally,
:         it will take longer to receive supplies in a crowded port.
:         When a port runs out of supplies it will change colors and
:         you will here a tone.
:
: SURRENDER: When surrender is on the command line, you can surrender to
:            the enemy Admiral by pressing S.
:
: TIME      : The time option controls the speed of the game. Time can be
:            varied during the game at your discretion. During Zoom
:            the time setting uses a variable time speed. If all the
:            ships in the battle are slowed down because of wind,
:            damage or other factors, time will speed up to a superfast
:            rate. This speeds up the pace of the game during slow
:            periods.
:
: ZOOM      : After one of your squadrons reports an Encounter, and before
:            they report a Battle, you can Zoom down to the scene of
:            the battle and take command of the individual ships. To
:            Zoom, place the marker over one of the squadrons in the
:            encounter and press Z. The amount of time between an
:            Encounter and a Battle can be adjusted in Ye Olde Options
:            Shoppe. If you don't Zoom in time, the squadrons will
:            begin fighting one their own, and you won't be able to
:            Zoom into that battle.

```

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=====
DOCUMENT ankh
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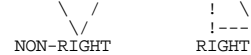
ANKH DOCS
(OLD VERSION)...BROUGHT TO YOU BY.....

COUNT CRACULA

AND

HOUDINI SOFTWARE

THE POINT OF ANKH IS TO PICK UP ALL THE TRAIINGLES THAT ARE
NOT RIGHT, ----- ! \ AND BY GOING INTO ALL 64 ROOMS.



THIS IS ACCOMPLISHED BY OPEN DOORS (OBVIOUSLY). DOORS CAN BE OPENED BY SHOOTING A SMILEY FACE OR A BLOCK OUTLINE. IF THE BLOCK OUTLINE EXPLODES, DON'T WORRY. IT WASN'T NEEDED. WHEN YOU HEAR A BEEP, YOU KNOW THAT THE DOOR WILL OPEN, EITHER IN THE ROOM THAT YOU ARE IN, OR SOMEWHERE ELSE. MY FIRST RULE FOR THE GAME IS SHOOT FIRST, ASK QUESTIONS LATER. WHENEVER YOU SEE SOMETHING IN A ROOM, SHOOT IT. IF THERE IS NO BEEP, OR IT DOES NOT EXPLODE, TOUCH IT WITH YOUR FEELERS. THERE ARE MANY TRIANGLE IN THE ROOMS. IF THEY ARE NOT RIGHT TRIANGLE AND ARE IN ONE OF THE TEASURE ROOMS, THEN PICK THEM UP. IF THEY ARE RIGHT TRIANGLES, THEN SHOOT THEM. IF THEY DON'T EXPLODE, THEN PICK THEM UP. THEY ARE GOOD FOR SOMETHING. WHEN YOU HAVE ALL THE PIECES, AND HAVE BEEN IN ALL THE ROOMS, THEN YOU WIN. A COUPLE ON HINTS... IN THE NUMBERED ROOMS, SHOOT THE OUTLINE BLOCK, THEN THE SMILEY FACE TO OPEN THE DOORS TO THE NEST NUMBERED ROOM. WHEN YOU GET THE RIGHT TRIANGLE, DROP IT IN THE ALCOVE IN ROOM ZERO WITH THE NON-RIGHT TRIANGLE. IN THE PIANO ROOM (WHEN YOU SHOOT THE BOX, IT PLAYS MUSIC), DROP ALL THE NON-RIGHT TRIANGLES, AND SHOOT THEM SO THE MUSIC THEY MAKE IS THE SAME AS THE MUSIC THE BOX MAKES WHEN SHOT. IN THE ROOM WHERE THE TWO THINGS SANDWICH YOU BETWEEN THEM, PUSH OUT YOU PICK UP BUTTONS AT THEM. THIS WILL PUSH THEM OFF, AND YOU WILL BE ABLE TO MOVE TO ANOTHER ROOM. ALSO, TRY NOT TO HAVE A DOOR CLOSE ON YOU. THIS HAS HAPPEND TO ME ONCE TO OFTEN, AND USUALLY WHEN I WAS ABOUT TO WIN. TO GET STUCK IN A DOOR, YOU STOP IN IT'S PATH WHIL IT IS CLOSING, OR JUST MOVE THROUGH IT'S PATH, AND NOT GET THROUGH FAST ENOUGH. SOMETIMES, YOU HAVE TO MOVE THROUGH A MOVING DOOR'S PATH, BUT TRY NOT TO GET CAUGHT.

5. CHEAT

TO CHEAT AT ANKH, TYPE THE FOLLOWING:

```
BLOAD ANKH <RETURN>
CALL-151 <RETURN>
6AEB:EA EA <RETURN>
A00G <RETURN>
```

THIS WILL GIVE YOU UNLIMITED ENERGY.

1. THE MAP

KEY: - = PASSAGE
! = PASSAGE
= ROOM
@ = ROOM WITH TREASURE
#'S = ROOMS

```
@ #--#--@--#--#--#--#
! ! ! ! ! ! ! !
! ! \ ! ! ! !
# #--#--# #--# @ #
! ! ! ! ! ! !
! ! ! ! ! ! !
# # #--#-# # #--#
! ! ! ! ! ! !
! ! ! ! ! ! !
#--#--#--#--#--#--#
! ! ! ! ! ! !
! ! ! ! ! ! !
#--@--7--9 # #--#--#
! ! ! ! ! ! !
! ! ! ! ! ! !
0 3--1 2 # #--#--#
! ! ! ! ! ! !
! ! ! ! ! ! !
4--5 6--8 # #--#--#
! ! ! ! ! ! !
#--#--#--# #--#--#
```

2. THE KEYS

FIRE	MOVE
----	----
E	I
S D F	J K L

TO PICK UP THINGS, HOLD DOWN CONTROL, AND PUSH THE FIRE KEY FOR THE DIRECTION YOU WANT. TO MOVE SMALL DISTANCES, HOLD DOWN CONTROL AND PRESS THE MOVE KEY FOR THE DIRECTION YOU WANT. V CONTROLS THE VOLUME, ESCAPE PUTS THE GAME ON HOLD.

3. THE PIECES

DAGGER: SHOWS YOU HIDDEN TRIANGLES.
BLOCK WITH DOT IN MIDDLE: EITHER SHOOTS, OR CURVES SHOT
BLOCK WITH DASH IN MIDDLE: MOVES WHEN SOMETHING IS SHOT.
SMILEY FACE: OPEN DOOR WHEN SHOT
BLOCK OUTLINE: OPENS DOOR WHEN SHOT OR HIT WITH PICKER UPPERS. SOME ARE USELESS.

4. THE GAME

```
=====
DOCUMENT apba.baseball1
=====
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```
APBA Major League Players Baseball
=====
```

```
[Dox by Pac-Rat]
```

```
[ Complete Documentation ]
```

- INTRODUCTION

APBA Major League Players Baseball puts you in the dugout as a manager of your favorite baseball team! The game is intended to be played by two players, each managing one team, but it can also be played by one player managing both teams. With the draft disk, you can set up your own league and organize teams, with players of your own choice.

The game simulates much of the complex decision making that goes on in a real baseball game. Before the game starts, you choose which teams you want to manage, and then your starting line-ups. Once the game begins, the defensive manager has several strategic options of his own. Bringing in relievers, pinch hitting, intentional walks, hitting and running are just a few of the strategic decisions to be made. Sometimes you will even have to make quick base running and throwing decisions, just like in the real game.

- SYSTEM REQUIREMENTS

To play APBA Major League Players Baseball you must have an Apple //c or //e with 128K RAM and an 80-column card, two 5 1/4 floppy disk drives, and a monitor.

- QUICK START (for complete game set-up, check next section)

Starting from the Rules and Data Screen, follow the instructions below and you will soon be playing APBA Major League Players Baseball.

The program will prompt you when you need to change disks. If at any point you make an inputting error, you can often back out of it by pressing the [ESC] key.

1. Press [RETURN]. The Team Selection Screen will appear.
2. Press [SHIFT] and [1] simultaneously. Wait for the division champions team name to appear under HOME.
3. Press [B].
4. Press [SHIFT] [2] simultaneously. Wait for the other division champion's team to appear under VISITING.
5. Insert Side B of the Data Diskette in drive 2. Press [RETURN] to continue. The visiting team roster will appear.
6. Press [L].
7. Press [1]. The visiting team's starting line-up will appear.
8. Press [RETURN]. The home team roster will appear.
9. Press [L].
10. Press [1]. The home team's starting line-up will appear.

11. Insert the Play By Play diskette in drive 2. Press [RETURN] to continue. The Game Screen will appear. (Press [ESC] if you wish to shorten the National Anthem)

12. Press [P].

13. Press [RETURN]. You're playing this year's league championship!

Use the 'Quick Reference Card' for a summary of your managerial options.

Important Notes: [CONTROL] [X] will end the game at any time and start over.

- RULE, TEAM AND LINE-UP SELECTION

Once BASEBALL is loaded, you can start playing with just a few keystrokes.

[Rules and Data Screen]

Using [SHIFT] [1], choose to play with a designated hitter (DH) or without a designated hitter. Your choice is highlighted. The DH option has been implemented according to the Official Baseball Rules. If you choose to play with a DH, certain managerial moves may nullify your right to use a DH (for example-announcing a defensive player at the DH spot in the batting order after the game has begun). If you attempt to make such a move, a warning will appear on your screen.

Using [SHIFT] [2], choose the length of time available for dynamic decisions - Professional (10 seconds), Semi-pro (15 seconds), or Amateur (20 seconds). Your choice is highlighted.

Using [SHIFT] [3], choose to play with or without sound. Your choice is highlighted.

Using [SHIFT] [4], choose the speed at which you wish the outcomes to show Regular for dramatic play, Quick for "no pause" play.

Using [SHIFT] [5], determine which Data Disk you have inserted.

After using the shift keys to specify the rules, insert side A of the Data Diskette, press [RETURN], and the Team Selection Screen will appear.

[Team Selection Screen]

Teams are arranged by organization, league, and division. The game comes with 676 players organized by the leagues and cities in which they play. You can play these teams immediately. To select a team, follow these steps.

1. Choose the organization you wish to play with by pressing [1] through [6]. (Before drafting your own teams, you will have only one choice: PROFESSIONAL BASEBALL.) Your choice will be highlighted.

2. Select a division using [A] through [L]. (Before drafting your own teams, your choices are [A], [B], [G], and [H].) Your choice will be highlighted. The teams in this division will appear under TEAMS with their won/lost records.

3. Select a team to play with using the up/down arrow keys. Your choice will be highlighted.

4. Indicate whether this team is the home or visiting team. Press [SHIFT] [1] to choose the home team and [SHIFT] [2] to choose the visiting team.

5. Repeat these steps to choose a second team.

6. When you have chosen two teams, press [RETURN]. Insert side B of the Data Diskette and press [RETURN] to continue. The Line-up Screen for the visiting team will appear.

Important Notes: You may change your mind about which teams to play for as long as you remain on the Team Selection Screen. Simply follow steps 1-4 above. Your new selection will replace the team you had previously selected.

To play teams from different years or Data Diskettes against each other, load the first team following the procedure above, then switch Data Diskettes, press [SHIFT] [5], and load the second team.

You may play any team from any organization against any other team. You may even play a team against itself.

[The Line-up Screen]

The name and year of the team is in the upper right hand corner. The line-up will be displayed in the upper left of the screen. The roster for the team appears in the lower half of the screen.

On the roster, non-pitchers start at letter A and proceed down; pitchers start at letter Z and proceed up. Non-pitchers are displayed with last name, primary position (Pos), fielding rating at that position (D), the side they bat from (B), and running speed (Sp).

Pitchers are displayed with last name, the arm they throw with (T), pitching grade (always as a starter, if they started during the actual season) (Gr), and control letters (Ctrl). Grades of relievers are marked with an asterisk.

See THE PLAYER SCREEN for a further explanation of player performance ratings.

[Announcing a Line-up]

You may either use a pre-stored line-up or announce players individually.

[Announcing a Prestored Line-up]

Space has been provided for five prestored line-ups in the upper righthand corner of the screen. A frequently used line-up for each team is provided as choice 1. After you have saved your own line-ups they will also appear on the list. To load a prestored line-up:

1. Press [L].
2. Select a number from [1] through [5].

Loading a line-up erases all previously announced players.

The names of the players on the starting line-up are displayed, followed by their defensive position and fielding ratings. Totals are given for team and infield fielding ratings.

If a designated hitter (DH) was stored in the line-up and you are not now playing with the DH, the DH will be dropped from the line-up and the pitcher, if there was one, will appear batting ninth. If a DH does not appear in the prestored line-up and you have chosen to play with one, the pitcher, if there was one, will be moved out of the batting order automatically, and you will need to select a DH.

[Announcing Individual Players]

To help make line-up decisions, you can display the complete player statistics.

1. Press [D].
2. Press either [A]...[Z] or the batting number [1]...[9] of the player to be studied.

The Player Screen will appear. For a complete description of the player ratings, see THE PLAYER SCREEN section.

[Adding a Player to the Line-up]

After selecting a player to announce, follow the steps below to add him to the line-up:

1. Press [A] to start an announcement.
2. Press [A]...[Z] to select the player.
3. Press [1]...[9] (or [P] if you elected to use designated hitters) to select his place in the batting order.
4. Press [1]...[9] (or [D] if you elected to use designated hitters) to select his defensive position.
5. The selected player and his ratings will appear in the line-up and his name will be highlighted in the roster.
6. Repeat this process until you have a valid defensive line-up.

[Correcting a Line-up]

Check the line-up to make sure it is the one you want. If the line-up is incorrect, press [R] for Remove followed by [1]...[9] or [P] to remove the incorrect player. Announce the correct player in the vacant position.

BASEBALL will tell you if your line-up is invalid. Examples of invalid line-ups: you have entered two players at the same position; you are missing a player; you have an ejected or injured player in the line-up; you have not designated a defensive position for a pinch hitter, a pinch runner, or his replacement. If your line-up is invalid, make the correction as described above.

After you have corrected an invalid line-up, if there is still a player marked with an asterisk, you must [M] Move that player to his proper defensive position to finish validating the line-up, even if it appears that he's already there. You may also use the [M] Move command to change the defensive position of a player without changing his line-up position.

Before finalizing your line-up, you may make as many changes as you want.

[Saving a Line-up]

1. Press [S].
2. Press [1]..[5] to choose the line-up number. If a lineup already exists at that position, the new line-up will replace the old line-up.
3. Enter a name for the line-up.
4. Press [RETURN].

This line-up will be saved to the data diskette. You will be able to load this line-up with the [L] Load command in the future.

Important note: [ESC] lets you back out of any incomplete command.

[Completing the Line-ups]

Announce a line-up for each team. When you press [RETURN] after announcing the second line-up, you are prompted to insert the Play By Play diskette. Insert this disk, press [RETURN], and the Game Screen will appear.

- PLAYING THE GAME

[The Game Screen]

The top part of the Game Screen displays the two line-ups, the line score with run, hit, and error totals, the inning, count, and number of outs, and a description of each play as it occurs. The current batter is highlighted and after the first inning the lead-off batter is marked with an asterisk.

To the left of the "INN," on the same line, is a space reserved for up to two scorer messages. The messages and their meanings are:

E1...E9 - Error on the defensive player indicated
 WP - Wild pitch
 PB - Passed ball
 SAC - Sacrifice bunt or fly
 FC - Fielder's choice

On some complex plays, further scoring messages appear in the description of the play.

The lower part of the Game Screen displays the diamond, the defensive alignment, the current batter (on the appropriate side of the plate), and base runners with their running speed. You will also see the base running results of each play, partial game statistics for the current pitcher (innings pitched, hits, earned runs, walks (BB), strike-outs), partial game statistics for the current batter (at bats, runs, hits, RBI), the pitch, bat, and time-out indicators, and selected managerial calls when in effect (IN, STRETCH, HOLD, HIT & RUN).

Important note: A HOME RUN graphic will flash repeatedly on the scoreboard after a home run is hit. You can stop the flashing by pressing any key.

Below or next to each defensive player's name are one or more ratings:

For all defensive players:

The first number is the fielding rating for that player at that position.

For the pitcher:

The arm he throws with (R-right, L-left) and his current pitching grade.

For the catcher:

His throwing arm rating for steal attempts.

For outfielders:

Their arm ratings.

For offensive players you will find:

For the batter:

His batting type and platoon factor.

For base runners:

Their base speed ratings.

See THE PLAYER SCREEN for complete explanations of player performance ratings.

[Managerial Decisions]

APBA Baseball can be a game of managerial coaching decisions. Choosing the team and the line-up are only the first of these decisions. As you play the game, the following options are available to you:

<Options for the defensive manager> <Team in field>

Before [P] Pitch:

[H] Hold -

With a runner at first base, holding him on slows the runner somewhat for stealing and base advancement and provides the chance for him to get picked off. Of course, with the first baseman nearer the bag, it is easier to hit through the right side. Holding on is automatically in effect if there is a runner on first and no one on second, unless the defensive manager turns it off by pressing [H]. Press [H] again to reinstate HOLD.

[I] In -

With a runner at third base, press [I] draws the infield in and increases the chance of the play being made at home on a ground ball. If you play IN, though, more ground balls will get through the infield for hits. IN must be called before each pitch to remain in effect.

[S] Stretch -

With a runner at third base, pressing [S] causes the pitcher to pitch from the stretch rather than from a full wind up. In all base situations except men on first and third, pitching from the stretch will prevent the runner on third from stealing home, but the pitcher will be a little but less effective against the batter. With runners on first and third, the pitcher must pitch from the STRETCH.

[1]...[9] -

Either manager can display the statistics for a defensive player by pressing the number of his defensive position: [1] pitcher, [2] catcher, [3] first baseman, [4] second baseman, [5] third baseman [6] shortstop, [7] left fielder, [8] center fielder, [9] right fielder. See THE PLAYER SCREEN for a description of player statistics.

[B] Batter -

Either manager can display complete statistics for the batter by pressing [B].

[SHIFT] [1]...[SHIFT] [3] -

Either manager can display complete statistics for a base runner. Press [SHIFT] [1] for the runner on first base, [SHIFT] [2] for the runner on second base, and [SHIFT] [3] for the runner on third base.

[CONTROL] [D] -

Allow defensive substitution. See DEFENSIVE SUBSTITUTIONS MOVES, and RELIEF PITCHING.

[CONTROL] [R] -

Either manager can call up an instant replay by pressing

[CONTROL] [R] -

If the play went more than size lines, press [CONTROL] [R] again to continue the play.

[CONTROL] [Q] -

Toggles the Quick Play option. Quick Play speeds up the presentation of outcomes, but it does not affect the time allowed for dynamic decisions.

[W] Walk -
Press [W] to intentionally walk the batter.

[P] Pitch -
Press [P] to pitch the ball.

After [P] Pitch:
No defensive commands are allowed after the pitch.

<Options for the offensive manager>
<Team at bat>

Before [P] Pitch:

[1]...[9] -
Display defensive player's statistics by positions (see defensive options).

[B] Batter -
Display batter's statistics (see defensive options).

[SHIFT] [1]...[SHIFT] [3] -
Display base runner's statistics (see defensive options).

[CONTROL] [O] -
Allows an offensive substitution, ie., inserting the pinch hitter or pinch runner. See PINCH HITTING AND PINCH RUNNING.

[CONTROL] [R] -
Instant replay (see defensive options).

[CONTROL] [Q] -
Toggles the Quick Play option (see defensive options).

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After [P] Pitch:

[RETURN] -
(sets the play in motion) Hit away.

[R] Run (HIT & RUN) -
(sets the play in motion) With a runner on first and no one on second, you may start the runner moving with the pitch by pressing [R]. Hitting and running will increase the probability of taking an extra base on a hit and will lower the chance of a double play, but calling for a HIT & RUN will result in a steal attempt if the batter takes the pitch or fails to make contact. Hitting & running takes some power away from the batter but increases the number of hits through the infield (mostly singles) as a defensive player moves to cover second. The chance of success for a HIT & RUN depends in part on the HIT & RUN ability of the batter and his strike-out frequency.

[B] Bunt -
(sets the play in motion) With one or more runners on base, press [B] to call for a sacrifice bunt. Bunting ability is mostly a question of bat control. Players who do not strike out a lot will be better bunters. Drawing the infield in does NOT affect the chance of a successful sacrifice because the effects of surprise and defensive positioning have been built into the outcomes.

With a runner on third, runners on second and third, or the bases loaded, a bunt is assumed to be a squeeze play (the runner on third will be heading home with the pitch). With runners on first and third the offensive manager will almost always be given the option to hold the runner at third or to squeeze.

Important note: Plays which only change the count on the batter, like foul balls, do remove the bunt and Hit & Run calls. After each play, you must make these calls again if you still want them to be in effect.

[S] Steal -
(sets the play in motion) With one or more runners on base, press [S] to call for a steal. With more than one base runner, you will be asked which base(s) you wish to steal. Exception: if you're stealing home with runners on second and third, or the bases loaded, the trailing runners will advance automatically.

A number of factors affect the chance of a successful steal. They're (in order of importance): the runners Steal Success Number; the runner's Steal Allowance rating, which reflects the frequency of his real life steal attempts (A-high to G-low, Rare, Never); the catcher's throwing arm; the pitcher's move to first; the base situation; and occasionally, the side from which the batter is batting.

Special situation: with runners at first and third, if the offensive manager calls for a double steal, the defensive manager must decide whether to make a throw. If he does not throw, the runner on first will steal second unmolested and the runner on third will hold. If he does throw, the catcher's throw will always go to second, and the defensive manager will be given the opportunity to cut the throw to home (the steal of home is a delayed steal). If the throw is not cut off, that is, if a play is made at second, and the runner is tagged out for out number three, the runner on third will score ahead of the out about half of the time.

[T] Time -
Press [T] to step out of the box (call time). Calling time nullifies the pitch. Only the manager whose team is at bat may call time. After time

is called, either manager may make new managerial decisions. Play proceeds as if the pitch were never made; however, if the defensive manager has already called for HOLD, STRETCH, or IN, those calls will remain in effect.

Important notes: Hitting & running and bunting often create a count against the batter (more strikes than balls). A count against the batter increases the chance of a batter striking out.

Occasionally a sign - an offensive managerial call - will be missed by the batter or base runner. Play will proceed as if the sign had not been given.

[Dynamic Decisions: Base Advancement, Throwing, and Fielding]

Dynamic decisions are managerial calls which must be made during the play. The program allows a limited time to make the decisions. You determine the time limit in advance from the RULES AND DATA SCREEN.

Each dynamic decision demands a response. Press the number of the choice of your decision. If you do not respond (make a decision) in the time allotted, a decision will be made for you. This automatic decision is the default and generally is the "conservative" decision. Sometimes the default is the obvious decision; for instance, the default response to "MAKE THROW?" on a steal attempt is always "yes."

Important note: For dynamic decisions, the response marked with an asterisk (*) is the default. If you do nothing, the default response will guide what happens next.

Dynamic decisions for the offensive manager are base advancement decisions for example "TRY FOR THIRD?" and "TRY FOR SECOND ON THE THROW?" When the offensive manager is asked to make advancement decisions, the defensive manager has to make throwing decisions in response.

Occasionally the defensive manager will be asked to make fielding choices as well, for example: "GO FOR DOUBLE PLAY OR OUT AT HOME?" These fielding decisions will not require a response from the offensive manager.

You will need some information to help you decide when to advance base or when to try to throw out a base runner. This information is provided in four ways:

- 1) The description of the play gives you verbal clue about your chance of advancing successfully. These descriptions include such information as how far the ball was hit, where and how it was fielded, and the position of the runner.
- 2) The arm and fielding ratings of the defensive players are displayed by their names - the outfielder handling the ball is marked with a flag sign.
- 3) The speed ratings of base runners are displayed next to their names.
- 4) The number of outs is displayed on the scoreboard - with two outs the runners with be moving on contact.

[Cutting Off Throws]

When a manager chooses to advance an extra base on the outfielder's throw, the defensive manager usually will be given an opportunity to cut off the throw (to make the play on a trailing runner). Any runner headed for home when the ball is cut off will score, and his run will count even if the third out is subsequently made on the play.

The chances of putting out a trailing runner depend largely on the speed

of that runner and the chance of advancement of the runner on whom the play was originally being made. The closer the play on the original runner, the greater the chance of the trailing runner has of advancing if a play is subsequently made on him. Exception: if the chance of the original runner advancing successfully is an almost sure thing, then the chance of the trailing runner advancing even with the cutoff is also good. In this case it is usually better not to make a play for the lead runner.

There is no cutoff option when the runner is attempting to advance on the hit rather than the throw.

[Pinch Hitting and Pinch Running]

At any time in the game the offensive manager may choose a pinch hitter or pinch runner. To do this press [CONTROL] [O] (if the ball has been pitched, call [T] Time first). The Pinch Hitter/Runner Screen will appear. It contains the same information as the Line-up Screen.

To make a substitution, press [A], select the letter of the player entering the game, then select the [B] Batter or [1]...[3] base runner to be replaced. Players NOT available for pinching are highlighted (players playing the game) or marked OUT, EJECTED, or INJURED.

Important note: The only offensive [M] Move permitted during the game allows the pitcher to pinch-hit or pinch-run for the designated hitter. This [M] Move will invalidate the DH for the remainder of the game.

Important notes after play begins: Once a player is announced, he is in the game! Once a player is replaced, he is out of the game!

[Defensive Substitutions, Moves, and Relief Pitching]

At any time in the game before the ball has been pitched, the defensive manager may make a defensive substitution, move defensive players, or bring in a relief pitcher. Press [CONTROL] [D]. The Substitution Screen will appear. It contains the same information as the Line-up Screen.

To make a substitution: press [A]. Select the letter of the player entering the game, position in the batting order, and defensive position. Again, players NOT available for substitution are highlighted or marked OUT, EJECTED or INJURED. Remember: the Official Baseball Rules specify that once a player is announced he is in the game.

To move a player to a new defensive position: press [M]. Select the batting position of the player to be moved. Then select the new defensive position of the player. [M] Move is useful when you have used a pinch hitter or pinch runner and you wish to announce his defensive position. You can also use it to switch players in the field, for instance, to move a better "arm" to right field from left field.

To bring in a relief pitcher simply make a substitution in the appropriate spot in the batting order. Press [A]. Then select the letter of the pitcher entering the game, position in the batting order, and defensive position (pitcher).

Any player may be used as a relief or starting pitcher (if your own league rules permit it), but his grade, control, and endurance factors will be adjusted according to his probable skills. Remember: the Official Baseball Rules require a relief pitcher to face at least one batter or to pitch until the side is retired.

For all defensive substitutions, [ESC] will back you out of an incomplete announcement or move.

Important notes: Once the game begins, a player cannot be moved from one position in the batting order to another. If you wish to change the batting order before the game begins, a player can be removed and

reannounced at a different spot in the order.

If a player is INJURED or EJECTED, the manager will be required to replace him only when it becomes necessary, (that is, when he must bat, run the bases, or take a defensive position). If there is not a player eligible to play at that time, the understaffed team forfeits the game.

To help make pinch running, pinch hitting and other substitution decisions, you can examine the complete player statistics by using [D] Display and [A]...[Z] or batting order number [1]...[9] of the player to be studied. When you choose a player in this manner, the Player Screen will appear.

[The Player Screen]

The player's name is in the upper left-hand corner.

<Defensive ratings and statistics>

Throws -
The arm with which the player throws (Right/Left).

Arm -
Rating of arm strength and accuracy: range 20 to 40 (higher is better). The arm rating of an outfielder is an important consideration for making base advancement and throwing decisions. The arm rating of an infielder who relays the ball also affects the outcome of the play.

Positions -
A list of positions for which a player is rated defensively. If a player is rated at a position, then he appeared at that position in the season represented. His primary position is marked with an asterisk.

Rating -
The defensive fielding rating. The following are ranges for fielding ratings by position (higher is better):

pitcher	1 to 2	third baseman	3 to 6
catcher	5 to 9	shortstop	6 to 10
first baseman	2 to 5	outfielder	1 to 3
second baseman	5 to 9		

The total of defensive ratings for the infield (six players) is the Infield Rating. The total for the entire team (nine players) is the Team Rating. Although the individual fielding ratings are the most important factor in determining how well your team plays, the outcome of plays in which the ball is handled by several players is sometimes determined by the Infield and Team Ratings. Again, higher is better.

Important note: If you play a player at a position for which he is not rated, he will be given the lowest rating for that position. Exception: good-fielding shortstops and second baseman may be rated slightly better than "lowest" at other infield positions.

Any player may play at any position, but for realistic outcomes, players should not be used at unlisted positions unless injuries or ejections require it.

Injury -
Determines the seriousness of the injury should a player be injured (higher tend to be a more serious injury): range 0 to 4.

Throw -
A rating of the strength and accuracy of a catcher's throwing arm on steal attempts: range th-4 to th+6 (higher is better). Non-catchers who are playing catcher are always rated th-4.

PB -

Passed ball rating: range 0 to 3 (lower is better). This rating affects the frequency of passed balls. Non-catchers who are playing catcher are always rated 3.

Season and Game Statistics -
Fielding percentages (PCT), defensive games played defensive games played (G), put-outs (PO), assists (A), and errors (E).

Season statistics are the officially published statistics for that season. Game statistics are updated after every play and are reset at the beginning of each game. Game statistics can be printed out at the end of the game by pressing [CONTROL] [P] (see END-OF-GAME OPTIONS). Game statistics can also be printed out at any time during the game, again by pressing [CONTROL] [P].

<Offensive ratings and statistics>

Bats -
The side the player bats from: Right/Left/Both (R/L/B). A switch hitter (Both) is assumed to bat from the side opposite the throwing arm of the pitcher.

Type -
The type of hitter: straightaway (SA), pulls to left field (PL), pulls to right field (PR), switch hitters who pull to both fields (PB). Type affects where and how hard the ball is hit. Only extreme pull hitters are given a PL, PR, or PB.

Platoon -
A rating determining how much a batter gives up to a pitcher who is throwing from the same side as he is batting: range 0 to 5 (lower is better). Example: if a right-handed pitcher with grade 15 is facing a right-handed batter with platoon 5, the pitcher will perform as if he were a grade 20 pitcher.

Speed -
Running speed: range 1 to 20 (higher is faster). Slow = 1 to 6, Average = 7 to 14, Fast = 15 to 20. Speed is an important consideration in making base advancement in many situations where no decision must be made.

Steal Allowance -
Rates the frequency of steal attempts: range A to G, Rare, and Never ("A" rated players steal most frequently). The middle and lower ratings can substantially reduce the chance of a successful steal, except when the stealing runner on first is not being held on.

Steal Success -
Rates the success of steal attempts: range 0 to 36 (higher is better - 36 means he was successful on every attempt). This is the primary rating used to determine steal attempt outcomes.

Hit & Run Ability -
Rates the hitting-for-average ability of a player (how much his batting average will increase) when the HIT & RUN is called: range 0 to 5 (higher is better). General hit & run ability takes into consideration the batter's tendency to strike out. When the batter does miss the ball, a HIT & RUN becomes a steal attempt.

Season and Game Statistics -
batting average (AVG), slugging average (SLG), on-base-percentage (OBP), games played (G), at bats (AB), runs (R), hits (H), total bases (TB), doubles (2B), triples (3B), home runs (HR), runs-batted-in (RBI), sacrifice hits or bunts (SH), hit-by-pitch (HP), total walks (TBB), strike outs (SO), stolen bases (SB), caught stealing (CS)

<Special ratings for pitchers>

Throws -
Pitching arm (Right/Left). A pitcher will perform better than his base grade against a batter hitting from the same side as he throws if the batter has a platoon rating greater than 0. See platoon example.

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Grade -
The basic rating of pitching skill: range 1 to 30 (higher is better).
Poor = 1 to 5, average = 6 to 10, good = 11 to 15, very good = 16 to 20,
super star = 21 to 25, immortal = 26 to 30.

A pitcher may be rated as a starter, a reliever (marked with an asterisk), or both. If a pitcher started any game during the regular season, he is rated as a starter. Some pitchers grades as starters on the Line-up Screen also have a seperate grade for relieving. In this case, both ratings are displayed on his Player Screen. You can check a pitcher's official statistics for games appeared in (G) and games started (GS) to see if he pitched primarily as a starter or as a reliever during the actual season.

The grade can change during the game in several ways. If a poor pitcher goes 5 consecutive innings without allowing an earned run, his grade will advance by 5 each inning thereafter, up to a grade of 20, or until he gives up an earned run. An average pitcher will advance after 6 consecutive innings, a good pitcher after 7, and a very good pitcher after 8. Any pitcher's grade will go down 5 after allowing 5 earned runs in 3 consecutive innings. These changes will be displayed on the Game Screen under the pitcher's name.

Some grade changes are not displayed on the screen. Batter-to-batter changes caused by the platoon rating of the batter are not displayed. Relief pitchers are more effective against the first batter they face if they enter the game during an inning (not at the beginning of an inning). This increased grade of 5 is not displayed. Any effects of durability (see below) are not displayed.

Control -
Rates pitching control and strike-out ability: possible ratings are W, XY, X, Y, and Z.

W = wild (walks)
XY = super star strike-out ratio (strike-outs/innings pitched)
X = excellent strike-out ratio
Y = good strike-out ratio (X any Y both increase strike-outs)
Z = good walk ratio (decreases the number of walks, especialy with men on base)

Move -
Rates the move to first: range 0 to 3 (higher is better). A pitcher's move affects steal attempts and base advancement of a runner on first if he's being held on. The better the move, the less chance of successful advancement.

Durability -
Rates how long a pitcher can be expected to go while retaining his initial effectiveness:range for starters 0 to 4, range for relievers 1 to 3 (lower is better).

You will have to learn to sense when your pitcher really loses it. A "4" rated starter generally can be expected to tire beginning in the seventh inning, a "1" rated starter in the ninth, and a "1" rated reliever in his fourth inning of work.

HB -
Rates the frequency of hit-batsmen: 0 or no rating (0 is better). A "0" rating reduces the number of batters hit by the pitch.

BK -
Rates the frequency of balks: 0 or no rating (0 is better). A "0" rating

reduces the number of balks.

WP -
Rates the frequency of wild pitches: range 0 to 3 (lower is better). A lower rating reduces the number of wild pitches.

HR -
Rates the tendency to prevent or give up home runs: possible ratings are G, H, L, M, or no rating. If a pitcher has a rating of G or H (H is better), he will allow fewer home runs. If a pitcher has a rating of L or M (M is worse), he will give up more home runs.

Season and Game Statistics for pitchers -
wins (W), losses (L), saves (S),
winning percentage (PCT), earned run average (for the season only) (ERA),
games appeared in (G), games started (GS), innings pitched (IP), hits (H),
runs (R), earned runs (ER), home runs (HR), total walks (TBB), hit-batsmen
(HB), strike-outs (SO), wild pitches (WP), balks (BK).

- END OF GAME OPTIONS

A game can end in several ways: one team can win after the regular nine innings or in extra innings, the game can be rained out, one team can forfeit the game by not being able to field nine eligible players, or the managers may choose to "call" the game using [CONTROL] [X].

When the game ends, you will be given these options:

[U] Update win-loss records -
Update will determine the winning team, if there is one, and if the teams come from the same data diskette and the same organization, it will add one to the Wins column for the winner and one to the Losses column for the losing team. It will also recalculate the games behind (GB) for all teams in the division. These updates are displayed on the Team Selection Screen. Update cannot be used for PROFESSIONAL BASEBALL.

Important note: Only an official game has a winner or loser. For the updating option, an official game is one that has gone 4 1/2 innings if the home team is ahead, or 5 innings if the home team is behind, whether the game was ended by rain or by [CONTROL] [X]. A game that ends in a tie is not considered an official game for the purposes of this program. A forfeited game is an official game. (A game is forfeited when one team is unable to field a complete line-up). Only official games can be used to update records.

Updating and printing can be done in either order. The other options below - [S] and [R] - destroy the game statistics and eliminate the possibility of updating the win-loss records automatically with the current game results (but see [C] Correct).

[S] Same Teams in Same Park -
Allows you to play another game with the same teams in the same ball park. If you want a different home team or if you want to select new rules, you must use the [R] Restart option below. [S] Same Teams asks you new for a new line-up for each team.

[R] Restart -
Takes you back to the Rules and Data Screen, from which you will be able to change the rules, speed of dynamic decisions, sound, and the teams being played.

Important note: To review the game performance of a player screen at the end of a game, press [CONTROL] [O] or [CONTROL] [D], then [D] Display, followed by the appropriate player identification ([A]...[Z] or [1]...[9]). This must be done before choosing [S] Same Teams or [R] Restart, otherwise the game statistics will have been erased.

- INTRODUCTION TO DRAFTING

DRAFT will make you Commissioner, owner, general manager, and manager at the same time. You can set up your own baseball organization with leagues and divisions. Draft your own teams. Establish a farm system. When you have set up a league, be sure to send in your customer registration card to receive news of program updates and enhancements.

[How to Load Draft]

1. Put the Draft Diskette in drive 1 and side A of the Data Diskette in drive 2.

2. Turn on the computer, or, if it's on, simultaneously press [CONTROL] [Open Apple] [RESET].

The Copyright Screen will appear, followed by the Create/Modify Organizations Screen.

- CREATING A NEW ORGANIZATION

For each organization you wish to create, decide how many leagues you want (up to 2), how many divisions (up to 4 in each league, up to 6 total), and how many teams in each division (up to 14 in each division; up to 30 in each organization; up to 100 teams in all including PROFESSIONAL BASEBALL).

Below are three examples of baseball organizations that could be created:

[Example 1]

Organization Name: Home Baseball
League name(s): Lyme League
Division(s): Pro Farm
Team name(s): BUDAPEST Bombers BUDAPEST Farm
HONG KONG Kongers HONG KONG Farm
WOONSOCKET Rockets WOONSOCKET Farm

[Example 2]

Organization Name: Sunbelt League
League name(s): ---
Division(s): ---
Team name(s): TAMPA Z's
PRESCOTT Powers

[Example 3]

Organization Name:	Office Baseball
League name(s):	League 1 League 2
Division(s):	Div 1 Div 2 Div 1 Div 2
Team name(s):	BALT CAL CHI ATL BOS CHI MONT CIN CLE KC NY HOU DET MIN PHI LA MIL OAK PIT SD NY SEA STL SF TOR TEX

Notice that the organization title, Office Baseball, has the same structure used for major league baseball. Some people may want to replay the actual season represented by the Data Diskette. The Office Baseball organization will allow you to do this and keep team records and make roster changes as they actually occurred during the season represented by the Data Diskette. The rosters of the organization PROFESSIONAL BASEBALL cannot be modified, and neither can its win-loss records, but its rosters can be copied.

[Setting up the Organization, Leagues and Divisions]

Decide how best to structure your new organization (see examples above), and follow the steps listed below.

Important note: In draft, pressing [RETURN] will advance you to the next screen. Pressing [ESC] will bring you back to the previous screen.

<Create the Organization>

1. Press the number [2]..[6] under which you wish to store the name of your organization.

2. Type the name as you want it to appear on the organization list. You are allowed up to 25 characters. If you are planning to have only one league in your new organization, you may wish to name the organization using the league name - see example 2 above.

3. Press [RETURN]. A highlighted pointer will appear where the league names will be entered.

<Create the First League>

4. Type the name of the first league (20 characters maximum).

Skip this step if you do not want any leagues - for instance, if you have given the league name to the organization. If you do not give a name to the first league, you will not be able to create a second league for this organization.

5. Press [RETURN]. A highlighted pointer will appear under the league name.

<Create the Divisions in the First League>

6. Type the name of the first division in the league. Up to 20 characters are allowed. Skip this step if you do not want any divisions in this league.

7. Press [RETURN].

8. Repeat steps 6 and 7 for additional divisions. Enter up to four divisions if you are planning to have one or two league, up to six if you have no leagues.

Hint: you may wish to establish a farm system as a division. Each FARM division would have the same number of teams as each PRO division (see example 1 above).

<Complete the Organization>

9. Repeat steps 4 through 8 for the second league.

10. Check that the organizations, leagues, and divisions are as you want them. If you have any changes, use [R] Rename and [D] Drop to correct them.

You cannot [D] Drop a league or division. You can only [D] Drop an organization. If you [D] Drop the organization, you will lose all of its teams and rosters. You can [R] Rename an organization, league, or division.

11. When you have finished naming the organization, leagues, and divisions, press [RETURN] to continue. The Add/Select Teams Screen will appear.

[Adding Teams to the New Organization]

1. Using [SHIFT] [1], choose the league to which you wish to add a

team. Your choice is highlighted.

2. Using [SHIFT] [2], or the right/left arrow keys, choose the division to which you wish to add a team. Your choice is highlighted.

3. Press [A] Add team.

4. Type the team name (up to 15 characters).

5. Press [RETURN]. The arrow cursor will remain on the same line.

6. Type the team nickname (up to 9 characters). This name will be used on the line score on the Game Screen.

7. Press [RETURN].

8. Repeat steps 3 through 7 for the remaining teams in the division.

9. Repeat steps 2 through 8 for each division in the league.

10. Repeat all of the above for each league in the organization.

When all of the teams for all divisions have been named, you are ready to add players to your teams.

[Adding Players]

You may add players by either exporting an entire roster from an existing team and importing the roster to a new team, or by drafting individual players.

[Exporting and Importing]

To copy an entire roster from one team to another, use the [E] Export and [I] Import commands. [E] Export will copy the roster of a team into memory. [I] Import copies that roster under a new team name and writes it to disk.

This process is useful for setting up your own league in which you can modify to reflect roster changes made during the actual season. Try copying one of the teams in PROFESSIONAL BASEBALL to a new team with no current players.

To [E] export the team roster:

1. From the Create/Modify Organizations Screen, press [1] to highlight PROFESSIONAL BASEBALL (or another organization that contains the roster you want to copy).

2. Press [RETURN] to proceed to the Add/Select Teams Screen.

3. Choose the league and division of the team you wish to copy using [SHIFT] [1] and [SHIFT] [2].

4. Highlight the team using the up/down arrow keys.

5. Press [E] Export to load the team into memory.

6. Press [ESC] to return to the Create/Modify Organizations Screen.

Important note: You may [E] Export from any organization, not just from PROFESSIONAL BASEBALL.

To [I] import the team roster:

1. Select or create the organization which will contain the copied team. The organization will be highlighted.

2. Press [RETURN] to advance to the Add/Select Teams Screen.
3. Choose the appropriate league and division using the [SHIFT] [1] and [SHIFT] [2] keys.
4. Add or select the team to contain the roster you are copying. The team will be highlighted.
5. Press [I] Import to write the entire exported roster onto a disk. Importing will erase any players previously drafted for the team highlighted.
6. Press [Y] to confirm import.

Important notes: You may not [I] Import to PROFESSIONAL BASEBALL. A roster may NOT be copied from one data diskette to another.

- DRAFTING A TEAM

To add individual players to a team roster, proceed to the Add/Select Teams Screen.

1. Press [SHIFT] [1] to select a league.
2. Press [SHIFT] [2] to select a division.
3. Press the up/down arrow keys to select a team.
4. Press [RETURN]. The Draft Screen will appear.

[The Draft Screen]

The upper left corner shows the name of the team being drafted. The upper right corner shows the number of major league baseball players available for the draft and the year (season) of the Data Diskette.

The top part of the Draft Screen displays nine names of major league baseball players. For a non-pitcher, the name is followed by primary position (Pos), defensive rating at that position (D), batting side (B), and speed (Sp). For a pitcher, the name is followed by position (Pos), throwing arm (T), pitching grade (GR), and control ratings (Ctrl).

The nine names that first come up on the screen are the first nine names in an alphabetical listing of all the players. You can move through the player list in several ways:

Up and down arrow keys will scroll the list of names.

[F] First will take you home to the top of the list.

[L] Last will take you to the end of the list.

[S] Search will take you directly to a part of the list you specify - press [S], then type the first three letters of the player's name, and press [RETURN].

[U] Update will save your roster.

The lower part of the screen displays the current team roster. Twenty-six (26) spaces are provided to allow an empty space between the pitchers and non-pitchers. If you choose to, you can draft up to 26 players.

=====
DOCUMENT apba.baseball14
=====

[Adding a Player to The Roster]

The roster that you create here will be displayed in the same order on the Line-up, Pinch Hitter/Runner, and Substitution Screens. Using one of the methods described above, find the player you wish to add to the team; that is, bring his name into view on the list (any position on the list will do).

If you know where on your roster you wish a player to appear, press [P] Put, press the number [1]...[9] of the player you wish to add, then press the letter [A]...[Z] of the position where you want him to appear on the roster. His name will be moved there. Be careful, since [P] Put will overwrite a player in the select position.

If you do not care about position on the roster, press [A] Add and the number [1]...[9] of the player you wish to add. His name will be added to the roster in the first available place from the top (non-pitcher) or from the bottom (pitcher).

Important notes: It is possible to add any player to any team that you have created even if he appears on other rosters in the same organization, same league, same division, or same team. (You can even draft a team composed entirely of your single favorite player.)

DRAFT only works with a single Data Diskette. You cannot draft players from different years onto the same team unless you are playing with an Old Timers Diskette.

At any time you may back up to the previous screen using [ESC]. If you [ESC], the results of any team creation or drafting will be saved.

[Releasing a Player]

You can drop a player from your roster by pressing [R] Release, then the roster letter of the player to be dropped.

Hint: after a game, an INJURED player can be dropped from his regular roster and added to his FARM team roster. His name will then not appear on the regular roster until you want him to rejoin the team.

[Trading Players]

Simple player trades can be accomplished by releasing players from their current teams and drafting them onto their new teams.

[Considering a Player for the Draft]

As you are adding players to a roster, you can get more information about any of the players listed on the screen by pressing [D] Display then the number [1]...[9] or roster letter [A]...[Z] of the player to study. Make the necessary disk changes and the Player Screen will appear (see THE PLAYER SCREEN).

[A Few Examples of Common League Rules]

Rules about drafting players, order of the draft, quality of the players drafted, replacing injured players, using farm clubs, using starters and relievers, using players out of position, and many other organizational aspects of the game are left to you and your fellow managers. APBA Major League Players Baseball is a basic management system that is flexible enough to accommodate many league rules and structures. It is recommended that rules be established before league play begins. Below are some examples of common rules.

A team has a 25-player roster.
 A team must have at least four starting pitchers.
 A starting pitcher may not start before his turn in the rotation.
 A starting pitcher may not relieve if there is a reliever available (unless he is also rated as a reliever).
 A reliever must rest every third (or fourth) game.
 INJURED players must sit out only one half of the specified injured time (used for leagues with shorter seasons).
 Players are separated into groups of comparable skill/value. Only a certain number of players can be drafted from each of the higher level of skill, providing for more realistic teams.

- MODIFYING AN ORGANIZATION

From the Create/Modify Organizations Screen, press [2]...[6] to choose the organization to be modified.

Your choices are now to:

[D] Drop the entire organization, including leagues, divisions, teams, roster, win-loss records, and standings (GB = games behind).

[R] Rename an element in the organization - either the [O] Organization,

[L] League, or [D] Division (use the backspace to edit the name in each case.)

[C] Clear the WIN-LOSS records for all teams in the organization.

To modify a team within the organization or to add a team, press [RETURN]. The Add/Select Teams Screen will appear.

To [A] Add a team, see ADDING TEAMS TO THE NEW ORGANIZATION.

To modify a team, press [SHIFT] [1] to select a league, press [SHIFT] [2] (or the right/left cursor keys) to select a division, and press the up/down arrow keys to select a team. You are now ready to modify the team highlighted.

Your choices are to:

[D] Drop the entire team, including roster, win-loss record, and standing.

[R] Rename the team, first the city name, then the nickname.

[C] Correct the W-L record, first WINS, then LOSSES.

To modify the team roster, select the team, press [RETURN], and add or release players as described above in DRAFTING A TEAM.

[End of Documentation]

=====

DOCUMENT aplwrks.util.2

=====

APPLEWORKS UTILITY TECH NOTE CECIL FRETWELL 6-MAY-87 PAGE 1

AN APPLEWORKS UTILITY

by

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6-May-87

TECHNICAL DISCUSSION

Several technical aspects can be learned by studying the logic of this program. Lines 240 to 300 install a special ampersand function which allows one to delete an array after it has been dimensioned and used to the extent of its useful life. As the discussion to follow will show, the entries in a subdirectory are collected in an appropriate array, sorted, and then displayed or printed. By deleting an array after it has been used, valuable variable storage and its associated strings are recovered. Also, using this technique allows one to redimension an array in a program. The power of this technique will become more evident as this discussion progresses.

The logic of the ampersand function is reasonably simple. In the listing given below, Lines 37 to 42 insure no syntax errors, verify the specified array exists, and sets up pointers to the array name. Lines 43 to 65 set up the process to remove the specified array from the array variable table. Once these are set up, the routine exits through the monitor routine MOVE at \$FE2C with the end result of having the array removed.

```

1 *****
2 * AMPERSAND FUNCTION TO DELETE AN *
3 * ARRAY VARIABLE. MODIFIED CODE *
4 * OBTAINED FROM CALL A.P.P.L.E. *
5 * ALL ABOUT APPLESOFT. *
6 * SYNTAX IS *
7 * & FRE XX$ *
8 *****
9
10 *****
11 * PREPARED USING MERLIN PRO *
12 *****
13
14 ORG $2F0
15
16 ALL = $3C ;BOTTOM OF MOVE POINTER
17 A2L = $3E ;TOP OF MOVE POINTER
18 A4L = $42 ;DESTINATION POINTER
19 STREND = $6D ;END OF VAR POINTER
20 LOWTR = $9B ;ARRAY ADDRESS POINTER
21 CHRGET = $B1 ;GET NEXT TOKEN
    
```

```

22 CHRGOT = $B7 ;GET CURRENT TOKEN
23 AMPERV = $3F5 ;AMPERSAND VECTOR
24 SYNERR = $DEC9 ;REPORT SYNTAX ERROR
25 GETARYPT = $F7D9 ;GET ARRAY POINTER
26 MOVE = $FE2C ;MOVE SUBROUTINE
27
02F0: A2 02 28 INIT LDX #2 ;SET UP '&' VECTOR
02F2: BD FD 02 29 :1 LDA AMPJ,X
02F5: 9D F5 03 30 STA AMPERV,X
02F8: CA 31 DEX
02F9: 10 F7 32 BPL :1
02FB: 18 33 CLC
02FC: 60 34 RTS
02FD: 4C 00 03 35 AMPJ JMP FUNCS ;'&' JMP INSTRUCTION
36
0300: 20 B7 00 37 FUNCS JSR CHRGOT ;GET CURRENT TOKEN
0303: C9 D6 38 CMP #$D6 ;FRE?
0305: F0 03 39 BEQ :1 ;IF YES, BRANCH
0307: 4C C9 DE 40 JMP SYNERR ;ELSE SYNTAX ERROR
030A: 20 B1 00 41 :1 JSR CHRGET ;GET NEXT TOKEN
030D: 20 D9 F7 42 JSR GETARYPT ;FIND THE ARRAY
0310: A0 02 43 LDY #2 ;SET UP BOTTOM OF MOVE,
0312: 18 44 CLC ;TOP OF MOVE, AND THE
0313: A5 9B 45 LDA LOWTR ;DEST ADDRESS FOR
0315: 85 42 46 STA A4L ;USE BY MONITOR MOVE
0317: 71 9B 47 ADC (LOWTR),Y ;ROUTINE
0319: 85 3C 48 STA A1L
031B: A5 9C 49 LDA LOWTR+1
031D: 85 43 50 STA A4L+1
031F: C8 51 INY
0320: 71 9B 52 ADC (LOWTR),Y
0322: 85 3D 53 STA A1L+1
0324: 38 54 SEC
0325: A5 6D 55 LDA STREND ;ALSO CORRECT THE END
0327: 85 3E 56 STA A2L ;OF VARIABLES POINTER
0329: 88 57 DEY
032A: F1 9B 58 SBC (LOWTR),Y
032C: 85 6D 59 STA STREND
032E: A5 6E 60 LDA STREND+1
0330: 85 3F 61 STA A2L+1
0332: C8 62 INY
0333: F1 9B 63 SBC (LOWTR),Y
0335: 85 6E 64 STA STREND+1
0337: A0 00 65 LDY #0
0339: 4C 2C FE 66 JMP MOVE ;GO MOVE AND RETURN

```

Lines 310 to 580 represent the code to provide the main menu control. Once a function is performed, control always returns to Line 360.

Lines 590 to 4120 provide the logic to display a catalog or print a catalog. Using a simple flag in PF\$, the same code can be used for both functions. The logic starts with the necessary code to prompt for a volume or subdirectory name and initialize the display or print process. This is performed in Lines 590 to 810.

The logic in Lines 840 and 850 causes the DIM statement in Line 860 to reserve exactly enough space for the entries in the first root directory or sub directory. Line 840 uses HIMEM to locate the 1K buffer established for the OPENed directory file. Based on technical knowledge of file handling techniques used by BASIC.SYSTEM, the logic of Line 850 then picks up the number of entries as stored in the first block describing the entire in the directory.

The actual display or print of the desired catalog starts in Line 820. Notice the OPEN with the TDIR parameter in Line 820. Under ProDOS, a directory file may be opened and read just like a sequential file. What is returned by each INPUT statement is the same as that displayed by a CATALOG command with things like file name, file type, etc. returned in a fixed format. With this in mind, Line 870 reads the volume or subdirectory name, ignores the following blank line, and the CATALOG header line.

Lines 880 to 940 input and collect each line in the CATALOG display. This logic uses the BLOCKS FREE... line as an end of file marker instead of using ONERR processing to trap a true end of file.

After a line for a file is read, the input is processed by the subroutine in Lines 1540 to 1780. This subroutine returns a string whose contents are as follows:

Position	Contents
-----	-----
1	File status. "*" = locked. " " = unlocked
2-16	File name
17-31	File type, e.g., SYSTEM PROGRAM
32-41	Modification date dd-mmm-yy
42-49	Right justified file length in terms of K
50-...	Left justified file length in terms of K

This string is then added to the array for the volume or subdirectory entries.

Lines 990 to 1100 sort the array in ascending order by file name and/or directory name. This code is a modification of the code presented by Garry G. Kiziak in "The Compact Sorter", NIBBLE Vol4/No. 1. It is a very fast sort routine worthy repeating here in its more general form.

```

10 Z = 1
20 Z = 3 * Z + 1 : IF Z < NUM THEN 20
30 Z = (Z - 1)/3 : IF Z < 1 THEN RETURN
40 FOR I = Z + L TO H : J = I - Z
50 K = J + Z : IF A = (MID$(NA$(J),M,N) >
MID$(NA$(K),M,N)) THEN TEMP$ = NA$(J) :
NA$(J) = NA$(K) : NA$(K) = TEMP$ :
J = J - Z : IF J >= L THEN 50
60 NEXT I : GOTO 30

```

In this subroutine,

NA\$ = the array to be sorted.
 L = the starting subscript for the sort.
 H = the ending subscript for the sort.
 M = the column at which the sort begins.
 N = the number of columns to be sorted.
 A = the value 1 if an ascending sort is required, or the value 0 if a descending sort is required.

To quote Garry, "this routine is supposed to be a modified SHELL METZNER sort. It might be called the SHELL SHUTTLE sort since it is also a modified version of the SHUTTLE INTERCHANGE sort". Based on my extensive use of the algorithm, I have found it to be very fast. Garry also presents a machine language form which really makes a sort in BASIC fly.

With the array sorted, Lines 1840 to 1950 display the contents of the array. Each line of the display starts at the left margin. When the array is completely displayed, Lines 1960 to 2170 display the final line showing space free, space used, and total space on the volume. Control is then passed back to the main menu logic starting at Line 360.

Going back to the display of the array process, if Line 1940 finds a directory entry in the array, control passes to Lines 2230 to 2680. Basically, this logic reads the entries for the subdirectory, sorts them, and displays them.

First note Lines 2230 and 2240. The program could have been designed to dimension the subdirectory arrays once at the beginning of the program. This has a couple of problems. First, there is the problem of how big to make the arrays. Subdirectories are not limited to 51 entries, therefore, too small a dimension might make the program bomb with a subscript out of range error. Too large a dimension might make the program bomb with an out of memory error. To minimize this problem, Line 2230 results in a D1 which is the number of directory blocks in the subdirectory. Each block can hold a maximum of 13 entries, therefore, Line 2240 dimensions an array with a proper size to accommodate the subdirectory entries.

The second problem involves garbage collection. Even though I force garbage collection at appropriate points in the logic, after an array is used, its strings still exist in string storage. When the array is used again, new strings are built and, based on experience, without deleting the array after it has been used, the garbage collection logic is invoked more often.

To minimize problems with potential out of memory conditions and garbage collection, the array is deleted after it has been used.

With this in mind, let's continue with the discussion of processing a subdirectory under the root of the volume. Lines 2290 to 2380 read the subdirectory entries into an array in a manner exactly as described for the root entries. In Line 2410, if there are no entries

in the subdirectory, control is passed to Line 2660 in which the D1\$ array is deleted then control is passed to Line 1950 to continue processing of the root entries.

If the subdirectory is not empty, Lines 2420 to 2540 sort the array using the sort algorithm described earlier. Lines 2550 to 2650 display the entries in the subdirectory with each line indented over three spaces. The final result of the display or print provides a layout in which subdirectories can be quickly located.

Once the subdirectory has been completely processed, Line 2660 deletes the array, garbage collection is forced, and control is passed to Line 1950 to continue processing of the root entries.

A subdirectory under the root can also contain subdirectories. If Line 2640 detects a subdirectory, control is passed to the logic in Lines 2780 to 3220. This logic is an exact duplicate of the logic in Lines 2230 to 2680 with D1 replaced by D2, R\$ replaced with D1\$, and L1 replaced by L2. Each displayed or printed line is indented over five spaces from the left margin. When this subdirectory is completely processed, Line 3200 deletes the array, garbage collection is forced, and control is passed to Line 2650 to continue processing in the first level subdirectory.

A subdirectory under a subdirectory can also contain subdirectories. If Line 3180 detects a subdirectory, control is passed to the logic in Lines 3320 to 3750. Again, logic is duplicated with D2 replaced by D3, D1\$ replaced by D2\$, and L2 replaced by L3.

The logic described here assumes only three levels of subdirectories under the root. Modifying the logic to include another level is relatively easy. Add a Line 3715 to look for a subdirectory entry using say Line 3180 as a model. Duplicate Lines 3320 to 3750 starting after the end of the program at Line 4870. Now change each D2 to D3, each D3 to D4, each D3\$ to D4\$, and each L3 to L4. Add a couple of spaces to the copied Line 3640 and delete a couple of periods from the copied Line 3690. Finally replace the GOTO 3190 in the copied Line 3750 to GOTO 3720.

Lines 4180 to 4370 handle the LOCK A FILE logic. Lines 4430 to 4620 handle the UNLOCK A FILE logic. Lines 4680 to 4870 handle the START UP APPLEWORKS logic. The logic of these three functions is reasonably straightforward and require no technical discussion.

This program should be a very useful addition to any library - it certainly has been to mine. It has been tested by several non technical types like my wife who rarely work outside the world of Appleworks.

HCOLOR:

HCOLOR=0 OR 4: BLACK HCOLOR=1: GREEN HCOLOR=2: VIOLET
 HCOLOR=3 OR 7: WHITE HCOLOR=5: ORANGE HCOLOR=6: BLUE

DRAW AND XDRAW:

Draw means just that, draw a shape for a shape table, example command-

```
99 DRAW 3 AT 100,90:REM(AT X,Y)
```

XDRAW- works like DRAW but ignores HCOLOR and plots dots in the opposite color of the dot being plotted.

```
BLACK(0/4) IS OPPOSITE WHITE (3/7) GREEN(1) IS OPPOSITE  

VIOLET(2) ORANGE (5) IS OPPOSITE BLUE(6)
```

HI-RES COORDINATES: To tell a shape where to appear, specify the coordinates (horizontal, vertical) of the shapes starting point. Don't specify outside of screen limits or it will CRASH.

```
HORIZONTAL: 0 TO 279 VERTICAL: 0 TO 191 VERTICAL W/4  

TEXT LINES: 0 TO 159
```

DRAWING WITHOUT COORDINATES:

After first shape is drawn, you don't need to specify coordinates for the next DRAW or XDRAW. Each successive shape without coordinates will begin at the point where the previous shape stopped.

SCALE:

You can enlarge a shape by setting SCALE equal to a number, 2-255 or 0. A SCALE of zero is equivalent to a SCALE of 256.

ROT:

You can rotate a shape by setting ROT before you draw-

```
ROT=0: NORMAL  

ROT=16: ROTATED 90 CLOCKWISE  

ROT=32: " 180 (UPSIDE DOWN)  

ROT=48: " 270 CLOCKWISE
```

ROT values between the above only apply when SCALE is set larger the minimum(1). ROT values greater than 64 simply repeat the cycle until ROT=255

MOVING A SHAPE:

More than one way to move a shape. Basically you have to DRAW the shape, ERASE it, and REDRAW it in a new position. This XDRAW does all that

```
100 FOR X = 0 TO 279  

110 XDRAW 5 AT X,100: REM DRAW SHAPE  

115 XDRAW 5 AT X,100: REM ERASE SHAPE  

120 NEXT X
```

With DRAW you erase the shape by re-DRAWing it in the background color.

OTHER EXAMPLES:

```
100 FOR X = 0 TO 279  

110 HCOLOR=3: DRAW 5 AT X,100: REM DRAW  

120 HCOLOR=0: DRAW 5 AT X,100: REM ERASE  

120 NEXT X
```

OR

```
113 FOR I = 1 TO 50: NEXT
```

```
=====
DOCUMENT apple.mechanic
=====
```

APPLE MECHANIC DOCUMENTATION

SHAPE EDITOR/FONT EDITOR:

USE KEYS 1 thru 6

```
KEY #1   EDIT- shape
KEY #2   SAVE- shape
KEY #3   LOAD- shapes
KEY #4   CATALOG- disk
KEY #5   DRIVE- drive/slot change
KEY #6   DISPLAY- shapes
ESC KEY  EXIT- program
```

#1
 EDIT:

Press key #1-view shape table

RIGHT ARROW

LEFT ARROW view shapes, up to 12, in memory.

ZERO, COLON, HYPHEN- shapes 10,11,12 to view.

RETURN- give you two rectangles on screen and flashing cursor.

ARROW KEYS, A, Z - right, left, up, down.

SHAPE EDITOR- limit 999 vectors. Change max in beginning of program.

X(erase)- Use X as a "backspace" key.

P=PRE-PLOT-After you have selected shape, before RETURN select P, now you can draw with series of dots. When finished with P hit RETURN.

PLOTTING TIPS- To move plotting course without changing the drawing use SPACE BAR.

HOW TO USE SHAPE TABLES:

Set ROT & SCALE to minimum values 0 and 1. Then decide where in memory to load shape table. Example 25,000 is a nice round number.

```
10 ROT=0: SCALE = 1
20 SH = 25000:D$=CHR$(4)
30 D$;"BLOAD SHAPES,A";SH
```

SETTING THE SHAPE TABLE POINTER:

To tell your APPLE where your shape table is (location 25000) you need two pokes-

```
40 POKE 232,SH-INT?(SH/256) * 256
50 POKE 233,INT?(SH/256)
```

These two pokes put 25000 into the shape table pointer at memory locations 232 & 233. ALWAYS INCLUDE THE TWO POKES AT THE BEGINNING OF YOU SHAPE TABLE PROGRAMS OR YOU'LL LOSE THE WHOLE SHAPE. To alternate between shape tables, simply re-poke a new location into the shape table pointer at 232,233 each time you change.

117 FOR I = 1 TO 1: NEXT

OTHER HI-RES MANIPULATIONS:

HGR -clears page 1 to black
HGR2-clears page 2 to black
HCOLOR=X:HPLLOT 0,0:CALL 62454- clears hi-res in HCOLOR X

The following "switches" do not clear the screen, but REVEAL whatever is currently on the page 1 or 2 text, hi-res, or lo-res screens:

POKE 49323,0-view hi or lo res
POKE 49233,0-view text screen
POKE 49234,0-view full graphic, lo or hi res
POKE 49235,0-view graphics plus 4 text lines(VTAB 21-24)
POKE 49236,0-view page 1 (hi, lo res or text)
POKE 49237,0-view page 2
POKE 49238,0-view lo res
POKE 49239,0-view hi res
POKE 230,32- allows drawing on page 1
POKE 230,64- allows drawing on page 2
POKE 230,96- allows drawing on page 3(not directly viewable)
PRINT PEEK(228) -prints HCOLOR code
PRINT PEEK(231) -prints current SCALE value
PRINT PEEK(249) -prints current ROT value
CALL 62923- stores last plotted coordinates at 224-226
PEEK(226) -VERTICAL position during last CALL 62923
PEEK(224)+PEEK(225)*256 -horizontal during CALL 62923

FONT EDITOR:

95 hi res characters Use with HI-WRITER, XTYPER

SHAPE FONTS TAKE UP MORE MEMORY AND DISK SPACE THAN ANY OTHER HI-RES FONTS. 18 SECTORS FOR LARGE, 7 SECTORS FOR SMALL DOS TOOLKIT ONLY USE 5 SECTORS, REASON IS FLEXIBILITY AND ATTRACTIVENESS.

LARGE FONTS vs SMALL FONTS:

All font names in APPLE MECHANIC are preceded by a }(shift-M). All are large-height fonts, except those with "small" in their names. Another way to tell-by sectors. Full 96 character large fonts will be 16-20 sectors, small fonts will be 6-10 sectors.

TO USE FONT EDITOR:

"RUN FONT EDITOR" USE 1-6 KEY INSTRUCTION IN BEGINNING OF THIS PROGRAM LOAD W/KEY#3 FONTS YOU MIGHT WANT TO SEE

EDITING: Key #1-gives you a striped flashing cursor, use ARROWS or A, Z keys. Also see ASCII value of the key that will type character. Hit RETURN, THREE OPTIONS:

(I)-Grid imprint-Prints selected character as a 10x blowup of grid.
(E)-Erase/Redraw- Temporarily erases character so can be redrawn.
(S)-Shadow Imprint-Prints a shadow of character on 10x grid. Shadow is for reference or tracing, does not effect final shape.

SPACE BAR
changes cursor for SOLID to OUTLINED and back, representing PLOT and NO-PLOT.

DISPLAY- KEY #6:

Select 6 and type as you normally would. ESC = between upper and lower case. To type a save use Xtyper or Hi-Writer programs

XTYPER PROGRAM:

Use this program to type Page One hi-res screen, up to three shape-fonts at a time. To start, type "RUN XTYPER" and make sure disk has at least one large or one small shape-font on it including every font you intend to use.

MAIN MENU:

Running Xtyper or Ctrl-R while typing display Menu & lets you load fonts, clear hi-res screen, load and save hi-res images and quit program.

(1,2,&3) LOADING FONTS:

You can load up to 3 large or small fonts. Select 1,2, or 3 and enter name of font (example- "BLOAD FONTNAME,A18880")

(X) CLEAR HI-RES SCREEN:

Hit X to clear, if you have no image loaded on hi-res page 1. If you get a snowy screen, type Ctrl-R,X,Y, and RETURN

(L) LOAD HI-RES PICTURE:

Select L to load a hi-res picture from your disk.

(S) SAVE EXISTING PICTURE:

WARNING: Lock files so you don't accidentally enter a font name when saving a hi-res image. Note*** To see hi-res picture on page 1 when not running a program type HGR(return) and BLOAD PICTURE ,A\$2000(return), where "picture" is the name of the image you want to see.

(C) CATALOG:

Select C to catalog main menu. You can check file names fonts or hi-res. You will be given the option also of locking and unlocking files.

(Q) QUIT:

Select Q lets you quit Xtyper. Message "GOTO 2000 TO CONTINUE" if you "RUN" instead of "GOTO 2000" you would have to reload your fonts.

TYPING WITH XTYPER:

KEYS***
RETURN- same as typewriter
ESC- upper and lower case
CTRL-P - left-square bracket
SHIFT-M- right-square bracket
CTRL-T-underscores
CTRL-Q-backslash

CURSOR MOVEMENT:

Arrows, left & right
Ctrl-L= right one plot
Ctrl-K= left one plot
Ctrl-A= up one type line
Ctrl-Z= down one type line
Ctrl-S= up one plot
Ctrl-X= down one plot

ERASING:

THE TOP OF THE CURSOR MUST BE ALIGNED VERTICALLY WITH THE TOP OF A CAPITAL LETTER ON THE LINE OF TYPE ON WHICH YOU WISH TO MAKE AN ERASURE

Ctrl-B=backspace/erase:

Place the left of your cursor at the right of the character you want erased.

Ctrl-E=character/erase:

This method works only with white type on a black background. Align vertically, and position its left edge so it touches any part of the character to be erased.

Ctrl-W=wipe out:

Erase entire line of type in black from the top of the caps cursor down.

OVERTYPING:

Place cursor over character, aligning the top and left edges, change typing color(ctrl-o) to the color of the background, and type over the characters to be erased.

(CTRL-F)FONT CHANGE:

Select Ctrl-F will allow you to type a new font. Can't select a font number that has not been loaded into memory.

(CTRL-O)COLOR CHANGE:

Select Ctrl-O, gives you a new typing color. XTYPER WILL NOT LET YOU CHOOSE AN ALTERNATE COLOR #7(WHITE) OR #4(BLACK)

(CTRL-G)GRID:

Select Ctrl-G will display a 4x4 grid. Hit Ctrl-G again will erase the grid. DO NOT TYPE OVER GRID.

(CTRL-R)RETURN TO MAIN MENU:

Select Ctrl-R will give you main menu.

LEADING NOTES (LEADING):

DEFAULT ERASE COLOR:

Second non-REM program line in Xtyper. The variable BG is the erase color used by ctrl-B and ctrl-w.

HI-WRITER PROGRAM:

Hi-Write is meant to be used as part of your Applesoft programs!!!! You can add instructions after line 500 to Hi-Writer instead of Xtyper as your main program, save disk space and typing.

LIST LINES 50-53 OF HI-WRITER:

```
50 FLAG=0:REM (0=LOAD, 1=DON'T)
51 FT$(1)= " ]BLOCK"
52 FT$(2)= " ]SMALL STANDARD"
53 FT$(3)= " ]APPLE"
```

The variable FLAG in line 50, tells Apple whether or not to load the three fonts form Lines 51-53.

Hi-Writer lets you access up to three fonts at one time. Let FLAG =0 and enter the names of your three fonts at lines 51-53. If you only want one or two fonts enter a blank FT\$(3)="

PROGRAM VARIABLES: (lines 90-500)do a GOSUB 100

```
A$:-Words to be printed
FT:-Current Font Number(1-3)
FT3$:-Name of Font 3 to be loaded
VT:-Vtab (1-24)
HT:-Htab (1-40)
IN:-Inverse(1=yes0-no)
CT:-Auto-Center(1=yes0-no)
HC:-Hcolor type(0-7)
CL:-Hcolor for Clearing Screen (0-7)
RT:-Rot value for printing(0-3)
```

A\$

```
520 A$="HELLO":GOSUB 100
```

UPPER/LOWER CASE

```
590 A$="B@EAGLE @B@ROS":GOSUB 90
```

FT & FT3\$

Set FT equal 1,2,3 any time you want to change fonts. You can replace 3 as many times as possible. To replace 1 & 2 change lines 51 & 52 reset FLAG in line 50 to zero, and re-run the program.

CT & GOTO 400: CENTERING

```
550 CT=1:VT=8.2:A$="FRIED EGGS":GOSUB 100
      or A$="PITTSBURGH":FT=3:GOTO 400
```

INVERSE

IN to 1 words that follow will be printed in inverse. IN is automatically reset to zero after each GOSUB 100. Add at least one space both before and after a word to be inverted.

HC:HCOLOR

HC determines HCOLOR of the words that follow.

RT:ROTATION

RT will print your words rotated.

```
1= 90 clockwise
2= 90 counter-clockwise
3= upside-down
```

CL: CLEARING SCREEN

Value 0-7 for HC followed by GOSUB 100 will clear screen in HCOLOR VT, HT and reset to 1.

POKE TXT,0= reveals the lower sixth of the text screen VTAB 21-24

POKE FULL,0=switch to full hi-res with text screen "hidden" behind.

TEXT= switch you entirely over to a text screen without erasing hi-res.

POKE HIRES,0= switch you back to hi-res without clearing the screen.

OUT OF MEMORY?:

```
5000 ? CHR$(4):"RUN NEXT PROGRAM" insert in your program and entire
      new version of Hi-Writer will continue.
```

NON-KEY CHARACTERS:

```
CHR$(95)=underscore
CHR$(92)=backslash
CHR$(91)=left square bracket
```

ERRORS:

ONERR GOTO 450 in line 55. Type "TEXT" or hit RESET to find and correct the error

FONT SPLITTER:

Run FONT SPLITTER to reduce the number of characters in a font. Follow prompts on screen and let Apple do rest.

PAGE COPY:

With Page Copy text files,you can move image already in memory for one page to another.

```
20 INPUT "MOVE IMAGE FROM PAGE:";A
30 INPUT " MOVE IMAGE TO PAGE:";B
40 POKE 60,0:POKE 61,A*32
50 POKE 62,0:POKE 63,A*32+32
60 POKE 64,0:POKE 65,B*32+32
70 POKE 66,0:POKE 67,B*32
80 CALL-468
```

SHAPE ANALYZER:

8 - Hyphen - enter temporary "mode" ESC - will exit for mode RETURN - set default value where appropriate.

KEY #6
Arrow keys,A, Z

KEY #7
Draw,Xdraw

KEY #8
Move current shape on screen A,Z,ARROWS,-move 9 units vertically and horizontally. S,X,K,L,-parallel 1 unit at a time

KEY #9
Arrow increase and decrease by 16(90): A,Z, do the same by unit of 1. Hitting RETURN changes to zero(normal)

KEY #0
Arrow changes value, for increase or decrease A,Z,

KEY #: Arrow increases and decreases HCOLOR TEST (0-7).B= background
H=shape RETURN reset HCOLOR to 3 background 0

KEY #
Analyze a shape vector by vector.
1=shapes permitted in table
2=large font shape
0=non-font.

Enter a shape number and watch the screen. Reading left to right you will see each vector of the shape.(0-255). Inverse =Move & Plot Normal=Move & Don't Plot. Hit ESC to see graphic display of shape, or RETURN for another vector analysis.

BYTE ZAP PROGRAM:

CURSOR
Arrow keys move numerically up or down one byte A,Z,-move up or down one row RETURN -move up or down 16 bytes in the direction the cursor's arrows are pointing

KEY #1,#2,#3
1 and 3 tells program to read the previous and next sector on disk. 2 will let you name sector you want to read. Enter track and sector number in dec. or hex.(\$hex)

KEY #4
H/HEX FORMAT
D/DECIMAL FORMAT
A/ASCII FORMAT

N/NO-FLASH FORMAT
C/CATALOG FORMAT

KEY #5
Printer dump

KEY #6
Catalog,press any key to continue

KEY #7
Slot/Drive Change

KEY #8
Disk Map- Will read VTOC and display a "Map"
+ = used
. = free

KEY #9
Change a Byte-
HEX = "\$" (00-FF)
DEC = (0-255)
ASCII = N-normal I-inverse C-control FG-flashing "G"(7) I%-inverse "%"
NO-normal "O")value(207)
CM-control-M(carriage return value (141) LA-lower case "A"

KEY #0
Quit

KEY #(-)
Write a sector to disk

Part I : Data base understanding & operation

////////////////////////////////////

A data base is simply a program that keeps track of groups of data, called records. Each record is a group of entries in different catagores, one entry from each catagory.

Appleworks limits:

- Max. # of records 1350
- Max. # of records, average 64k ram:140 128k ram:750
- Max. # catagories 30
- Max. length/record 1024 characters (1k)
- Max. length/entry 76 characters
- Max. length/catagory name 20 characters

Suppose you want to make a data base to keep track of information on your home appliances. You will need catagories such as "item" (blender), "serial number" (#JWM233949272), "model" (super-blend), "make" (GE), "date of purchase" (1/2/82). Each item in parenthesis is an entry in each catagory. You boot up Appleworks, select #1 on the main menu, select 4 on the sub-menu (data base file), and select 1 on the sub-sub-menu (from scratch). You then enter the name of the file ("appliances"). You enter the catagory names, one at a time, press return after each. It will tell you to start adding records. Enter the sample entries above. When you are done you should see a second blank record. Press @-z (open-appl z). You are now in multiple-record layout. (before you were in single record layout.) if you had many records, you would see them all "at-a-glance".

That's basically a data base. Here are some helpful features Apple threw in:

- @-a Arrange the catagory the cursor's on alphabetically or numerically. (use the tab key to move cursor right, @tab for left).
- @-c Make a photocopy of certain records onto the clipboard (see Part IV : Cut and paste) or make a copy of the clipboard onto file
- @-d Delete a record
- @-e Toggle between edit cursor and insert cursor
- @-f Find a record
- @-h Screen dump
- @-i Insert a record
- @-m Move a record onto/off of clipboard
- @-n Change catagory name or file name
- @-q Goto another desktop file
- @-r Change record selection rules
- @-s Save current file
- @-v Set a default value for a catagory
- @-y Clear to end of entry
- @-z Toggle single-record/multiple-record layout
- @-1..@-9 Move through multiple-record layout
@-1 = beginning @-2..@-8 = middle @-9 = end
- @-? Help
- @-up arrow Move up one screen
- @-dn arrow Move down one screen

////////////////////////////////////

Part II : Word Processor

////////////////////////////////////

Most of you know what a word processor is. When connected to a printer, it's a computerized typewriter. Like you see on TV, it allows deletion & insertion of text, correction of spelling errors, and then prints a nice, neat paper with no signs of correction or "white-out." this file was creatd with Appleworks' word processor. (even word processors can't fix my typos so if you find some, please correct!)

=====

DOCUMENT appleworks

=====

```

////////////////////////////////////
/                               /
/           Appleworks documentation           /
/                               /
/   by the 17th sector of the Elmhurst Copy Club   /
/                               /
/           August 1984           /
////////////////////////////////////
    
```

Note: I will symbolize the open-Apple key with the "@". @-a = open-Apple a.

////////////////////////////////////

Required equipment:

- Apple //e or //c
- Appleworks boot disk and system disk
- One Prodos formatted data disk (the program will format it for you)

** Note **

in the lower right-hand corner, an approximate memory available indicator will appear. If you have a //e with ext. 80-col. Card or a //c, the number will be 55k. An un-expanded //e will show 10k.

To begin, insert the Appleworks startup disk and press ctrl-@-reset to boot up. (or if the Apple is off, turn it on.)

The disk will load PRODOS and ask you to switch disks. Do so and press return.

Next you will enter the date. (if you have a clock card in slot2 or 4, all you have to do is check the year.) press return when all is well.

////////////////////////////////////

You should now be presented with the main menu. It says the following:

1. Add files to the desktop
2. Work with one of the files on the desktop
3. Save desktop files to disk
4. Remove files from the desktop
5. Other activities
6. Quit

The desktop is the area of memory where your files are kept. (like having a mess of papers in folders on your desk.)

Knowing what they consider a desktop, all of the above are self-explanatory.

Instead of going into each menu option in depth (like I did for "Locksmith 5.0 documentation"), I will go in to each function of the program in depth (data base, word processor, spreadsheet).

** NOTE ** When main menu appears use #5, other activities to configure (type of printer,data drive) and to format a data disk. (see part V for printer info.)

////////////////////////////////////

Now that we know what to do with a word processor we can find out how Apple intends for us to command it.

Restrictions:

of characters: 64k-10,000 128k- 56,000

**** Note ****

You don't have to hit return after each line. When printed out, the program will supply returns. Note the phrase "when printed." In your file, the text looks like one long line. Excessive line length can and will cause other word processors grief if you try and use Apple Writer //e or Apple Works files in them. So decide early on if it is worth the candle.

All you have to do is type. For lower case, release "caps lock".

Other keys of interest:

```
@-c      Copy text to/from clipboard
@d       Delete text
@-e      Toggle cursors
@-f      Find text
@-h      Screen dump
@-k      Determine where page breaks will be when printed
@m       Move text to/from clipboard
@-n      Rename file
@-o      Display printer options
@-p      Print document
@-q      Goto another file on desktop
@-r      Replace text with other text
@s       Save file to disk
@-t      Set tabs (tab key)
@-y      Clear to end of line
@-z      Display returns and printer settings
@-1...@-9 Move through text (same as data base)
@-?      Help
@-left arrow Move 1 word left
@-rt arrow  Move 1 word right
@-up arrow  Move up 1 page
@-dn arrow  Move down 1 page
@-space     Sticky space (prevent 2 words form being separate by wrap-around)
```

```
////////////////////////////////////
Part III : Spreadsheet
////////////////////////////////////
```

HMMMM...a spreadsheet...let me see...A spreadsheet is like a big piece of paper. The computer controls where you are by referencing your position as a numbered cell. (examples-A1,C4,AD27) the letter is the column, the number is the row. Cell A1 is in column A and row 1. You can put letter,numbers,or formulas in a cell. By lining up numbers and words, you can crete very meaningful information.

Restrictions:

Filled cells: 64k-1000 128k-6000 Rows- 999 Columns- A through Z, AA through AZ, BA through BZ, CA through CZ, D through DW. Total # of cells available for use:126,873 (999 rows times 127 columns)

To enter a label into a cell (letters explaining another cell), type a letter or a quote (") to signify a label. Then type the rest of the label.

To enter a value, type a number, or, to copy another cell, a plus sign then the cell name (+B7 will copy the value in B7).

To enter a formula, type a plus sign followed by the formula.

Example: +B7-B6-B5+A2 will subtract the value in B6 from that in B7 ,subtract the value in B5 from that, and add the value in a2 to that total.

To enter a built in function, type an at-sign (@) [not open-Apple], the name of the function, and the proper argument.

Here's a list of functions and arguments. Example- @abs(value) means use the "value" argument below.

```
arguments:
value      A number or an expression that equals a number (i.e. +B7-B6)
range      A list of adjacent cells (A10...A13) means cells A10-A13, inclusive.
List       List of values (14,A22,B17-B16,D12...F12)
```

Functions:

```
@ABS(value)      Absolute value of argument
@AVG(list)       Average value in list
@INT(value)      Integer value of argument
@MAX(list)       Largest value in list
@MIN(list)       Smallest value in list
@SQRT(value)     Square root
@SUM(list)       Sum of all values in list
@CHOOSE(value,list) Like BASIC "on x goto zzzz,zzzz,..."
@COUNT(list)    # of numeric entries in list
@ERROR          prints "error"
@LOOKUP(value,range) Looks for largest entry less than/equal to value
@NA             Display "na" (for not available)
@NPV(rate,range) Display net present value based on interest rate and payments in range
@IF(val,val1,val2) If value is true, then val1 is returned. If value is false, value2 is returned.
```

Example: @IF(A14<A15,D3,Z14) @IF(S23>=2,W2,E3)

keys of interest:

```
@-a      Sort rows
@-b      Clear a cell
@-c      Copy entries to/from clipboard
@-d      Delete a column or row
@-e      Toggle cursors
@-f      Find an entry
@-h      Screen dump
@-i      Insert a column or row
@-j      Jump to other window
@-k      Calculate all cell values
@-l      Change layout
@-m      Move rows or columns to/from clipboard
@-n      Rename file
@-p      Print rows or columns
@-q      Goto another file on desktop
@s       Save file to disk
@-u      Edit a cell
@-v      Set standard values for certain parameters
@-w      Create windows
@-y      Clear to end of cell
@-z      Toggle normal/formula displays
@-1...@-9 Move through worksheet (same as data base)
@-?      Help
@-arrows Move one screen in direction of arrow
```

```
////////////////////////////////////
Part IV : Cut and Paste
////////////////////////////////////
```

Q: What is the difference between @-m (move to clipboard) and @c (copy to clipboard)??

A: @-m will remove the information from where you got it and @- leaves the info. Where you got it and puts a copy where you're copying to.

Cut and Paste is a fancy term for moving text/records from one part of a file to a part of another file or a different part of the same file. This is done using the "clipboard" to hold the text while you select where to "paste" it.

Part V : About some printers.....

If you have an Apple DMP and no other printers: You can do nothing. Dmp is the default printer.

If you have one of the following printers, you can select it when you configure:

Apple daisywheel (dwp) Apple silentype Apple imagewriter Epson mx series or mx grafrax+ Epson rx Epson fx Qume sprint 5 or 11

If you have a dmp and a printer above: Select which one will be the main printer and select it. Put the other down as a secondary printer.

If you don't see your printer: Set up a "custom printer".

for a custom printer,you need to know:

Does it need line feed after each return? Will it accept a top-of-form command? Should the program pause after each page? How wide is the paper (in inches)?

The program will tell you how to enter the above. Good luck with the program.....

the 17th sector of E.C.C.

* Apple and "Appleworks" are trademarks of Apple computer,inc. The commands and functions are copyrighted by Apple computer,in.

Epson, Grafrax, and Qume are trademarks of the respective companies.

DOCUMENT applicator

ICON APPLICATOR by John R. Majka

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ALL RIGHTS RESERVED

ICON APPLICATOR is a freeware program.

Charging a fee for ICON APPLICATOR is specifically prohibited.

One of the features of the Apple IIGS that make it easy to use is that double clicking on a data file icon will cause GS/OS to automatically launch the application program for that data file.

If the application has also been programmed to include the "MESSAGE CENTER" feature of GS/OS, the application program will then automatically open the selected data file.

Making use of the "MESSAGE CENTER" feature of GS/OS must be specifically programmed into the application. Many applications were not programmed to make use of this feature. If an application is so programmed, it can not make use of the feature unless the data file icon parameters include the full pathname of the application program.

Many Apple IIGS users can not make use of this automatic application launch because they do not have an icon editor, do not understand the importance of providing an application pathname or do not understand how to use this feature.

ICON APPLICATOR is an easy to use program which will set the application pathname by using the Standard Open File Dialog with which every Apple IIGS user should be familiar.

After launching ICON APPLICATOR, the "About" dialog will appear. Click anywhere in the dialog to close it.

Then, under the "File Menu" select the "Open" item and open the icon file you wish to update. A window will then appear at the bottom of the screen. It will display the first icon in the file at the top-right of the dialog. Below the icon the current application pathname will be displayed in a long box. Below this there are five buttons: "Get Application", "Previous Icon", "Next Icon", "Cancel" and "Done".

You can change the application pathname in two ways. First, click in the long box and edit it manually. Second, click on the "Get Application" button.

NOTE: NEITHER METHOD WILL CHANGE THE "APPLICATION PATHNAME" FOR EITHER A ProDOS 8 or ProDOS 16 APPLICATION ICON. Double clicking on an application program icon cause the application to be loaded and started. It is not necessary nor desirable to set an application pathname for an application file.

GET APPLICATION

Clicking on the "Get Application" button will cause the Standard Open

File Dialog to appear. Only ProDOS 8 and ProDOS 16 application programs will be displayed. Select the application normally, that is, just as if you were going to launch an application or open a data file. Double click on the application's filename or click on the OPEN button. When you select the application in this way, the Open File Dialog will disappear and the full pathname of your application will appear in the long box below the icon.

If you click on the "Cancel" button in the Open File Dialog, nothing will change.

The other buttons in the Open File Dialog will operate normally.

PREVIOUS ICON

Clicking on this button will change the icon and pathname to the icon just before the current icon displayed. When you first open an icon file, the first icon will be displayed and clicking on this button will have no effect.

NEXT ICON

Clicking on this button will change the icon and pathname to the icon just after the current one in the file. If there is only one icon in the file or if you are at the last icon, clicking on this button will have no effect.

CANCEL

Clicking on this button will cancel the operation. The current icon file will not be saved to disk and no pathnames will be changed. The window will be closed and you can then open a new icon file.

DONE

Clicking on this button will bring up the Standard Save File Dialog.

If you change your mind about saving the modified icon file, you can abort the save by clicking on the "Cancel" button in the Standard Save File Dialog.

Icon files should ONLY be saved to the ICONS folder. GS/OS can not find icons anywhere else except in the ICONS folder.

The window will be closed and you can then open a new icon file.

-----END-----

```
=====
DOCUMENT arcade.bootcamp
=====
```

```

  \/\\/\/\\/\/\\/\/\\/\/\\/\/\\/\/\\/\/\\/\
  \
  \      arcade boot camp      \
  \
  \      softdox  by           \
  \
  \      the penguin          \
  \
  \      written for          \
  \
  \ the south pole.....[312] 677-7140 \
  \ the safehouse.....[612] 724-7066 \
  \ sound barrier.....[618] 797-0656 \
  \ the outpost.....[312] 441-6957 \
  \/\\/\/\\/\/\\/\/\\/\/\\/\/\\/\/\\/\/\\/\

```

So you decided to enlist in the arcade army, eh? well, around here there's only one way to do things-- the army way! So stand up straight, wipe that silly smile off your face and listen up, soldier!

To begin

----- Put the disk in the drive and turn the computer on. Watch the educational training film that appears on the screen. After you have memorized it, you can bypass it by pressing the <return> key.

Signing up

----- Enter your serial number. (this is a number between 1 and 5, inclusive). The computer will ask you your name. Type it in. From now on, every time you boot the disk it will display your name, rank, and serial number. Never tell a foreign (or domestic) spy any more than that, it might lead to your demise. It's also against regulations and in this army, we do things the army way!

To proceed to the training area, press the <esc> key. Once there, you will be greeted by the drill instructor. The di's primary occupation is the motivation of recruits. He will motivate you to pick one of five training areas. Should his methods fail to persuade you to make a decision, you'll be booted out of the arcade army and you'll have to reenlist if you ever want to amount to anything.

Watch out for land mines. They could turn up at anytime, just to keep you recruits on your toes. But there's not enough powder in them to waste you, only to teach you to watch where you're going. Get smart and maybe we'll remove the mines later.

Ordnance regulations

----- The military hardware used in your training has some built-in features worth taking advantage of. The "p" key will pause the simulation. <ctrl-s> will toggle the sound effects <sp bar> or holding down both joystick buttons at the same time will allow you to bypass the music that follows failure during any task. Please note that often the reason for your failure will be pointed out on the screen with a small arrow. Study it carefully.

Rank

---- The purpose of your training is to work your way up to the rank of sergeant major. Right now you're a lowly civilian and unless you shape up you're going to stay one! Should you show some aptitude, you may earn your stripes as follows:

Recruit.....no stripes

Private.....one stripe
 Private 1st class...two stripes
 Corporal.....three stripes
 Sergeant.....four stripes
 Staff sergeant.....five stripes
 Sergeant 1st class...six stripes
 Master sergeant.....seven stripes
 Sergeant major.....seven stripes & 1 star

=====

DOCUMENT arkanoid

=====

Suddenly Space is a dangerous place...



A Club 96 Release

DISK LOADING INSTRUCTIONS

Turn on the computer. Insert the diskette into drive 1 with the label facing upwards. If the GS Operating System is already up, insert the game disk into the drive. Click the mouse pointer twice on the TAITO.ARKANOID icon when it appears. Next, click the pointer twice on the ARKANOID icon. The game will now load. If you want to boot directly from the Arkanoid disk, reset the computer and the game will start automatically.

CONTROLS

This game is played with the Applemouse. When the title screen appears, press 1 for a one player game; 2 for a two player game. Pressing the mouse button automatically starts a one player game.

During game play:

Press ESC to pause the game; press any key to continue play.
 Moving the mouse from left to right causes the Vaus to travel in the corresponding direction. Press the mouse button to release the energy ball or fire the laser.

Option Keys

Control + R	Restarts the game
Control + Q	Returns to the finder
Control + S	Turns the sound on/off
Left Arrow	Decreases Volume
Right Arrow	Increases Volume

HOW TO PLAY

The intergalactic carrier Arkanoid travels through the outer reaches of the galaxy, carrying planet Earth's remaining human survivors. They encounter DOH, a complex entity of incredible power. As the carrier falls prey to his attack, the crew escapes in the "Vaus" and enter a demention of living energy! The battle for freedom takes place over 33 levels of complex and intricate barriers. Will you survive the final onslaught of DOH?

Move the Vaus left and right. Use you skills to deflect an energy ball will gradually destroy the walls confronting you. Grey energy blocks must be hit more than once; some energy blocks are indestructible. Alien life forms randomly descend to hinder you. Eliminate them on contact with an energy ball or the Vaus.

Destroy the energy blocks and release these capsules to help you win the game:

B	(Pink) Advances you to the next level
C	(Green) Catch the ball, move to a new position and fire

±-4 í/ / ô/± (†-±%EE†&±èà`\$/>ðë

•fi...Ã &Êfi† „- Ñ†±à

†ÊÊÖ-û@è`†±...`†±...ê-àà@0-...-à±...ê-à±@ ,@†è>¿ ±-
 ~äö†è`@+Ö@6Ö†e Alps are still a climber's paradise. Your up against hazardous
 rock and unpredictable weather, but if you plan well and climb skillfully, you'll
 earn yourself a place in the select company of Alpine conquerors.
GETTING STARTED It's almost time to get started on your trek to the summit.
 You'll soon see the routes you can choose from. Some are harder than others, but none
 of them are easy. To begin, make your selections from the dialog box in the
 first game screen:

NUMBER OF COURSES			TRAINING
1	2	3	RESUME

Disregard the RESUME selection for now. You'll use it later when you play a saved game. If you want to practice first, press "T" (or move the pointer to Training and press the fire button or <RETURN>). The training trail is a real climb, y`@Ö@ ,@ÓA•tiÏ`@Ö\†±@<">±@Ö:>±@iAÖ;†•iÖ@êÊAäè0>±:e\IÃé:JÀ0Ú@

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pæ <ç «xiÄ -é"æ@... pæç kæifl mæi. -Ü°,@±,é†â`@f pæ æÖ% a time. To select a number, press the "1", "2", or "3" key (or position the pointer on the number you want and press the fire button or <RETURN>). Now you can see the routes winding into the mountains. Routes marked with a circle are relatively easy to transverse; those marked with a square are intermediate; and those marked with a diamond are the hardest. Depending on the number you choose in the dialog box, you can pick from one to three routes in any combination. To select a route, move the pointer to its symbol and press the fire button or <SPACE>. Now you can read its description. You'll see the route's name, its total elevation gain in meters, the level of difficulty, and the estimated time it should take you to complete the climb. NOTE: You can also press keys 1 through 6 to select routes. If you want to accept the route, press "Y" (or move the pointer to yes, then press the fire button or <RETURN>). If you don't want to accept the route, press "N" (or move the pointer to no and press the fire button or <RETURN>). If you're selecting multiple routes, repeat this process for the second (and third) route. After selecting the last route, you'll automatically proceed to the supply screen where you'll pack your gear.

PACKING FOR THE TRAIL Your rucksack is automatically supplied with a basic selection of provisions and climbing gear, but it's smart to check it out before you accept it. It may not contain everything you need, or it may have things you can do without. You're the best judge of what you need. If your trip is going to be long, for example, you should pack more food. On a short trip you might decide to bring more luxuries. Just like in real life you may find that your packing ability gets better with experience. To make sure that you don't leave out anything essential go through the packing list in this section while you make your selections. The total weight of your rucksack and rack (the climbing gear you carry outside your rucksack) can be seen in the upper left corner of the screen. You can find out what you're carrying by moving the pointer over each article you have. The first layer you see includes the items that are packed on top. To see the next layer, select next and press the fire button or <SPACE>. NOTE: The rucksack icons include both rack and rucksack items. If you decide to accept the basic selection, press "A" (or select Accept and press the fire button or <SPACE>). If you want to modify the basic selection, press "R" (or select refuse and press the fire button or <SPACE>). You'll now see all your potential choices laid out for you. Move the pointer over each article in turn. Once again, you'll see its name, weight, and how many you already have. Press the fire button more than once to add more than one. To see additional items, press "N" (or select next under the items and press the fire button or <SPACE>). To take items out of your rucksack, move the pointer over the item in the rucksack. On screen you'll see the item's name, weight, and number. Press the fire button to remove the item. Press the button more than once to remove more than one of the same item. When all the items of one type are gone, you'll see whatever's on the next level. As you add and discard, you'll see the weight of the rucksack to keep track of your total. Try to keep the weight to 25 kilograms or less. (A kilogram is 2.2 pounds.) If you exceed this limit, you'll tire out more quickly on the trek and you're more likely to slip on the ice or fall through the ice. Once you've packed the rucksack to your satisfaction, press "D" (or select done and press the fire button or <SPACE>).

PACKING LIST ITEM PURPOSE Rope Break your rope. Carabiners Metal loops used to hook the rope to your climb gear. You can't use the rope without them. Ice pins Attach the Carabiners to an ice cliff. You must have ice pins in order to use the carabiners and rope on ice. Pitons Attach the carabiners to a rock face. You must have pitons or chocks in order to use carabiners on rock. Hammer Pounds in the ice pins and pitons. You can't use the ice pins or pitons without it. Chock A carabiner anchor you force in a crack in the rock. You don't need a hammer to use chocks. Strap Fastens you onto a rock face. You'll need this in order to get into your pack while climbing. Jummar A support that protects you while you haul up the rope. Without it you may have to abandon the rope with you come to its end. Stirrups Slings you attach to the carabiners. Useful on very steep rock faces where you have no footholds. Crampons Boot spikes, essential for traction on ice cliffs. Soft shoes Smooth-soled climbing shoes, very helpful on rock. Helmet Protection from falling rocks. Chalk Improves your

grip on rock. Anorak A warm jacket. Essential. Gloves, Wool Warmth. hat, mittens, wool socks. Gaiters Protect legs and keep snow out of boots. Goggles, Block sun and snow glare. Mask. Shoelaces Spare pair. Hammock, To sleep in. Use hammock for cliffs, the foil cover for tent, sleep-emergencies. ing bag, foil cover. Snow shovel To build an igloo when you don't have a tent. Knife For opening cans (you can't eat the canned goods if you don't have a knife). First Aid Box Emergency medical aid. Sun Cream Protects your skin from sun glare. Lamp, Candle Light in darkness. Stove, gas Cooking. Canteen Plates and eating utensils, needed for eating soup and drinking coffee and tea. Flask To carry water. Essential. Matches, Light the stove. lighter. Rum, wine Warm you up. Champagne For celebrating at the top. Food & Drink Take what you like and need, but watch the weight. Save game Lets you save your game. disk SETTING UP YOUR DEPARTURE TIME Set your departure time in the dialog box that appears. Trips are automatically set for a 9am start. If that's OK, move the pointer over the time and press the fire button or <SPACE> until you see the 24-hour time you want. If you want to change the time, move the pointer to + or - and press the fire button or <SPACE> again. You'll now see a dialog box asking if you want to leave in summer or winter. Choose your season by pressing "S" or "W" or by moving the pointer to your selection and pressing either the fire button or <SPACE>. The screen changes to bring you to the trailhead, ready to begin your climb. ON THE TRAIL HIKING AND JUMPING Now you're ready for the summit. Begin walking at a steady pace (see table below). If the ground ahead looks unstable, test it by poking it with your ice ax. (By the way, you always have your ice axes. That's why they're not on the list.) Jump over crevasses. If you make a mistake and fall, try to catch yourself with the same joystick or keyboard motion. If you catch yourself, or if you fall all the way but survive, you'll have to climb out. Climbing out of a crevasse is the same as climbing an ice cliff, so turn to that section (Climbing on Ice) for advice on technique. Once you get back on the glacier, continue walking, but more careful this time. ACTION JOYSTICK MOVES KEYBOARD CONTROL Walk Move handle steadily Press --> and <-- one after the left and right other in a walking rhythm. Test ground Press fire button. Press down arrow. Jump Push handle up. Press up arrow. USING YOUR SUPPLIES To open your pack, press <RETURN> to bring the pointer onto the screen. Move the pointer onto the pack and press the fire button or <RETURN> again. You'll see a list of the pack's contents. Push the joystick handle up and down or press the up and down arrow keys to scroll through the list. When the article you want is highlighted press the fire button or <RETURN>. You hear a chime, and the article disappears from the list (or you have one less of that type) because it's not outside the pack. To put something back in the pack or to use any rack item (such as a therope, strap, or stirrups), press <RETURN>. Move the pointer onto the climber's head and press the fire button or <SPACE>. You'll see a list of what you're carrying. Again, use the joystick handle or arrow keys to scroll through the list. When the article you want is highlighted, press the fire button or <SPACE>. You hear a chime, and the article disappears from the list because you're now using it or it's back in the pack. When you select some of the items, either in your pack or on your body, you won't hear the chime (but a tone will sound) and the items won't disappear from the list. These items are used automatically. For example, you have to have pitons, carabiners, and a hammer to secure yourself with the rope while your climbing on rock. But all you have to take out is the rope itself. BEGINNER'S LUCK The first time you take what should have been a fatal fall, you'll see this message: "You were lucky this time. Keep trying." On an easy course, you'll get three such chances before it's for keeps. On an intermediate course, you'll get two, and on a hard course, just one. You don't have to climb out when you're saved by luck. Just press <ESC>. CLIMBING ON ICE Sooner or later, you'll come to your first ice cliff. The best thing to do is stop just before you get there, open your pack and put on your crampons. Then select a rope and proceed. If you find yourself on a cliff and haven't had a chance to put on your crampons, play it safe and attach yourself to the wall with the strap. This allows you to get into the pack even while climbing. Put your crampons on, choose a rope, and proceed. The strap automatically unfastens when you start moving. To climb, first dig your axes into the ice (see tables below). Then set your first foot. With your foot secure, pull yourself up. Then repeat the process, starting with digging in your axes. ACTION JOYSTICK MOVES KEYBOARD CONTROL Dig in axes Push handle up. Press up arrow. Set first foot Push handle down. Press down arrow. Pull self up Press fire button. <SPACE> Set second foot Pull handle down. Press down arrow.

Keep an eye on the little man to the right of the cliff. He'll tell you how far you've come and how far you have to go. You'll make steady progress as long as you're wearing crampons. Without them you'll find it takes several tries to set each foot. Climb this way until you're back on level ground. For best results move quickly enough to climb steadily, but not so quickly that you interrupt your work. NOTE: See the section USING THE ROPE for more information on ice climbing. CLIMBING ON ROCK As soon as you've conquered the ice, a new challenge confronts you: a steep rock face. If possible, stop just before you there. If you go straight from ice to rock, with no flat ground to step in, secure yourself with the strap when you first get on the rock. Take off your crampons if you're still wearing them. (You can't climb rock with crampons on.) Open your pack, put on your soft shoes and helmet, and take out your chalk. Finally, select a rope and start climbing. The strap automatically removes itself when you start off. Climbing on rock is the ultimate test of skill and coordination. You have to find secure handholds for your hands and feet, pull yourself up smoothly and quickly, and sometimes even dodge falling boulders. It's best to have three strong holds at all times, so that you can move the fourth limb safely. The hand and foot icons to the right of the rock face are your guides. If an icon is steady, you have a secure hold with that hand or foot. A flashing icon shows a weak or tenuous hold that you should move as soon as possible. If you don't see an icon, you don't have a hold. You can move one hand or foot at a time (see table below). The limb that is selected will flash on your climber. To choose a different limb, press the fire button or <SPACE> enough times to move the selector clockwise to the limb you want. ACTION JOYSTICK MOVES KEYBOARD CONTROL Select hand Press fire button. Press <SPACE> or foot Move hand or foot Move handle up or down. Press up or down arrow. foot up or down Move up, down, Press fire button while Hold down an arrow key and/or sideways moving. Handle in direction. Press <SPACE>. Dodge boulders Move handle away from Press right or left arrow boulder's path. whichever is opposite direction. Your first concern should be placing a hand or foot that doesn't have a hold. Then secure any hold that's weak (flashing icon). If all your holds are secure, move the limb that will best help you advance. When your best positioned so that your arms can pull and your legs can push, hoist yourself up. Move sideways to dodge boulders and get to some holds. Sometimes you'll have to move downward to reach a secure hold. You may be able to change position and even hoist yourself up with one or more weak holds, but you have to move quickly. Look carefully at the rock as you climb. Try to place your hands and feet in the cracks. They're the most secure places. It takes practice to climb well. If you can maintain a smooth, steady pace, moving quickly from one good hold to another you'll make it to the top. USING THE ROPE The rope can save your life on either ice or rock. But you can only use it if you've packed a supply of carabiners, ice pins, and either pitons or chocks, plus a hammer to fasten the pitons and ice pins. Selecting the rope automatically selects the needed accessories. It also displays a message box which reads "Security: Recover/Abandon." After you've climbed either 20 or 40 meters, depending on the rope you're using, security begins to flash. You've come to a pitch and you must recover your rope and equipment. If you packed your jummar, you can use it to recover the rope and all the climbing aids used. Press <RETURN> to bring the pointer onto the screen. move to recover, and press the fire button or <SPACE>. If you've forgotten the jummar, recover won't work. You must select abandon. You can the rope back, but you leave your climbing aids behind. If you've exhausted your supply of climbing aids, you won't be able to use a therope again. To continue climbing with the rope, select it again from the rack and keep going. If you come to a difficult pitch and you can't make progress, try using your stirrups. These are slings that fit into the carabiners to make artificial steps. To use the stirrups, first select a foot and place it in the desired position then press <RETURN> to move the pointer on to the screen. Point to the climber's head and press the fire button or <SPACE> to access the rack. Select the stirrups and press the fire button or <SPACE> again. Your foot will now be in the stirrup. When you move that foot, the stirrups are returned to your rack. WHEN YOU'RE COLD, HUNGRY, OR TIRED Climbing is strenuous and the weather in the mountains changes fast, so you're going to get cold, hot, hungry, thirsty, and tired. When you do, a little climber appears in the lower right of the screen to tell you in words or gestures what he needs. You can ignore your alter ego's demands and keep going, but you'll get steadily weaker and less able to concentrate. Pretty soon you'll find yourself hurtling down a rock face or falling into a crevasse. Before that happens, it's best to stop and take care of your needs as soon as you can. You'll follow basically the same procedures to eat, drink, and warm up. Press <RETURN> to bring the pointer onto the screen. Move

the pointer to therucksack and press the fire button or <SPACE>. Find something that fills thebill, and press the fire button or <SPACE> again. If you're satisfied his/your needs, the little climber and/or his messagewill disappear. Sometimes, though, whatever you've choosen isn't enough. Forexample, the little climber is shivering. You get him a wool hat, but he'sstill cold. Go back to the pack and get the anorak. That should do the trick. When the climber gets tired, he needs a nap. If your on level ground, takeout the tent. This automatically puts him to sleep. If you've forgotten a tent,take out the shovel to dig an igloo. If you've forgotten both the shovel andthe tent, your in trouble. You can keep on going, but you'll get more and moretired. If you get the cold message while in the tent, take out the sleepingbag. If that doesn't work, try the foil cover or some warmer clothes. The clock speeds up while the climber sleeps. The tired graphic or messagewill disappear when the climber's ready tp get up. When it's time to get up, reverse the procedure to put the tent or shoveland the sleeping bag back in the pack. You'll probably want something to eat,and then it's time to get back on the trail. If you get hungry, thirsty, or tired while climbing, check your progressby looking at the little man on the right. If you're close to the top, keepinggoing and then open your pack on level ground. If you don't want to wait, secure yourself with the strap, open your pack,and take out what you need. If you're on a rock face, you can even sleep duringyour climb, using the hammock instead of the tent. Of course, if you'veforgotten the hammock you'll have to keep climbing. IF DISASTER STRIKES Mountaineering is dangerous, and no matter how skilled you become, you maystill make a fatal miscalculation while climbing or overlook a crevasse whiletrudging across the glacier. If you've used up your beginner's luck, that's theend of the game. Fortunately, it's easy to bring yourself back to life and startover. Just press <ESC> and you'll find yourself at the trailhead, ready tostart for the summit again. Better luck this time! ENDING A GAME

STOPPING AND SAVING To stop the clock while you take a break, press the "P" key. To save a game in order to resume it later, be sure to pack the save gamedisk when your packing items for your rucksack. When your reading to stop andsave, open your pack and take out the disk. Your game will be saved at thatpoint. When your ready to resume play, load the program. When you're asked tochoose a route, select resume. You'll start climbing again from where you savedthe game. TRIUMPH -- AND A NEW GAME After a day or even longer of hard work and danger, you reach the summitof your trek. You may be tired, but this is your moment of triumph. Enter yourname in the scoring screen that appears and then press <RETURN>. When you're ready to start again, press the fire button or <SPACE>. You'llfind yourself back at the trailhead, ready to choose a new route and strive fornew heights. To quit the program at any time, press "Q".

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DOCUMENT autobahn
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*-----*
AUTOBAHN
*-----*

MOVING:

RIGHT- RIGHT ARROW
LEFT- LEFT ARROW

STOP 'DRIFT'-SPACE BAR

MISC:

SOUND ON/OFF-S
PADDLES-P

SPEEDS:

1-120 MPH
2-160 MPH
3-200 MPH

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DOCUMENT awacs
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AWACS

Written By:Eldar The Wizard

Concept: The idea of the whole game is to succesfully destroy each wave of enemy fighters and bombers.Those planes are: MIG-25's

MIG-23's

TU-26's

Your planes are:

F-15's

B-1's

You are an AWAC plane. A plane which flies around the screen and pinpoints the locations of enemy planes and relays them to missile silos on the ground.The keys for movement are...

I
J K
M

Planes are indictated on the screen by flying numbers. They range from 1-9. To identify which type of a plane a certain number is that is flying on the screen, you hit that number on the keyboard. Example... Say the number 3 was flying around on my screen.I hit the #3, and at the bottom of the screen the name and blueprints of the plane will appear.You can then decide whether to destroy it or leave it alone. To destroy a plane (or number flying on the screen) you must currently have that plane and its blueprints at the bottom of the screen. Example..... Since I hit 3 (above), the blueprints of whatever 3 is (let's a MIG) will appear at the bottom of the screen. I can then hit the RETURN key and a missile will launch from the nearest U.S. missile silo (indicated by the squares on the screen.) If I hit a number on my keyboard, and that number is not currently visible on my screen, no blueprints will appear and it will give the message NOT IDENTIFIED. A word of advice. A number will not neccessarily be the same plane throughout the entire game. Example... The #3 could fly on my screen, and I could identify it as a MIG. Before I have time to blast it, however, it flies off. 10 seconds later the same number (3) could fly on again, but it might just be a U.S. plane. It's a good idea to check before you blast.

Fuel: The fuel indicator will get lower and lower as the game goes on. If you run out of fuel before you wipe out the enemy, the game is over.You do have 1 chance per wave of replenishing your fuel supply. If your fuel supply is running low, you can hit the T key. A funny little beep will sound, but other than that, that's all that happens. What has really happened is that one of your bases has dispatched a fuel plane, which is a KC 707. Don't blow this up if you see it! You only have one!! Once you hit "T", the KC 707 will automatically fly up to you (it will also be using a number) dock with you,and return home. You can only do this once per wave, so use it wisely. Another feature is the PANIC button. On the right side of the screen is the word PANIC written vertically.Along with the word will be either 1 or more warheads. If things ever get too crowded, and too many enemy planes are flying towards you, you can hit the "/" key.This will alert

all bases currently on the screen to help out, and they will destroy every enemy plane on the screen. Each time you hit the "/" key, one warhead disappears from the side of the screen. Again,you only get one per turn. But..unlike the fuel plane,if you don't use the panic button, you get to keep the warhead you didn't use, and get an extra warhead for completing the wave. Also...don't hit the "B" key. I don't know what the hell this is, but whenever I hit it, it drops me into the monitor. After a wave is completed, you recieve bonus points for however many bases are still up (the enemy planes like to drop bombs on your bases, that's why your destroying them). After all the bonus points have been tallied, your fuel tank will be filled, you will recieve and extra PANIC warhead, and a flashing READY will appear on the screen. Hit return, and the game will proceed with the next wave of enemy planes.

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DOCUMENT axe.packer.note
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THE AXE PACKER TAKES A REGULAR 34 SECTOR HIRES PAGE AND CHANGES IT INTO A 10-14 SECTOR HI-RES PAGE

WRITTEN BY: THE AXE
HOUSTON TEXAS

GET IT NOW!!!!

INCLUDED ARE NEW GHOSTBUSTER HIRES PICTURES THAT ARE PACKED

13 SECTORS EACH!!!!!!!!!!

GET THE FOLLOWING FILES:

THE AXE PACKER V1.0
THE AXE PACKER UTILITY V1.0
PACK.OBJ

TO SEE THE GHOSTBUSTER HIRES PAGES YOU MUST GET THE AXE UNPACKER UTILITY.

::: Sysop Note ::: I have since revised the Axe Packer Utility with a catalog feature in the event that the file name entered is incorrect, hence version 1.1

The Avatar

=====
DOCUMENT baal.txt
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Baal

This document is brought to you by INC
Captain "CRUNCH"

Well, to start out with this game is tough. It says so on the front cover of the instructions, so it must be true!

Its June 5th 1999, your an archaeologist who has discovered a scrawl from what seems to be a old man, or thing. You call your old archaeologist professor and tell him of a stone with baal written on it. Hearing the word Baal caused so much interest that he told you not to touch it. He told you that the stone was "foretold by an old scottish monk way back in the 12th century..." The stone could cause death and destruction to the world at a time when man was reaching for the stars. Later it was discovered that the date June 5th 1999 would be 666 if the 1999 was turned upside down! The devil, satan!! The other archaeologist moved the stone an Baal rose, killing all in his sights! A War Council was formed to kill this monster, elite warriors have been selected to fight Ball....

YOU are in charge of the Time Warriors and here are your TOP SECRET MISSION INSTRUCTIONS. You must guide and control each Time Warrior in his quest. Although it is impossible to say what horrors you will encounter when you enter BAAL's lair, his enormous power coupled with his huge army of monstrous bests make him an extremely dangerous enemy.

We pray you can do it, we know you can. Many lives will be lost in the numerous bloody battles but BAAL must be defeated. If not we run the risk of being ruled by a power crazy demon at best, at worst the earth as we know it is doomed. OUR FATE IS IN YOUR HANDS.....

The joystick or cursor keys are used to control the warrior as follows:

- * Joystick center- Warrior is still and in firing position where appropriate.
* Up/Down- Warrior up or down ladders where appropriate.
* Left/Right- Warrior turn/move left or right where appropriate.

With fire button pressed:

- * Joystick center- Warrior fires laser in direction faced where appropriate(including off the ladders).
* Up- Warrior jumps straight up where appropriate.
* Down- Same as joystick center.
* left/right- Warrior stops firing and transports where appropriate.
* Joystick diagonal - Warrior somersaults forward in direction he is facing where appropriate.

Further keyboard controls:

- F1Toggle sound effects On/Off
1Select laser mode 1(on main keyboard no keypad)
2Select laser mode 2""
3Select laser mode 3""
4Select laser mode 4 ""

CToggle area co-ordinate display off
PPause game (any key to restart)
RRefuel laser (see below)
SSave current game position
LLoad previous game position
F9(with fire pressed) abort current game
ESCExit back to DOS

Solve for MechWarrior

By The Byter

An Alternative Release

Game released by: The Firm
The Lexicon 714-627-0601 9600+ Only!

How to Solve MechWarrior:

This cheat has been provided so you can sit back, play the game, quickly win, say to yourself "How neat! I've won...", and stuff the game away in your archives in a short period of time.

The basic premise behind Mechwarrior is that you're the only surviving son of the leader of Ander's Moon. A group of Mechs attacked the planet, killed your family, and installed a new government on the planet. They also stole a valuable Chalice which is a heirloom of family power or something. Your job is to track down the killers, find the Chalice, and restore your family to power on Ander's Moon.

When you start out, you will usually be on one of the Davion planets, but might start out on a Kurita planet. Travel immediately to the Kurita planet of Land's End.

When you get to Land's End, enter the bar and order a drink. The barkeep will tell you to come back later. Go to the mech complex and sell your Jenner, as you won't need it for a while, and can make a nice profit here. Besides, it will be a lot more expensive to haul it along with you where you're going.

Go back to the bar. The ruffian you meet there will tell you "Grig can be found on...". Make a note of the planet he gives you and go there. I have seen New Samarkand, Tabayama, and Delacruz often. It will always be a Kurita world.

When you get there, you will meet Grig. Accept his mission to deliver a packet to his agent on Dustball, and go there. Dustball is a Steiner world.

When you get to Dustball, there will be a little scuffle. You can either FIGHT then RUN, or RUN then RUN. Just make sure that you RUN the second time. After that, go to the bar and order a drink. The barkeeper will tell you to return later, but you can just order another drink and he'll give you some information and the name of a Marik planet, such as Gibson, Mosiro, or Sadurni. Travel there.

When you arrive on the Marik planet, go to the Mech complex. The man there will tell you that you might find Kangaroo Jack on Tancredi IV or Okefenokee (Davion planets). When you leave, you will be shot at by a sniper. RUN. When you get to the Davion planet, go to the bar. Order a drink, and you'll be introduced to a guy named Kearny. He'll give you some information, and a scrap of paper with an address on it, telling you to meet him there. When you leave the bar, go ahead and follow the address. Then HIDE and FIGHT.

When you finish that, read the news net. You'll note a few news items in which you were involved. You'll also get a message from Jordan Rowe, telling you where the Black Widows currently are. That's your next destination. It will be a Kurita world like Thestria or Proserpina.

When you get there, go into the bar. You'll see some of the Black Widows, and get a story. CHALLENGE it.

You'll get in a fight, and some woman named Tasha will save your butt. She'll tell you that Matabushi is your enemy, not the Black Widows, and that Kearny was just trying to get you killed. Go ahead and leave the bar.

If you read the news net, you'll see that Tasha gave you some files supposedly from Matabushi telling about your family's execution. Read on, and you'll find something about Matabushi announcing a new commercial strategy. Another news item from Jordan Rowe will tell you to meet up with Kearney on Albiero. Go there.

When you get there, you'll land in the middle of a battle, and see Tasha. Follow her. You will see Tasha and Kearny confronting each other, and have to decide whom to trust. I would suggest you trust Tasha.

When the smoke clears, Tasha will give you a data disk explaining the action which killed your family, and who was behind it. She'll also give you five million bucks, which isn't too bad. She'll tell you that the Chalice you're after is on a Kurita planet called Kirchbach (as far as I know, this is always the same) guarded by four Battlemasters and one Warhammer.

Another loose end to tie up is Grig. Head to the planet where you first found him (New Samarkind, Delacruz, or Tabayama) and you'll meet a bum. Ask him to GO ON with his story. Make a DEAL with him.

When you see Grig, WAIT for the situation to improve. You'll get a chance when there are only two guards with him, STRIKE now. He'll try to make a deal with you. Don't go for it, and PULL THE TRIGGER. You'll pocket some easy cash.

You've now done everything you need to do except get the Chalice back. The above actions should have taken about a year of game time, meaning you've got about four more years to go. You should have about 10.5 million bucks, so go ahead and invest in some mechs and crew. SAVE THE GAME before you try to hire any crewmembers, because the game will sometimes crash when you do. You'll want to end up with a good crew and some good mechs, I would suggest you get four Battlemasters. You'll need money for this, and there are two ways you can get it:

#1 Go around buying Mechs at industrial planets and Mech-manufacturing planets (such as Alshain (Kurita), Herperus II (Steiner), Calloway VI (Marik), Ares (Liao), and Marduk (Davion)). Other good planets include Amity, Alderbaran, and Galax. Buy mechs at these planets, and travel to various backwater and out of the way places like Land's End and Baxley. There are a huge number of these planets. Anyway, you can sell Mechs at these places for a nice profit.

#2 Norton Utilities. Save the game, NU it, and give yourself some cash. Money is offset 73 (49h). Fill the three bytes with \$FF, and you'll get about 16.7 Million. Or if you're REALLY greedy, go to byte 76 (4Ch), and change that one to 01h to 0Fh (0Fh will give you about 250,000,000).

Once you get cash, hire a crew and start practicing doing jobs for the various houses. When your crew gets good enough (I suppose you could cheat for this also, if you wanted to), go to Kirchbach and kick some butt.

End of game.

I hope you enjoyed this little solve, and you'll see some more in the future. In addition, I have done a set of docs to Mechwarrior, as the cracking groups did not see fit to release them.

The Alternative -- When the "big" groups don't come through

Ghostbusters II Help Documentation!

Written by Daedalus

1st Printing :: Copyright 1989.

Hola, fellow humanoids! Well, Activision FINALLY released the long awaited (at least by ME) Ghostbusters II! And frankly, I'm rather impressed. Now they could've done a little better on the graphics (like have an option to use 256 colors), but what this game lacks in graphics, it makes up for in sound! The game supports either AdLib or Roland sound boards (neato, huh?). But if you're stuck with only a PC Built in Speaker (like me), then fear not! The sound is STILL pretty good! Oh, well. Since you've probably noticed all that before, let's get on to the game strategy.

Keep in mind that this documentation is a supplement for the documentation included with the Ghostbusters II package. I've included some instructions that can be found in the regular Ghostbusters II manual for those of you who lost them (which most people frequently do). By the way, you HAVE read the original docs, haven't you? Oh, well. Let us begin (again)!

Five years ago, in the city of New York, the Ghostbusters battled their first major spiritual manifestation, Gozer. Crossing the proton streams produced by their particle accelerators, they managed to reverse the dimensional gateway created by Gozer, and send him back through the portal. In the process, they destroyed much of the surrounding area, which just so happened to make the mayor a TAD upset. Over the years, they went out of business, due to various reasons, one being the fact that the supernatural occurrences had been halted dramatically, thus giving them no ghosts to bust. Upon declaring bankruptcy, they went their separate ways.

Peter Venkman became the host of a talk show called "The World of the Psychic", which basically only made fun of people who believed in such things. Ray Stantz and Winston Zeddemore opened up an occult bookstore, and entertained at children's parties. Egon Spengler took up scientific studies at a laboratory.

In the meanwhile, The New York Art Museum received a painting of an ancient tyrant, Vigo the Carpathian. The painting had an aura of evil around it, and with good reason, for it was the resting place of Vigo's spirit, waiting to get out. The spirit needed a spark of energy to emerge into the real world, and it just so happened that the spark needed was in the city's sewer, taking the form of rivers of slime. This slime, being psycho-reactant, was created from all the bad thoughts, actions, and attitudes of the bitter citizens of the Big Apple.

The slime soon rose to the city's surface streets, and it was soon discovered by the people. As each day passed, the painting of Vigo drew power from the slime.

Meanwhile, Spengler, Stantz, and Venkman had been reunited in order that they attend court and face their prosecution. Louis Tully, an acquaintance of the Ghostbusters was their lawyer (strike one). The exhibits on display included some of the Ghostbuster's equipment, such as ghost traps and their particle accelerators. Also on display was a jar of the slime found in the streets. The judge of the court was none to pleased, and sentenced the Ghostbusters to a prison sentence and a fine of \$10,000. While screaming and shouting, the judge failed to realize that the slime was acting up. At the height of his anger, the slime burst to life, and the spirits of two brothers he had previously sentenced to death came forth, attacking those in the courtroom. Diving under a table, he told the Ghostbusters he would drop all charges if they caught the two phantasms. Having no other choice, the Ghostbusters agreed, and they were no sooner in their gear and ready to go. Needless to say, they made a wreck of the whole place, but they DID catch the two ghosts.

Ok, that's the basic background to the game. When you begin, you will find yourself in the courtroom battling the two brothers. You are at the bottom of

the screen, with the ghost trap positioned in the center of the screen. To capture the ghost, use your controlling device (keyboard, joystick, or mouse) and maneuver the bullseye on top of one of the ghosts. When he is in your sights, hit the fire button to fire. He will undoubtedly move, so you will have to move your beam as well. You will notice at the top right-hand part of the screen, there will be two energy bars. These represent the energy of the ghosts you are attempting to capture. Your object is to drain the bar completely. At that point, the ghost trap will automatically kick in and suck in a ghost. Also note in the top left-hand corner, there is a thermometer. If the meter reaches the top, your pack will temporarily shut down due to overheating. When it cools down, you will be able to fire again. I recommend you NOT fire the accelerator at open space, as it wastes energy dramatically.

After catching one of the ghosts, you will have to get the other. Do the same thing to capture this one. Make sure to watch the thermometer, and the slime that the brothers and the slimer throw at you during combat. Don't worry about killing the D.A. in the back. It doesn't really matter. The judge cannot be killed, so you need not worry about him either.

If you catch the two ghosts successfully, you will experience the first quote digitized from the movie with great accuracy: "Two in the box! Ready to go! We be fast, they be slow!". The judge will then release you, and the Ghostbusters will be back in business! If you fail to capture the two ghosts, you will still be allowed to go back into business, but you will owe a debt of \$10,000.

You will next find yourself in the firehouse. You have several options here, those being:

- o Go to get more slime.
- o Answer the phone.
- o Test slime.
- o Visit Parkview.

GETTING MORE SLIME

This should be the VERY FIRST move you make in the firehouse. This option will allow one of the Ghostbusters to be lowered into the city's sewer system in order to get a psycho-reactant slime sample. Lower yourself down to the river, and press the fire button to scoop up slime samples. You will need to fill up the vial with you before you can go back up. Be careful. You must avoid the hand that pops out of the river, and also avoid getting slimed by any wandering ghosts or spirits. If the hand grabs you, quickly shake back and forth to break loose. You will only be able to do this three times. Also, if you get slimed more than three times by wandering ghosts, you will fall into the river.

ANSWER PHONE

You will get a chance to answer the phone six times. Each time, you will be answering a job call to bust some ghosts. Upon selecting this option, a window will appear with a picture of the Ghostbuster's secretary, Janine Melnitz. She will answer the phone by either saying "Ghostbusters...Whaddaya want?", "We got one!!!!", or "Who you gonna call?". Again, each of these are digitized from the movies.

TEST SLIME

Since this is psycho-reactant slime, you will be testing its reaction to some types of music. To select which music to play, move the arrow so that it points to a small button on the recorder. After clicking on that, select the LARGE button to start playing the music. The slime will have a ceratin reaction. Either it will explode, or start to dance. If it dances, then that means you now have a sample of positive energy slime. If it explodes, you will have to get some more.

VISIT PARKVIEW

Apple II Computer Info

If any of the Ghostbusters fall into the river of slime, they will end up in Parkview, the local mental ward. If this is the case, and you wish to break them out, select this option. You will then find yourself climbing on the wall of the institution on a rope. Push to either the left or the right and press the fire button. You will crash through one of the windows and enter the room. There may be any number of things in the room. If one of the Ghostbusters is not there, escape AS SOON AS POSSIBLE. Staying too long will make the guards drop a net over you and take you away. To escape the room, wait for the rope to swing by the window and then push forward and press the button. If you do this correctly, you will be back outside on the rope. If for some reason you wish to leave the place entirely, move DOWN until you reach the ground, where you will drive away in the Ecto-1.

& the Temple of the Screaming Electron	Taipan Enigma	510/935-5845
Burn This Flag	Zardo	408/363-9766
realitycheck	Poindexter Fortran	510/527-1662
Lies Unlimited	Mick Freen	801/278-2699
The New Dork Sublime	Biffnix	415/864-DORK
The Shrine	Rif Raf	206/794-6674
Planet Mirth	Simon Jester	510/786-6560

"Raw Data for Raw Nerves"

X-----X

After going through all this stuff for some time, Egon will make a Slime Blower to shoot the positive energy slime. You will now have an option to "Take Statue for a Walk", meaning you will animate the Statue of Liberty in order to go into battle with Vigo the Carpathian. DO NOT select this option until you have THREE vials of positive slime (the vials will be shown to the bottom right of the list with all the Ghostbusters' names. Just keep getting more slime and testing it. When you test ALL of the sound tracks, you will end up with three vials.

MOVING THE STATUE OF LIBERTY

Simply move your controller to the northeast and northwest. Observe the movement of the statue's feet, and how they interact with your controller. In time, you will get the hang of it and be able to move quickly. To stop the statue at an intersection in order to turn, maneuver both of its feet so that they are both resting on the ground.

A TIP: Like I said before, the FIRST MOVE in the firehouse you should make is getting some slime. After doing so, DO NOT test it. Rather, answer the phone. Egon will offer to stay behind and run tests. When you come back from the call, he will have finished his tests, and inform you that he found a bad sound track. He will, however, have kept the slime from exploding. That way, you will not have to go back for more slime! Answer the phone again to repeat this process. Keep in mind that WHENEVER you answer a call and there is a slime sample still intact, Egon will stay behind to test it.

Well, that should be enough information to get you started! I'll leave you to battle Vigo yourself <grin>. If you have any problems, or any other tips for this game, contact me at the number below. Also, I am getting into the habit of writing documentation files for other games, so if you happen to find a game with little or no docs whatsoever, give me a call, and I'll write one up if I can. Have fun!!!!

Beyond the Boundaries
P.O. Box 4494
Chatsworth, CA. 91311

DATA LINE: 818-341-6941
300/1200/2400 bps Support
Open 24 Hours a Day!!!!

X-----X
Another file downloaded from: The NIRVANAnet(tm) Seven

=====

DOCUMENT backgammon

=====

+++

Backgammon

By: Author Unknown

Here is a favorite board game of skill and luck. The object of the game is to remove all of your pieces from the playing field before your opponent (the computer) does. If you are unfamiliar with the game of Backgammon, please refer to a book that explains the rules prior to playing the game.

--

The board positions are numbered from 1 to 24 (or 24 to 1). To move type in the beginning position followed by a space and the ending position (Ex. 13 9).

If you get knocked off the board your beginning position is 25. To bring a piece home type [H] for the destination (Ex. 1 H).

NOTE 1: To exit this game RE-BOOT your machine. Sorry, but there was no way to change it.

Press ['-][1] to run Backgammon.

Files needed:

BACKGAMMON

~~~

ome to make the game screens more readable. If you are unfamiliar with how to access the CONTROL PANEL please read your users manuals.

Files needed:

BACKGAMMON
   
~~~

=====

DOCUMENT bag.tricks.1

=====

=====

Bag of Tricks Documentation

=====

Written by: The Phantom

WARNING!!! WARNING!!! WARNING!!! Back up the disks that you are going to use INIT, ZAP, FIXCAT on or you are taking a big chance!

::::::::::::::::::::::::::::::::::::

TRAX

::::::::::::::::::::::::::::::::::::

1. Summary of TRAX commands

1.1 Analysis Mode commands

- Arrows Select track to read.
- R Read current track.
- N Read next track.
- P Read previous track.
- F Toggle disk format (13 or 16 secs).
- V Verify disk and display errors.
- A Display address checksums.
- D Display data checksums.
- 0 Recalibrate and read track 0.
- S Change slot/drive configuration
- X Enter raw dump mode.
- ESC Exit program.

2. Raw Dump Commands

- > Scroll forward one line
- <- Scroll back one line
- N Scroll to next page
- P Scroll to previous page
- B Go to beginning of buffer
- E Go to end of buffer
- C Change search byte
- X Return to analysis mode

::::::::::::::::::::::::::::::::::::

INIT

::::::::::::::::::::::::::::::::::::

3. Summary of INIT Functions

3.1 Disk sectoring

This value is the number of sectors per track. the options are 13 or 16. A 16 sector selection will not work if you have an old disk drive which has not been updated for 16 sectors per track.

3.2 Disk format

This is the type of operating system being used on this diskette. for 13 sector both DOS and CP/M are available. For 16 sectors disks DOS, CP/M and PASCAL are available (the PASCAL option works for Apple Fortran).

3.3 Preserve data

This option will allow you to re-format a disk while preserving the data on it.

3.4 Skew direction

This prompt indicates the direction of the skewing to be used. The options are ascending and descending. Ordinarily, DOS reads sectors in descending order while CP/M and PASCAL read them in ascending order.

3.5 ???

TO 9, you could increase your disk speed up to 40%.

3.6 Slot

The number of the slot occupied by you disk controller.

3.7 Drive

The drive number of you disk drive.

3.8 Volume number

This is the volume number that will be used to format your diskette. The numbers 0-254 are available. You can use this to change a volume number.

3.9 Starting track

The track number which formatting is to start.

3.10 Ending Track

The last track to be formatted.

```

:.....:
      ZAP
:.....:
    
```

4. The ZAP Program

/EXP/ Moving the buffer cursor to the offset given by /EXP/.
/EXP/ may range in value from \$00 to \$FF (0-255)

+|-/EXP/ (The symbols +|- means you can put a plus or minus sign at that point.) Move the cursor to a new offset, computed by adding or subtracting the value of the expression, /EXP/ EX. +257.

R Read track and sector. Used in this
format..R/EXP1/,/EXP2/

WRITE Write to current track and sector. Used in this
format...WRITE/EXP1/,/EXP2/

N Next track.

P Read previous sector.

LC Lower case.

UC Upper case.

IMAGE Sets the ASCII translation on the right hand side of the
screen so that minimal translation is done.

ASCII The opposite of IMAGE mode. ASCII is the default.

LOCK Lock ZAP so no writing can be done.

UNLOCK Opposite of LOCK, undoes LOCK.

DOS16 Informs ZAP the the disk has 16 sec format.

DOS13 Self explanatory.

CP/M For CP/M disks.

PASCAL For PASCAL disks.

OPEN You can open a file like...OPEN"HELLO" and it will read
the VTOC and find the track sector list and display the
sectors c

CLOSE Closes an opened file.

PRINT Copies entire screen to printer.

Here is a list of all the ZAP commands including the ones i didn't
mention.

```

/EXP/          Set buffer cursor
+ /EXP/        Move forward in buffer, disk, or file
- /EXP/        Move backward as above
R/TRK/,/SEC/   Read track, sector
R/REC/,BYT/    Read record, byte (open file)
WRITE/TRK/,/SEC/ Writes track, sector
WRITE/REC/,/BYT/ Same as above
N              Next sector
P              Previous sector
%              indirect read
    
```

5. Buffer Modify Commands

```

/STR/          Store string into buffer
SET            Multiple store
&              Logical and operation
    
```

O Logical OR operation
 X Logical Exclusive OR operation
 6. COMPARISON COMMANDS
 L Look for string.
 V verify strings matches buffer
 COMPARE/BUFFER/ Compare buffers.
 7. Option Switch Commands
 LC Lowercase
 UC Uppercase.
 IMAGE Print char in image form.
 ASCII Standard ascii translation.
 LOCK Prevent write operations.
 UNLOCK Allow write operations.
 DOS16 DOS 3.3
 DOS13 DOS 3.2 OR 3.1
 CPM Use CPM skew table (16 sector).
 PASCAL Use PASCAL skwe table.
 NOWRAP Prevent disk or file wraparound
 8. File Commands
 OPEN Open a file
 RLEN Set record length
 CLOSE Close file
 WHERE Open file containing sector
 9. Printer Commands.
 PR# Set printer slot number
 PRINT Copy screen to printer
 DUMP Dump sector(s) to printer
 IDUMP Dump instructions to printer
 NOTE Print comment line
 LOG Log all changes
 NOLOG Stop logging changes
 10. Buffer command
 # Select buffer
 11. Macro Commands

(/NAME//TEXT/) Define macro
 /NAME/ Invoke macro
 //NAME/ Delete macro
 MACROS List of all macros
 MSWAP Swap macro table with buffer
 H 1 "Label Commands"
 LABELS Displays all labels
 =/NAME/ Define label
 //NAME/ Delete label
 /NAME//EXP/ Position to label plus expression
 LSWAP Swap label trace with buffer
 12. Trace commands
 TRACE Display trace table
 < Back up in trace
 > Advance in trace
 13. Miscellaneous Commands
 AT/EXP/ Position but do not read
 AT Mark buffer empty
 S/x/,/y/ Set disk slot to (x) and ,drive to (y)
 ?/EXP/ Calculator
 I Disassemble to screen
 LOOP/CNT//,LOC/ Repeat line
 HELP/EXP/ Shows help screen
 VTOC Reads DOS VTOC
 CAT Read first catalog sector
 STATUS Show ZAP status variables
 END Exit ZAP
 14. Patching DOS using ZAP
 14.1 Log note patch to aviod reload of language card
 R0,9 D3 V8D00E0 D3:EAEAEA UNLOCK WRITE NOLOG
 14.2 BRUN or EXEC the HELLO File
 To BRUN
 R0,D V06 42:34 UNLOCK WRITE NOLOG
 To EXEC:
 R0,D 42 V06 42:14 UNLOCK WRITE NOLOG
 14.3 Removing the pause during a long CATALOG

R1,D VCE 43:60 UNLOCK WRITE NOLOG

14.4 Changing the HELLO File Name

R1,9 75:'THE NEW NAME' UNLOCK WRITE NOLOG

14.5 Put cursor on command which caused a DOS Err

UNLOCK

R1,5 FF V6C FF:4C WRITE

R1,6 00 V5E9D 00:DFBC WRITE

R0,6 DF:C625:::2022FC6C5E9D WRITE

NOLOG

14.6 Allow the Value of the L Keyword of a BSAVE to Exceed 32k

R1,8 63 VFF7F 63:FFFF UNLOCK WRITE

NOLOG

15. FIXCAT

This is a self explanatory program. But here are some notes

The way this program restores deleted files is that it goes looking for track/sector lists. I found this program to be really great.

First, if you have an I/O err, use INIT, while saving the data. If the I/O err is on the catalog track. No problem! Just run FIXCAT after using INIT and you can either start from scratch (warning! I have never done this so make a backup before using) or you can read from present catalog. If you start from scratch look for deleted files and restore all that you can.

=====

DOCUMENT bag.tricks.2

=====

```

%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/
/
%    !\      _____    !/      %
/    !!\    B A G    /!!    /
%    !!!\    /!!    %
/    !!! !>---O-F---<!!!!    /
%    !!! !/    \!!!!    %
/    !/ T R I C K S \!!    /
%    !/      _____    !/      %
/
%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/

```

S O F T - D O C U M E N T A T I O N

%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/

B Y

] I N C O G N I T O [

%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/

D I S T R I B U T E D

B Y

THE CURSE [612]920-3576

%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/%%/

T R A X

TRAX: A track examination program. TRAX will read a track from a diskette in its "raw" pre-nibbilized form and format it on the screen, attempting to pick out the sector formatting, such as a protected diskette or one which has been damaged in some way, TRAX will highlight its anomalies. TRAX is also useful in conjunction with the INIT program to determine the physical order or skewing of sectors on a diskette.

TRAX COMMANDS

=====

[-ANALYSIS MODE COMMANDS-]

```

ARROW KEYS  SELECT TRACK TO READ
R           READ CURRENT TRACK
N           READ NEXT TRACK
P           READ PREVIOUS TRACK
F           TOGGLE DISK FORMAT (13/16)
V           VERIFY DISK & DISPLAY ERRS
A           DISPLAY ADDRESS CHECKSUMS
D           DISPLAY DATA CHECKSUMS
O           RECALIBRATE & READ TRACK 0
S           CHANGE SLOT/DRIVE CONFIG.
X           ENTER RAW DUMP MODE
ESC KEY     EXIT PROGRAM

```

[-RAW DUMP COMMANDS-]

```

RIGHT ARROW  SCROLL FORWARD ONE LINE
LEFT ARROW  SCROLL BACK ONE LINE

```

```
N      SCROLL TO NEXT PAGE
P      SCROLL PREVIOUS PAGE
B      GO TO BEGINNING OF BUFFER
E      GO TO END OF BUFFER
C      CHANGE SEARCH BYTE
L      LOOK FOR SEARCH BYTE
X      RETURN TO ANALYSIS MODE
```

 I N I T

INIT: The INIT program can be used to reformat a single track on a diskette, a range of tracks, or the entire diskette. In addition, INIT will optionally attempt to preserve the contents of any readable sector it finds before reformatting. Thus, INIT can be used to fix a single sector whose formatting has been damaged so that it can no longer be read from or written to. This avoids having to initialize the entire diskette with the DOS INIT command. INIT will also allow you to specify the order of the sectors on any given track. doing this can improve disk read times by about 40%.

INIT OPTIONS
 =====

Disk Sectoring: THIS VALUE IS THE NUMBER OF SECTORS PER TRACK. THE OPTIONS ARE 13 OR 16.

Disk Format: This is the type of operating system being used on this diskette.

Preserve Data: This question asks whether the data currently on your diskette should be preserved.

Skew Direction: This prompt indicates the direction of the skewing to be used.

Skew Factor: This is the spacing placed between logically sequential sectors during formatting.

Slot: The number of the slot occupied by your disk drive controller card.

Drive: The drive number of your disk drive.

Volume Number: This is the volume number that will be used to format your diskette.

Starting Track: The track number upon which formatting is to start.

Ending Track: The last track to be formatted.

 Z A P

ZAP: ZAP in its simplest sense allows you to read and modify a diskette at the track and sector level. A sector may be read and displayed in hexadecimal and ascii and, optionally, modified and rewritten to the disk. ZAP provides over 50 commands, including some programmability with macros, labels, and loops, allowing you to perform complex manipulations on diskettes. full support exists for DOS files of all types, CP/M files, and Pascal files as well. ZAP is perhaps the most complex of the four programs but you will probably find you use it most heavily.

ZAP COMMANDS
 =====

[-INPUT/OUTPUT COMMANDS-]

```
/EXP/      Set buffer cursor
+/EXP/     Move forward in buffer, disk, or file
-/EXP/     Move backward in buffer, disk, or file
R/TRK/,/SEC/ Read track, sector (file closed)
R/REC/,/BYT/ Read record, byte (file open)
WRITE/TRK/,/SEC/ Write track, sector (file closed)
WRITE/REC/,/SEC/ Write record, byte (file open)
N/EXP/     Next sector (plus /exp/sectors)
P/EXP/     Previous sector (minus/exp/sectors)
%          Indirect read track, sector
```

[-BUFFER MODIFY COMMANDS-]

```
:/STR/     Store string into buffer
SET/STR/   Multiple store
&/STR/     Logical AND operation
O/STR/     Logical OR operation
X/STR/     Logical EXCLUSIVE OR operation
```

[-COMPARISON COMMANDS-]

```
L/STR/     Look for string
V/STR/     Verify string matches buffer
COMPARE/BUFFER/ Compare buffers
```

[-OPTION SWITCH COMMANDS-]

```
LC          DISPLAY LOWER CASE AS IS
UC          TRANSLATE LOWER CASE TO UPPER CASE
IMAGE       Print characters in image form
ASCII       Standard ascii translation
LOCK        Prevent write operations
UNLOCK      Allow write operations
DOS16       Use DOS 3.3 skew table (16 sector)
DOS13       Use DOS 3.2 or DOS 3.1 skew table (13 sector)
CPM         Use CPM skew table (16 sector)
PASCAL      Use Pascal skew table (16 sector)
WRAP        Allow disk or file wraparound
NOWRAP      Prevent disk or file wraparound
```

[-FILE COMMANDS-]

```
OPEN/STR/   Open a file
RLEN/STR/   Set record length
CLOSE       Close file
WHERE       Open file containing sector
```

[-PRINTER COMMANDS-]

```
PR#/EXP/    Set printer slot number
PRINT       Copy screen to printer
DUMP/EXP/   Dump sector(s) to printer
IDUMP       Dump instructions to printer
NOTE/LINE/  Print comment line
LOG         Log all changes
NOLOG       Stop logging changes
```

[-BUFFER COMMANDS-]

#/EXP/ Select buffer

[-MACRO COMMANDS-]

(/NAME/ /TEXT/) Define macro
 /=NAME/ Invoke macro
 //NAME/ Delete macro
 MACROS List all macros
 MSWAP Swap macro table with buffer

[-LABEL COMMANDS-]

LABELS Display all labels
 /=NAME/ Define label
 //NAME/ Delete label
 /NAME/ Position to label
 /NAME/+/EXP/ Position to label plus expression
 LSWAP Swap label table with buffer

[-TRACE COMMANDS-]

TRACE Display trace table
 < Back up in trace
 > Advance in trace

[-MISCELLANEOUS COMMANDS-]

AT/EXP/ Position but do not read
 AT Mark buffer empty
 S/SLOT/,/DRIVE/ Set disk slot, drive
 ?/EXP/ Calculator
 I Disassemble to screen
 LOOP/CNT/,/LOC/ Repeat line
 HELP/EXP/ Show help screen
 VTOC Read DOS VTOC
 STATUS Show ZAP status variables
 END Exit zap

 F I X C A T

FIXCAT: The fixcat program is an automated utility which allows you to diagnose and correct errors in the catalog track of any DOS diskette. In addition, it takes the Find Track/ Sector lists program (FTS) of Beneath Apple DOS a step further by actually recovering lost files on a diskette automatically! Fixcat will also allow you to remove the DOS image from track 1 and 2 to provide more room for files and will recover lost sectors by correcting the VTOC freespace map.

FIXCAT MESSAGES
 =====

Display in what slot?

If you wish to have fixcat display its message only on the Apple screen, enter 0 (the default). If you want them to be printed on a printer, give the slot number of your printer here.

Automatic Timeout in Seconds?

Enter 0 (the default) if you want FIXCAT to always wait for your

response to each question it asks. If you specify a number of seconds, in the other hand, each time FIXCAT prompts you for a response, it will wait that number if seconds before taking the default as your answer.

What Format is Your Diskette?

If your diskette is 16 sector format, type 16 (the default). If it is an older 13 sector diskette, type 13.

Read existing catalog from diskette or start from scratch? ("R" or "S")

If your catalog is at all intact, specify R (the default) to have FIXCAT use it as a basis for its operations. Only if there is not a single valid sector left in the catalog should you specify "S". In this case, FIXCAT will start with a zeroed out catalog track and will build it up from scratch.

Does this diskette contain a DOS image on tracks 0, 1, and 2?

If this is a standard, bootable disk, reply Y (the default). If you want to recover track 1 and 2 for your own and never boot this diskette again, reply N. Also reply N if you have previously recovered these tracks using FIXCAT.

Scan for Lost or Deleted Files?

If you do not think you have any missing files, reply N (the default). If you wish to have FIXCAT search the entire diskette for "unattached" track/ sector list sectors, type Y.

Recover This File?

If you think that this is a file you want, reply Y (the default). If the file looks like an old deleted file you no longer wanted, reply N.

What type of File is it? (T,I,A,B,R,S)

If you were able to identify the file, you probably know its file type as well. If not, FIXCAT will prompt you with a pretty good guess. You'll find that FIXCAT will be correct in its guess about 95% of the time. If the wrong file type is given and you later detect this you can delete the file and rerun FIXCAT, supplying a different type this time.

Apply Accumulated Corrections to the VTOC/Catalog Track?

Reply Y if you want the corrections you have authorized up to this point to be applied to the catalog track on your diskette. Reply N if you want to forget the whole thing and not change your diskette after all.

=====

DOCUMENT baltic.1985

=====

[]-> BALTIC 1985 <- []

^^^^^^^^^^

%%% DOCS WRITTEN BY: COMMANDER TOSH AND ALI-BABA %%%

INTRODUCTION TO BALTIC 1985:

THE SOVIET OFFENSIVE INTO SOUTHERN GERMANY HAS BEEN HALTED AT THE

RHINE AFTER BITTER FIGHTING. IN THE PERSIAN GULF, THE BATTLE FOR THE

OILFIELDS HAS PAUSED, AS BOTH SIDES RESUPPLY.

SATELLITE AND OTHER INTELLIGENCE REPORTS SHOW WIDESPREAD CIVIL

DISOBEDIENCE IN WARSAW, GDANSK, AND OTHER POLISH CITIES. SOME EASTERN

EUROPEAN UNITS HAVE BEEN CLASSIFIED AS UNRELIABLE BY THEIR SOVIET

ALLIES, AND SOVIET RESERVES HAVE BEEN SENT TO SUPPRESS THE

REBELLIONS.

RADIO REPORTS FROM BERLIN, BREAKING THROUGH INTENSE SOVIET JAMMING,

SHOW THAT AMERICAN INFANTRY UNITS, BYPASSED BY THE SOVIET BLITZKRIEG

INTO SOUTHERN GERMANY, ARE STILL HOLDING OUT IN THE SUBURBS OF WEST

BERLIN.

IN THE NATO BATTLEFIELD HEADQUARTERS, THE NATO COMMANDER REVIEWS THE

INTELLIGENCE REPORTS, MEETS WITH HIS STAFF, AND ISSUES THESE ORDERS:

NATO UNITS ARE TO DRIVE SOUTH EAST, SEIZE AND HOLD A CORRIDOR TO

BERLIN, LINKING UP WITH THE NATO UNITS HOLDING OUT THERE, BEFORE HE

SOVIETS CAN BRING IN THEIR RESERVES.

AT 0400 THE NEXT MORNING, TACTICAL AIR SUPPORT FIGHTERS AND

FIGHTER-BOMBERS TAKE OFF FROM THEIR AIRFIELDS. AIRBOURNE UNITS DROP

STRATEGICALLY ALONG THE CORRIDOR TO SEIZE KEY OBJECTIVES. NATO MAIN

BATTLE TANKS AND ARMORED PERSONNEL CARRIERS ROLL THROUGH THE

CHECKPOINT S AND THE WRE FENCES ALONG THE EAST GERMAN BORDER, ON THE

ROAD TO BERLIN. OPERATION BALTIC HAS BEGUN.

[1.0] PLAYING THE FIRST GAME:

WHEN THE GAME STARTS, YOU WILL BE PRESENTED WITH THE OPTIONS SHOWN

WHEN YOU BOOT THE PROGRAM UP. TO CHANGE ANY OPTION, TYPE THE NUMBER

UNTIL THE OPTION YOU WANT IS HIGHLIGHTED. WHEN YOU ARE READY, PRESS

THE SPACE BAR TO SEE A COOL TITLE PAGE. THE GAME WILL THEN BEGIN WITH

THE NATO MOVE.

[1.1] THE MAP SCALE:

EACH HEXAGON ON THE ON THE 39 BY 28 HEX MAP REPRESENTS 3 MILES. ON THE

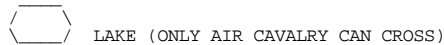
SCREEN, YOU SEE ONE SECTOR, OR 1/12TH OF THE TOTAL MAP. SECTOR

NUMBERS AND LETTERS (1 TO 9; A, B, AND C) APPEAR ON THE MAP.

TERRAIN:

THE NORTH GERMAN TERRAIN IS SIMILAR TO THAT IN THE GAME "GERMANY

1985", WITH THESE ADDITIONS: (NOT TOO ACCURATE!)

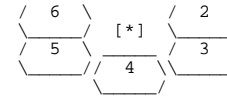
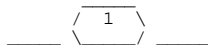


- (*) NATO-HELD OBJECTIVE
- (O) SOVIET-HELD OBJECTIVE

[1.2] MOVING THE CURSOR:

TO MOVE THE BLINKING CURSOR AROUND THE MAP, USE THE COMMAND KEYS SHOWN

IN THE DIAGRAM AT RIGHT:



[NOTE]:THE CURSOR ([*]) CAN MOVE UP, DOWN, OR DIAGONALY INTO ANY ONE

OF THE NUMBERED HEXES.

[1.3] UNIT IDENTIFICATION:

IN BALTIC 1985 THE NATO PLAYER HAS ONE ADDITIONAL UNIT TYPE: NATO &

PARATROOP INFANTRY.

[1.4] MOVING UNITS:

PRESS [ESCAPE] TO FIND YOUR FIRST UNIT, AND TO ENTER ITS MOVEMENT

PHASE. MOVE THE UNIT THE SAME WAY YOU WOULD MOVE THE CURSOR (CONSULT

MAP ABOVE). WHEN YOU HAVE MOVED YOUR LAST UNIT, THE CURSOR ON THE

SCREEN WILL BLINK. TYPE CTRL. E, AND THEN TYPE 'E' TO END YOUR MOVE.

[1.5] THE SOVIET MOVE:

THE COMPUTER WILL MOVE ALL THE SOVIET UNITS ONE BY ONE. DURING THE

SOVIET MOVE, YOU CAN STOP THE COMPUTER BY HITTING THE [ESCAPE] KEY.

START THE MOVEMENT AGAIN WITH THE [SPACE BAR]. WHEN THE CURSOR BLINKS

AGAIN, THE SOVIET MOVE IS FINISHED. PRESS THE [ESCAPE] KEY TO START

YOUR SECOND MOVE.

[2.1] MOVEMENT DISPLAY: THE MOVEMENT DISPLAY IN BALTIC 1985 SHOWS THE

WORD "SMOKE":IF IT IS HIGHLIGHTED, THE UNIT IS IN A SMOKE-FILLED HEX.

[MN] (MINE) AND [NC] (NUCLEAR CONTAMINATION) DO NOT APPEAR, BECAUSE

THEY PLAY NO PART IN THIS SCENARIO.

[2.5] AIR CAVALRY:

AIR CAVALRY UNITS CANNOT ENTER ENEMY-OWNED TOWN, URBAN OR OBJECTIVE

HEXES.

[2.6] TRANSPORT MODE:

[%] INFANTRY UNITS CANNOT CHANGE TO TRANSPORT MODE.

[%] UNITS IN TRANSPORT MODE CANNOT ENTER ENEMY-OWNED URBAN, TOWN OR

OBJECTIVE HEXES.

[2.8] RIVERS:

REGULAR UNITS CAN CROSS A RIVER IN RIVER MODE. AIR CAVALRY CAN CROSS

A RIVER IN ANY MODE.

[2.9] BRIDGING:

NO BRIDGING IS NEEDED IN THIS SCENARIO. ENGINEER UNITS CAN CHANGE TO

RIVER MODE MORE EASILY THAN OTHER UNITS, BUT OTHERWISE HAVE NO SPECIAL

FUNCTIONS.

[2.10] TERRAIN EFFECTS:

LOOK AT THE TABLE AT THE END OF THE DOCS.

[2.11] SMOKE:

SMOKE FILLED HEXES COST AN EXTRA MOVEMENT POINT TO ENTER.

[3.0] MODES:

[%] INFANTRY UNITS CANNOT CHANGE TO TRANSPORT MODE.

[%] ENGINEER UNITS CAN CHANGE TO REORGANIZE MODE.

[%] CHANGING TO RIVER MODE COSTS REGULAR UNITS TWICE THE MOVEMENT

POINTS IT DID IN THE GAME "GERMANY 1985". ENGINEER UNITS CAN CHANGE TO

RIVER MODE AT A COST HALF THAT OF REGULAR UNITS, GIVING THEM THE

ABILITY TO CROSS RIVERS MORE RAPIDLY THEN OTHER UNITS.

[4.0] THE ORDER PHASE:

PLEASE REFER TO "GERMANY 1985" DOCS TO FIND OUT THE ORDER PHASE (APPLE MANOR).

[5.0] ARTILLERY:

ONCE AGAIN, PLEASE REFER TO "GERMANY 1985" DOCS TO FIND OUT ARTILLERY RANGES.

[6.0] AIR POWER: [%] THE SIDE WITH AIR SUPERIORITY HAS A POSSIBLE MAXIMUM OF FIVE AIR STRIKES PER TURN.

[%] THE NATO PLAYER HAS AIR SUPERIORITY FOR THE FIRST TWO TURNS.

[9.0] REORGANIZATION:
ENGINEER UNITS MAY REORGANIZE.

[10.0] HIDDEN UNITS:
ALL UNITS ARE EXPOSED WHEN THEY FIRST APPEAR ON THE MAP. HIDE EACH OF YOUR UNITS BY TYPING CTRL. H DURING ITS MOVEMENT PHASE. IF YOU ARE PLAYING SOLITAIRE, AND YOU HAVE CHOSEN THE HIDDEN OPTION, THE COMPUTER WILL AUTOMATICALLY HIDE ENEMY UNITS WHEN THEY MOVE.

[11.0] MINES AND NUCLEAR CONTAMINATION: MINES AND NUCLEAR CONTAMINATION PLAY NO PART IN THIS SCENARIO.

[13.0] %%% VICTORY! %%%

[13.1] VICTORY POINTS: THE NATO PLAYER RECEIVES:

[%] 1/2 POINT PER TURN FOR EACH OBJECTIVE HELD

[%] 1/2 POINT FOR EACH SOVIET UNIT ELIMINATED THE SOVIET PLAYER RECEIVES:

[%] 1 POINT PER TURN FOR EACH OBJECTIVE HELD

[%] 1 POINT FOR EACH NATO UNIT ELIMINATED NOTE: AN OBJECTIVE HEX IS HELD BY THE SIDE WHOSE UNIT LAST ENTERED THE HEX. (OR ORIGINALLY WAS HELD BY THE PLAYER.)

[13.2] THE VICTORY DISPLAY:
TO SEE THE DISPLAY OF VICTORY POINTS EARNED BY EACH SIDE, TYPE CTRL. V AT ANY TIME DURING YOUR TURN. (PLAYERS CAN ALSO SEE THE VICTORY DISPLAY DURING SOLITAIRE GAMES WHEN THE COMPUTER IS MOVING ENEMY UNITS.)

[13.3] END OF THE GAME: BALTIC 1985 ENDS AUTOMATICALLY AFTER TURN 15, 16, OR 17, AT THE OPTION OF THE COMPUTER. THE COMPUTER WILL COMPARE VICTORY POINTS AND DECLARE A WINNER.

[16.0] TACTICS:

[%] THE NATO PLAYER MUST MOVE QUICKLY TO TAKE ADVANTAGE OF HIS INITIAL AIR SUPERIORITY AND NUMBERS. THE RUSSIAN PLAYER STARTS WITH NO SPARE AIR SUPERIORITY POINTS AND IT WILL BE SEVERAL TURNS BEFORE THE NATO PLAYER CAN BE CHALLENGED IN THE AIR.

[%] KEEP DIVISIONS TOGETHER. PROTECT, AND, WHENEVER POSSIBLE, HIDE HEADQUARTERS UNITS IN THE REAR. USE THE D KEY FREQUENTLY TO CHECK THE LOCATION OF DIVISIONAL UNITS.

[%] WITHDRAW, HIDE AND REORGANIZE WEAKENED UNITS. THEY WILL BE NEEDED LATER IN THIS SCENARIO, WHEN SOVIET REINFORCEMENTS ARRIVE, AND THEIR LOSS COSTS VICTORY POINTS.

[%] HIDE UNITS WHENEVER POSSIBLE. THE COMPUTER CANT SEE YOU, AND AMBUSHES ARE AN EFFECTIVE TACTIC.

[%] TAKE AND HOLD ONTO OBJECTIVES. YOU RECEIVE VICTORY POINTS EACH TURN THEY ARE HELD.

[%] PREPARE ATTACKS CAREFULLY. USE A FEW SELECTED UNITS TO ATTACK AND DEFEND, WITH NUMEROUS SUPPORTING UNITS AND HEADQUARTERS NEARBY.

[%] AIR SUPERIORITY IS CRUCIAL, NOT JUST FOR SUPPORTING AIR STRIKES, BUT BECAUSE ENEMY AIR SUPERIORITY HINDERS YOUR MOVEMENT. USE CTRL. A EACH TURN TO CHECK YOUR AIR POWER STATUS, AND ALLOT POINTS FOR FUTURE SUPERIORITY.

FREQUENTLY USED COMMANDS

```

=====
O-GIVE ORDERS TO UNIT
C-CHANGE MODE OF UNIT
L-LOOK AT OTHER UNMOVED UNITS IN THAT DIVISION
Q-LEAVE UNIT WHERE IT IS
D-HIGHLIGHT & BLINK ALL UNITS OF A DIVISION
P-SHOW ENTIRE MAP
CTRL.H-HIDE UNIT
CTRL.C-ATTACK ADJACENT UNIT
CTRL.A-SHOW AIR POWER DISPLAY
CTRL.V-SHOW VICTORY POINTS
[ESCAPE]-EXIT MOVEMENT PHASE
    
```

COMMANDS WHEN CURSOR IS BLINKING

```

=====
S-(FOLLOWED BY MAP SECTOR NUMBER OR LETTER)-SHOW THAT SECTOR OF MAP
[SPACE BAR]-RETURN TO GAME PLAY
CTRL.E-END TURN
    
```

COMMANDS DURING SOLITAIRE GAME

```

=====
CTRL.P-TURN COMBAT PAUSE ON/OFF
CTRL.V-SHOW VICTORY DISPLAY
[LEFT ARROW]-SPEED UP COMPUTER MOVE
[RIGHT ARROW]-SLOW DOWN COMPUTER MOVE
[SPACE BAR]-RESUME PAUSED COMPUTER MOVE
    
```

APPENDIX

TERRAIN EFFECTS TABLE				MAXIMUM MOVEMENT ALLOWANCES	
TERRAIN	MOVEMENT	SIGHTING	COMBAT	NATO	SOVIET
OPEN	2	4	0	TANK 18	TANK 18
L. ROUGH	3	3	2	SPG 14	BMP 18
ROUGH	4	2	3	APC 18	ARTY 12
FOREST	3	2	2	AIRCAV 22	KATSH 12
TOWN	3	3	2	INFAN 12	INFAN 12
URBAN	4	2	4	ENG 14	ENG 14
OBJECT.	3	2	3		
LAKE	3	4	0		

=SECTOR NUMBERS:	
NOTE:SECTOR #'S 1-B ARE TREATED AS OPE	
N 1-B 2 4 0	
HEXES FOR ALL PURPOSES; SECTOR # C IS	
C 4 2 4	
TREATED AS AN URBAN HEX.	

= TYPE VS TYPE TABLE	
SOVIET UNITS VS NATO INFANTRY:	
TANK	-3
BMP	-2
ARTLY	-10

```

KATSH          -10
INF.           -2
ENG            -2

=====
NATO INFANTRY VS:      SOVIET TANK  BMP  ARTLY  KATSH  INF  ENG
                       2      2      4      4      1      1
=====
=NATO UNITS VS SOVIET INFANTRY:
TANK             -1
SPG              -5
APC              1
AIRCAV          -5
INFAN           1
ENG             1

=====
SOVIET INFANTRY VS:  NATO TANK  SPG  APC  AIRCAV  INFAN  ENG
                       0      3      0      3      -2      -1
=====

```

```

=====
DOCUMENT bank.st.writer
=====

```

```

#####
#           BANK STREET WRITER           #
#           DOCUMENTATION                #
#####
#                                           #
#           CREATED BY                   #
#                                           #
#           D*I*R*T*Y  H*A*R*R*Y        #
#                                           #
#                                           #
#           FOR                           #
#                                           #
#           THE OUTPOST                   #
#           [312] 441-6957                 #
#                                           #
#           &                             #
#                                           #
#           THE SOUTH POLE                #
#           [312] 677-7140                 #
#                                           #
#####

```

STARTING
=====

1. INSERT BANK STREET WRITER DISK INTO DRIVE AND TURN ON COMPUTER OR TYPE "PR#S" WHERE S=SLOT OF DRIVE
2. IFYOU PRESS <ESC> WHILE BANK STREET WRITER IS LOADING, THE UTILITY PROGRAM WILL LOAD INSTEAD

MODES
=====

WRITE MODE, EDIT MODE, AND TRANSER MODE
HITTING <ESC> FOR EDIT MODE WILL SHOW YOU:

```

<- OR ->, RETURN      <ESC> WRITE
ERASE  MOVE  FIND  TRANSFER  I
UNERASE  MVBCK  RPLC  MENU      J K
                                   M

```

TO ENTER TRANSFER MODE, MOVE CURSOR WITH ARROWS UNTIL ON TOP OF TRANSFER.
IN TRANSFER MODE, YOU WILL SEE:

```

<- OR ->, RETURN      <ESC> MENU
RETRIEVE  DELETE  PRINT-DRAFT  QUIT
SAVE  INIT  RenAME  PRINT-FINAL  CLR

```

TO MOVE FROM TRANSFER TO EDIT, HIT <ESC>

WRITE MODE
=====

ENTER TEXT NORMALLY ONLY PRESS <RETURN> TO END PARAGRAPH

CAPITALIZE:
HIT <SHIFT> AND <N> AT THE SAME TIME, AND THEN THE LETTER YOU WISH TO CAPITALIZA

SHIFT LOCK:
<SHIFT><N><N>

DELETE LETTERS:
USER <-

INDENT PARAGRAPHS:
<CTRL-I> (8 SPACES)

CENTER TEXT:
<CTRL-C> THEN TEXT

FREE SPACE:
<CTRL-S>

EDIT MODE
=====

CURSOR CONTROL KEYS:

I: UP
J: LEFT
K: RIGHT
M: DOWN
B: BEGINNING
E: END
U: UP 12 LINES
D: DOWN 12 LINES

ON THE //E, THE ARROWS MAY BE USED IN PLACE OF I,J,K, AND M

INSERTING TEXT:
MOVE CURSOR TO WHERE YOU WANT TO INSERT, HIT <ESC> FOR WRITE MODE, AND INSERT TEXT

ERASE TEXT:
GET IN EDIT MODE WITH ERASE HIGHLIGHTED AT TOP OF SCREEN. POSITION CURSOR AT BEGINNING OF TEXT. HIT <RETURN>. POSITION CURSOR AT END OF TEXT. HIT <RETURN>. TYPE "Y" FOR YES OR "N" FOR NO

UNERASE:
SAME AS ABOVE BUT REPLACES DELETED TEXT. (15 LINES MAXIMUM)

MOVE & MOVEBACK:
PLACE CURSOR AT BEGINNING OF TEXT TO BE MOVED. PRESS <RETURN>. PLACE CURSOR AT END OF TEXT TO BE MOVED. PRESS <RETURN>. PLACE CURSOR AT BEGINNING OR DESTINATION. HIT <RETURN> AND THE VERIFY.

FIND & REPLACE:
YOU CAN LOCATE UP TO 29 CHARACTERS WITH THIS FUNCTION. WITH REPLACE, TYPE WORD TO LOOK FOR, WORD TO REPLACE, AND VERIFY

TRANSFER MODE
=====

INIT:
INITS A DISK

SAVE:
SAVES TEXT

RETRIEVE:
LOADS SAVED TEXT

RENAME:
RENAMES FILES

CLEAR AND DELETE:
CLEAR ERASES TEXT IN MEMORY AND DELETE ERASES A DISK FILE.

QUIT:
IF YOU CAN'T UNDERSTAND THIS, YOU HAVE NO BUSINESS USING AN APPLE

PRINTING
=====

PRINT FINAL

CHARACTERS/LINE	<65>	40-126
LINE SPACING	<1>	1-3
CONTINUATION	<N>	STARTS OVER AT PAGE #1
PAGES TO BE NUMBERED	<Y>	SELECT FIRST PAGE TO BE NUMBERED
PAUSE BETWEEN PAGES	<N>	
EJECT LAST PAGE	<Y>	
PRINT ENTIRE FILE	<Y>	
SEE WHERE PAGES END	<N>	

PRINT DRAFT

PRINT FILE AS SEEN ON SCREEN EXACTLY

UTILITY PROGRAM
=====

PRINTER SLOT
DATA DISK SLOT/DRIVE
TOP AND BOTTOM MARGINS, HEARERS, AND PAGE NUMBERS
LINE FEED ON CARRIAGE RETURN
FORM FEED CHARACTER
KEYBOARD ENHANCEMENT (SHIFT MOD)
CURSOR TYPE & KEYCLICK

COMMENTS
=====

RATING (1-10) --> 5

THIS IS NICE FOR BEGINNERS, BUT IF YOU WANT TO DO ANY SERIOUS WRITING, BANK STREET WRITER IS NOT FOR YOU

=====

DOCUMENT bards.3.code.wh

=====

The Aardvark's Burrow

Docs for the Bard's Tale III code wheel chart creator (what a name).

Code wheel chart creator written by The Syringe.

Some notes. There are three needed files: "Creator", "Wheel.2", and "Wheel.3". I would STRONGLY suggest you put these files on a RAM drive before you run it (do to the fact that the program constantly is accessing the two wheel files, and that makes for a LONG time with the 5.25" as well as 3.5" floppy drives (I know, I've tried it)).

The code wheel is in four parts. There are three wheels, with sixteen 'spokes' around the edge of each. There are also sixteen holes in the center of the top wheel. I am going to tell you a way to look up anything on the chart that will be printed, but it won't be exactly the way the game tells you to look it up.

If you think about it, you'll realize that no matter how you set the wheel, there will always be sixteen different positions at the same time, since each wheel has sixteen spokes. Therefore, I will give you a way to convert what the game tells you into a form that you can use with my listing.

Following is a listing of what is on the outside of each wheel, along with its numerical value. The numerical value will be explained in a bit.

Outermost wheel (bottom)	Middle wheel	Innermost wheel
1: Urmech	1: Crystal Spring	1: Lucencia
2: Tselotha	2: Old Dwarf Mine	2: Kinestia
3: Cyanis	3: Shadow Rock	3: Tenebrosia
4: The Old Man	4: Sulphur Springs	4: Tarmitia
5: Hawkslayer	5: Warriors Vale	5: Malefia
6: Scrapwood	6: Ciera Brannia	6: Valarian
7: Bard's Hall	7: Celaria Bree	7: Lanatir
8: Stagger Inn	8: Black Scar	8: Alliria
9: Hic Haven	9: Dark Copse	9: Ferofist
10: Violet Mountain	10: Nowhere	10: Sceadu
11: Crystal Palace	11: Festering Pit	11: Werra
12: Catacombs	12: Sacred Grove	12: Tarjan
13: Tunnels	13: Ice Keep	13: Skara Brae
14: Workshop	14: Shadow Canyon	14: UnterBrae
15: Wizard's Guild	15: Tar Quarry	15: Arboria
16: Brilhasti	16: Cold Peak	16: Gelidia

Here is what you must do. Take the numerical value of word that the game gives you for the outermost wheel. (Find out which word is on the outer wheel, and take its value.) Then find the difference between it and '1'. (That is, if the word you get was Urmech, the difference is 0. If the word you get is Cyanis, the difference is 2. For Tunnels, it's 12, and so on.) Remember that number. Then, find out the numerical value of the word on the middle wheel. (If your word is Ciera Brannia, your value is 6. If you got Black Scar, your value is 8, etc.) Then, subtract the difference from the value of the second word.

For example: Let's say you got Stagger Inn as your first word, and Tar Quarry as the second word. Stagger Inn is number 8. The difference is 7. Tar Quarry has a value of 15. Subtract 7 from 15, and you get 8.

If you get a value less than 1, add 16 to it (that is, let's say your number ended up as -5. Add 16 to it, and your new number is 11).

The number you get from that subtraction process is the value of your new word for the middle wheel. In our above examples: In the first one, we got 8, so the new word is Black Scar. In the second one, we got 11, so our word is Festering Pit. Simple, eh?

You do the same process for the inner wheel. Find the value, and subtract the original difference from it (the difference you got from the stuff with the outermost wheel). The result is your new word.

Your two new words are what you will be looking up on the chart. It's important that you do the math correctly, because otherwise, the code you get will be completely off.

Here's how the charts are organized. They are split up into two sections for each spoke on the middle wheel. It will print 'xxxxxx Spoke'. That's on the middle wheel. You have to find the section with your word at the top of it. In that chart, there are 16 columns of numbers. Each column represents one spoke on the inner wheel. In each column there are 16 abbreviations, with a number next to each. You have to find the correct column (using the name you got for your inner wheel), and then look up the correct abbreviation. Abbreviations are as follows:

Acorns: AC	Arefolia: AR	Crystal Key: CK	Arrows of Life: AL
Crown of Truth: CT	Rainbow Rose: RR	Strifespear: SS	Crystal Lens: CL
Smokey Lens: SL	Shadow Door: SD	Black Lens: BL	Shadow Lock: SH (!)
Nightspear: NS	Wineskin: WS	Wand of Power: WP	Hammer of Wrath: HW

NOTICE! Shadow Lock is abbreviated as SH, NOT SL, as you would expect. This is because SL is Smokey Lens. DON'T GET THEM CONFUSED!

I think this will help you out. Shit, I sure as hell HOPE so.

A little note on the way this works: Figure it out for yourself. I'm just a genius. What else can I say? Heh. hIp. (t0dd, I still remember you!)

This doc file typed by The Syringe on 4/13/88, 1:15 AM. (Heh.)

One more personal comment. I would really suggest that you buy this game. If we support Interplay's move of distributing Bard's Tale III unprotected, who knows? Maybe in the future, ALL wares will be unprotected. And that I would REALLY like to see. So even though this file will help you to win the damn game, I urge you to support Bill Heineman et al and BUY the thing.

My commendations go out to Bill, Michael A. Stackpole, and Todd J. Camasta for their GREAT work on this game. Let's see more, guys!

The Aardvark's Burrow (>

```
=====
DOCUMENT basic.cda
=====
```

```
=====
Visit Applesoft BASIC CDA v1.1
by David A. Lyons July 1990
=====
```

This is one of those "because it could be done" projects.

"Visit Applesoft BASIC" drops you into good old Applesoft under GS/OS, provided it can allocate 4K of bank 0 memory. (If it can't allocate the memory, complains politely and doesn't let you into Applesoft.)

The "&" command takes you back to the CDA menu.

Don't try to use HGR or HGR2 while you're visiting Applesoft-- that memory may already be in use by other parts of the system.

How to reach the author:

```
CompuServe: 72177,3233      Internet: dlyons@apple.com
Genie: D.LYONS2           AppleLink: DAVE.LYONS
America Online: Dave Lyons P.O. Box 875, Cupertino CA 95015
```

```
=====
DOCUMENT batman
=====
```

```
-----
                        Batman
                        The Caped Crusader
                        Soft Sect Release
-----
Cracked by The Crasher Thanks to Kobra
-----
```

A Troublesome Twosome

The Penguin: A bird in the Hand. Commissioner Gordon calls you with the news that the Penguin is back. He's set himself up as a respectable umbrella merchant. But the commissioner is sure the Penguin's factory is just a cover for his plot to take over the world with an army of robot penguins. The only way to thwart the penguin's plot is to destroy his master computer.

To get to the Penguin's master computer, you have to make your way to the factory through streets and across rooftops crawling the Penguin's thugs. Once you've discovered how to get into the factory, you can search out the master computer and destroy it. But don't think it will be easy. The Penguin has more than one surprise waiting for you.

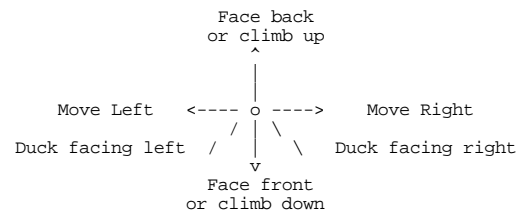
The Joker: A Fete Worse than Death. You don't need Commissioner Gordon to tell you about the Joker's latest feat of sleight of hand - he's kidnapped Robin! Your search leads you through the sewers of Gotham City to the Fair, where the fun house isn't so much fun and a ride on the rollercoaster could be your last.

Controls

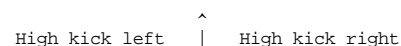
To display the status screen, hold down the fire button and move the joystick down.

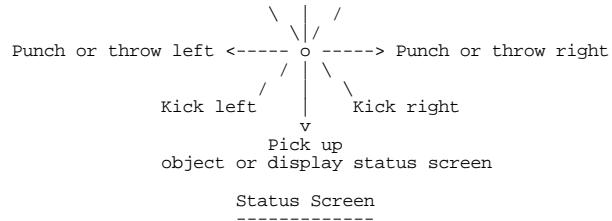
To return to the current game screen from the status screen, click the Return icon.

Joystick controls without the fire button pressed:



Joystick controls with the fire button pressed:





The percentage at the top of the screen shows how much of the game you've completed.

The small pictures on the status screen are called icons. There are two type of icons on the status screen: object icons and action icons. Object icons are things you need at some point during the game. Action icons let you use objects, restart the game, and turn on the music on and off.

Bat Cursor: Use the joystick to move the Bat cursor to the icon you want to choose. Press the fire button to choose the icon.

Getting an object: As you play Batman, you will need to pick up items that can be used later to solve a puzzle, open a door, give you more power, and the like. A few examples will make this easier to understand.

- 1) In certain parts of the game, you may enter a completely dark room. You need to look for light-producing items in the rest of the game, then use one of them in this room to be able to see what's there. (And just to make things really sticky, not every light source works in every room.)
- 2) You will occasionally come across food items as you move throughout the game. Use these carefully - it's a good idea not to eat too much too soon. When you "use" a food item, you'll restore some of your power.

If you try to use an item in an area and nothing happens - you've got the wrong item!

You will find objects as you move through the game screens.

To pick up an object:

- o Position Batman over to it, then hold down the fire button and move the joystick down.

Using an Object. To use an object:

- o Go to the status screen.
- o Move the Bat cursor over the icon of the object you want to use, then press the fire button.

The square around the icon flashes.

- o Move the bat cursor to the Use icon, and press the fire button.

When you use the right object at the right time, the percentage at the top of the screen increases to show you've solved part of the game.

Dropping an Object: Dropping an object leaves it where Batman is standing. You can't use an object you've dropped. You can carry only a limited number of objects, so drop the objects you don't think you need anymore.

To Drop an object:

- o Go to the status screen.
- o Move the Bat cursor over the icon of the object you want to drop, then press the fire button.

The square around the icon flashes.

- o Move the Bat cursor to the Drop icon, and press the fire button.

The icon of the object disappears from the status screen. The object reappears on the game screen.

Returning to the Game screen. To return to the game screen:

- o Move the Bat cursor over the Return icon, then press the fire button. The game screen reappears.

Turning Music On or Off. To turn the music on or off:

- o Go to the status screen.
- o Move the bat cursor over the music icon, then press the fire button. If the music is on, it goes off, if it's off, it comes on.

Restarting the game. To start the game over at any time:

- o Go to the status screen
- o Move the Bat cursor over the Restart icon, then press the fire button. The message appears that asks if you want to start the game over.
- o Type y if you want to start over; or type n if you want to go back to the game where you left off.

Energy: At the bottom of the screen, the graph or Batman's face shows how much energy you have left. As you use energy, the bars on the graph get shorter or Batman's face slowly turns into a skull.

To get more energy, eat food objects you picked up.

To eat:

- o Pick up food items
- o Go to the status screen.
- o Move the Bat cursor over the icon of the food object you want to eat then press the fire button. The square around the icon flashes.

- o Move the bat cursor to the Use icon, and press the fire button.

The bars on the graph grow longer, or part of the skull that's showing changes back to Batman's face.

Hints and Tips

- 1) Don't wat too much too soon.
- 2) Some objects do more damage than good.
- 3) You can carry only a limited number of object at a time. Drop objects you don't think you need anymore.
- 4) Duck to avoid bullets.

The Penguin: A Bird in the Hand

When you learn from Com. Gordon tha the Penguin is plotting to take over the world with an army of robot penguins, you rush at the Batcave. Before you leave, be sure to collect all the items you think you can use. When you reach the streets of Gotham City, keep an eye out for other useful items.

Watch out for the thugs that roam the streets- they may shoot at you. Punch, kick, or hit them with your batarang for temporary defense.

The Joker: A Fete Worse than Death

To reach Robin, you first have to make your way through the sewers of Gotham City- not a pleasant prospect. Make sure you've collected the items you think you'll need before you plunge it. You'll come across many bombs in the sewers. You need to disarm them before you can leave the sewers-but it will take you a while to come across the tool you need to do the job, and you'll have to do a lot of backtracking to disarm all of them.

When you find the bat ears, use them to amplify your hearing.

Snake Pit GS714/962-4371
Ethereal Dimension Exclusive.....301/529-6418

===== DOCUMENT battletech.graf =====

From ->The Firecracker (#117)
Date ->09/09/89 12:20:18 AM

Is the Battletech dox file called BATTLETECH.DIAG? Its a BINary file correct? You packed it with DDD? I got EDS errors or something like that when I was unpacking it and I cannot get it to work. Any sulgestions? Otherwise thank you very much for uploading them.

- The Firecracker

Brd ->Transfer Board
Numb ->48 of 50
Sub ->Battletech
To ->The Firecracker (#117)
From ->Rue The Rhino (#83)
Date ->09/09/89 05:55:08 PM

The doc is a high-res picture showing the various battletech parts that you would need to know for the exam in the game...

I think DDD files are of type \$DD. Packed Bin files are usually binary II files that can be unpacked with shrink-it.

You do not have to unpack the Battletech.Diag:

Goto Basic
Bload Battletech.Diag,A\$2000
call -3100
poke 49234,0
(text and then bye when finished)

Rue

Brd ->Transfer Board
Numb ->49 of 50
Sub ->Thanx!
To ->Rue The Rhino (#83)
From ->The Firecracker (#117)
Date ->09/09/89 07:22:24 PM

Than you I will try it, and let ya know it it goes.

- The Firecracker

Brd ->Transfer Board
Numb ->50 of 50
Sub ->yeah
To ->The Firecracker (#117)
From ->The WiseGuy (#13)
Date ->09/09/89 09:53:04 PM

The Battletech.diag file is a hi-res pic. Just do a "]HGR2" and then "]BLOAD BATTLETECH.DIAG,A\$4000" and you'll see the pic load up...or use your favorite single hi-res paint program...like 816/paint...

The weakest house, constant defeat and heavy territorial losses have kept this house quiet. Maximilian Liao has been seeking assistance from the more powerful houses.

There are your five houses. For you out there who didn't bother to read it, you are a part of the second house, the House of Steiner. Your main enemy will be the House of Kurita, as you will find out before your training is complete.

--/--

You are Jason Youngblood, you have begun your BattleMech Warrior training at the age of 9. You are now 18, and attending the Citadel MechWarrior college. Your father is named Jeremiah Youngblood, head of security, and leading the war against the Draconis Combine. Your mission will be pointed out to you as the game progresses, but for now all you need to know is that you must find the 'MechWarrior Academy, and get as high ranked as you can for your Piloting and Gunnery skills, in order to do well in the real battlefield.

____Word Protection____

The vital importance. This word protection isn't much at all. You have to identify parts of the robot. You need these when you go to the academy for training. You have to pass the "written quiz".

Here are the parts:

Right Shoulder --	TORSO MAINFRAME
Chest --	INTERCOOLER
Right Hip --	GYRO HOUSING
Left Upper Thigh --	JUMP JET INTAKE
Right Elbow --	ELBOW ACTUATOR
Right Inner Arm --	BALANCE STRUT
Right Thigh --	LEG MAINSHAFT
Left Foot --	FOOT UNIT
Right Foot --	FOOT CASTING
Right Ankle --	FOOT ACTUATOR

That's it. The Right side of the robot will be on the right side of the screen, so when I say "Right Shoulder", from the robots point of view, it is really the left side. You'll get that eventually.

For the Robotic Exercises, experiment a little. Who knows, it might help your piloting and gunnery skill more. After the city gets blown up by several 35-ton Jenner robots, and when you get to the StarPort, you'll get your own 25-ton spankin' new Commando 'Mech. Of course, you can upgrade that to a 30 ton Commando like I got, with 10 lasers on it.

____Hints & Tips____

When training, don't forget the other skills. Especially the combat skills, like 'Bows' and 'Knives'. You'll wonder how you can rack up 1000 credits, but remember the stock account. Eventually, you'll be spending 25000 credits to upgrade your 'Mechs. It may sound expensive, but right now I'm so fixed for cash that my account is in the 6-digit figures right now.

Stocks: the source of 90% of all your income. the other 10%? well, when you get onto the battlefield, and demolish 2 'Mechs and 5 humans, and have an Expert mechanic to salvage the armoring, well, that racks up some good C-bills too. (C-bills is the currency)

Always look for companions to join you on your quest. You won't get any until Rex joins you at the StarPort. If you're having trouble finding Rex, did the Citadel get destroyed yet? If it did, then go in a North-Northwest direction to get to the starport. When you see a major city with a Arena in it, then you know you found the right place. Rex is in one of the buildings.

=====

DOCUMENT battletech.gref

=====

...Infocom's Graphic RPG...

--: B a t t l e T e c h --:

Released by Soft-Sect

____A Brief History____

The First Succession War (2787-2821)

...left cities decimated, vital industries destroyed, and hundreds of millions of civilians dead. All energies were turned to war -- civilian technology, including water purification systems, deteriorated drastically.

The Second Succession War (2830-2863)

...was just as deadly, destructive, and indecisive as the first. The blossoming military technology nurtured as it died in war. It became increasingly difficult to build the computers, large fusion reactors, BattleMechs, and dropships desperately needed for combat. Production slowed dramatically, lagging dangerously far behind the battle-field losses. The warlords were reduced to cannibalizing existing equipment for spare parts to supplement the building of new weaponry. Salvage became vitally important to survival.

The Third Succession War (2866-present)

...continues the brutal contest. Resources are too scarce to destroy, to valuable not to fight for. War is now a way of life.

--/--

There are five houses at war, you start in the third most powerful. These houses are listed:

The House of Davion -- The Federated Suns

This is the most powerful house. Loosely Allied with the House of Steiner against the other three houses, Hanse Davion, the leader, plans to marry Katrina Steiner's daughter, strengthening the relationship between the two houses.

The House of Steiner -- The Lyran Commonwealth

This is the third most powerful house, and the house that you start in. Constantly besieged for the valuable resources that it holds, and notoriously bad generals have hurt this house, although it does have one thing going for it: Jeremiah Youngblood

The House of Kurita -- The Draconis Combine

This is the second most powerful house, and is constantly taking territory away from the House of Steiner. Takashi Kurita has formed an alliance with the houses of Marik and Liao.

The House of Marik -- The Free Worlds League

Frequent civil war has kept this power from becoming too much of a threat to the other houses, mainly because of rebellions within the leading family.

The House of Liao -- The Capellan Confederation

You need a good Medic and Mechanic. When you find them, increase their skill in the Mecht Lube and Hospital. BUY WEAPONS, ARMOR, AND CLOTHES! Yes, you will be in enemy territory, so you won't want to stand out in a crowd.

The `things` get expensive, but what isn't going to be expensive in the 31st century?

Those were all hints for after the Citadel gets destroyed. Before, just talk to as many people as you can, and get as much skills as you can. When the citadel gets blown up, you should have one `Excellent` skill for a combat weapon, and at least `Good` for Piloting, and `Amateur` for Gunnery. If you can, get the `Excellent` skill in Rifles and SMG's skill, and buy an Inferno rocket launcher. They kill with one hit. Armor -- a Flak Vest will suit you. That's all you'll need for now.

That's about it...I think. You will get stuck, I'm stuck in this game right now, but I figure I'll find a way out of it sooner or later. There's always the hint book, that's only about \$12.50. N'joy!

Author: Unknown

Compiled and Edited (Made readable for all computers) by: The Crusader

Cosmetic modifications by: The WiseGuy/MwI

ght Thigh -- LEG MAINSHAFT
Left Foot -- FOOT UNIT
Right Foot -- FOOT CASTING
Right Ankle -- FOOT ACTUATOR

That's it. The Right side of the robot will be on the right

=====
DOCUMENT beagle.graphics
=====

<><><><><><><><><><><><><><><><><><><><><><><><>
[>< Beagle Graphics Docs ><]\\\
[>< By: The Masochist of ><]\\\
[>< Hi-Res</>Hi-Jackers ><]\\\

Many thank to: The Unknown Hacker and The Ware-Wolf
<><><><><><><><><><><><><><><><><><><><><><><>
/^\ System Requirements : /^\

An Apple //e (motherboard version "B") with at least 128K, or an Apple //c.
<><><><><><><><><><><><><><><><><><><><><><><><><><><><>

Overview:

Beagle graphics is a Graphics utility that lets you use the special feature built into the Apple //e & //c computers to display Double-Hi-Res, with this gem of a program you can achieve graphics that are double of that of the regular Apple //+ or an Apple //e with only 64K or a version "A" motherboard. With this prog. you can get 560 X 191 instead of 279 X 191. This is "Double" the resolution the Apple's usually have plus 16 colors instead of 8.

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Different Programs on the Beagle-Graphics disk:

- > Double Hi-Res Utilities:
Slide.Show - Double Hi-res picture-display program.
Font.Editor - Double Hi-res character editor.
HGR.to.DHGR - Converts Hi-res Pictures to double-Hi-res.
Convert.Hi-res.1 - Converts pictures to 1/2-size double Hi-Res.
Convert.Hi-res.2 - Converts pictures to Full-Screen double Hi-Res.
Change.Colors - Changes any double Hi-res color to any other.
Double.Scrunch - Compacts Pictures to save disk space.
Cut.and.Paste - Lets you load, save & move picture sections.
Page.2 - Lets you move and swap pictures between pages 1 and 2.

- > Double Lo-Res Utilities:
GR.to.DGR - Converts Lo-Res Programs to Double Lo-Res.
Convert.Lo-Res.1 - Converts pictures to 1/2-Size double Lo-Res.
Convert.Lo-Res.2 - Converts pictures to Full-Screen Double Hi-Res.
Lo-Res.Load.Save - Lets you load and save double Lo-Res pictures or 80-Colomm text screens.

-> Plus:
Many different pictures: Beagle.pac, Bbros.pac, ect.... Many different Character sets: Ascii.Font, Blippo.Font, ect....

<><><><><><><><><><><><><><><><><><><><><><><><><><><><><><>

To use the features of Beagle-Graphics, you must use special BBros. commands. Here is a list and a brief explanation of each of them:

(All commands us the "&" vector-meaning they all are preceded by an "&".)

Here is a list of the Double Hi-Res commands:

& BCOLOR

Syntax:
& BCOLOR

Examples:
& BCOLOR=15
& BCOLOR=2

Purpose:
Sets the background color for clearing the screen (See &CLEAR) and for Double Hi-Res text (See & PRINT).

Remarks:
Color value must be between 1-15 to specify a Doub Hi-Res color:

0-Black	1-Magenta (Red)	2-Dark Blue	3-Violet	4-Dark Green
5-Grey 1	6-Medium Blue	7-Light Blue	8-Brown	9-Orange
10-Grey 2	11-Pink	12-Green	13-Yellow	14-Aqua
		15-White		

& BOX

Syntax:
& BOX (x length[,y length]) [AT x,y]

Purpose:
Draws a square.

Examples:
& BOX (50,25) at 80,80
& BOX (50) at 70,80
& BOX (100)

& CIRCLE

Syntax:
& CIRCLE (x radius [,y radius]) [AT x,y]

Examples:
& CIRCLE (20,10) AT 100,100
& CIRCLE (40) at 70,96
& CIRCLE (100)

& CLEAR

Syntax:
& CLEAR

Examples:
& BCOLOR =13: & CLEAR
& BCOLOR =0 : & CLEAR

Purpose:
Clears the entire double hi-res screen to the color specified by the last & BCOLOR command.

& DRAW

Syntax:
& DRAW shape number [AT x,y]

Examples:
& DRAW 4 at 50,100
& DRAW 3

Purpose:
Same as Applesoft DRAW command

& FILL

Syntax:
& FILL (1st color [,2nd color]) [AT x,y]

Examples:
& FILL (2,3) at 20,34
& FILL (2)

Purpose:
Fills an outlined area with the specified color or pattern.

& GOTO

Syntax:
& GOTO x,y

Examples:
& GOTO 50,75
& GOTO 99,123

Purpose:
Positions the invisible double hi-res cursor at the specified (x,y) locations. & GOTO is used for positioning text, boxes, circles, shapes, fills, lines, and so on.

& HCOLOR

Syntax:
& HCOLOR=color value

Examples:
& HCOLOR 9 (between 0 and 15)

Purpose:
Same as Applesoft HCOLOR command.

& HGR

Syntax:
& HGR

Purpose:
Same as Applesoft HGR command, cept' for double Hi-Res.

& HGR2

Syntax:
& HGR2

Purpose:
same as Applesoft HGR2 command, cept' for double Hi-Res.

& HPLLOT

Syntax:
x1,y1 [TO x2,y2...[TO xn,yn]]

Examples:
& HPLLOT 75,20
& HPLLOT 48,115 TO 79,84 TO 110,116
& HPLLOT TO 125,10

Purpose:
Same as Applesoft HPLLOT command, cept' for double Hi-Res.

& HSCRN

Syntax
& HSCRN (x,y,variable)

Examples:
& HSCRN (50,70,A) : PRINT A
& HSCRN (100,0,B) : PRINT B

Purpose:
Returns the color value of the pixel at the specified (x,y) location.

& LOAD

Syntax:
& LOAD main memory file, aux mem file

Examples:
& LOAD "PATTERNS", "PATTERNS.AUX"
& LOAD " PIC,D2", "MYPIC.AUX,D2"

Purpose:
loads a double Hi-Res Picture.

& MODE

Syntax:
& MODE (mode number)

Examples:
& MODE (4)
 & MODE (1)

Purpose:
Selects a double Hi-Res Graphics Mode.

Remarks:
Mode number must be a numeric expression (1-4):

1: 560 Mode

2: 140 Mode
3: 560 Mixed Mode
4: 140 Mixed Mode

& MODE can be used instead of & HGR or & HGR2 to display the double Hi-Res Screen without Clearing the screen to black.

& NORM

Syntax:
& NORM

Purpose:
Turns off Hi-Res Text, Canceling the effect of & PRINT and & XPRINT.

& PRINT

Syntax:
& PRINT

Example:
& PRINT (Sample prog. later)

Purpose:
Allows text output on the double Hi-Res screen using subsequent PRINT statements.

Remarks:
Once & PRINT is executed, it will cause PRINT statements to print on the double Hi-Res screen.

Important:
You must use & NORMAL before printing on the text screen and/or before using a DOS command.
Not all Control characters can be printed, but the important ones can.

Text Size:
In 560 Mode [& MODE (1) or & MODE (3)], you can display narrow characters (80 columns x 24 lines). In 140 Mode [& MODE(2) or & MODE (4)], you can display wide characters (20 columns x 24 lines)

Htab/Vtab:
HTAB and VTAB won't work. Use the & GOTO command.

Color:
The double Hi-Res text color (Foreground color) is changed with & HCOLOR. The Background color is changed by & BCOLOR.

Fonts:
Before using & PRINT you must load a Hi-Res Font ("character set") into memroy.

Sample Program using: & PRINT

```
20 F=16384: PRINT CHR$(4);"BLOAD ASCII.FONT,A";F
30 L=PEEK (974) + PEEK (975) * 256 : REM DHGR LOCATION
40 POKE L + 3,0: POKE L + 4,64
100 & HGR2: & PRINT : &HCOLOR =15: & B COLOR=0
110 & MODE (1): & GOTO 0,0: PRINT "SMALL TYPE"
120 & MODE (2): PRINT "BIG TYPE"
125 PRINT : & HCOLOR= 1: PRINT "Color type in":PRINT
127 & HCOLOR= 2: PRINT "DIFFERENT STYLES!"
130 PRINT CHR$(4);"BLOAD COLOSAL.FONT"
```


rounds	2	3	4	5	1-5
# of minutes	30	10	5	1	1-60
plexus recharge time (seconds)	4	3	2	1	1-60
random starting positions?	no	yes	yes	yes	yes/no

Number of rounds for each tournament: A tournament consists of one to five rounds. At the end of each round, the scores are totaled based upon the number of pieces in play and how many sectors each player has captured. At the end of the tournament, the one with the most points wins.

Number of minutes for each players turn: each player has a timeclock that is turned on each time it is that players turn. Each player must make all of his moves within this time period. Failure to do so automatically ends the game, with that player losing all his pieces.

Plexus recharge time: this is the amount of time it takes for a beast on the plexus(center sector on board) to regain one unit of energy. Energy is lost by moving and by attacking.

Random starting positions: changing the starting positions of the beasts makes it more difficult to predetermine the opening moves of the game.

The Grid:

The galactic game grid has 41 sectors around the plexus. They are arranged in three orbits: the outer, middle, and inner orbit. Surrounding the grid are four colored fields. In the field of your color is a counter showing how many sectors your beasts have captured. When you start a round, you have controlled six sectors, the sectors your beasts are occupying. The beasts move from one sector to another by jumping through hyperspace. Jumping is done by setting up two windows. A home window is built around the beast selected for movement. and a destination window is formed at the sector you want the beast to move to. Once the windows have been built, the beast jumps through hyperspace from the home window to the destination window. Each beast has its own unique movement pattern, as explained in the Beasts section.

When it is your turn to move, the information box in the upper right corner of the screen will display:

```
(your name)
SELECT BEAST USING (keys or paddle)
```

Depending upon whose turn it is, and whether you are using paddles or the keyboard, the fourth line could be PDL 0 or PDL 1. A AND S for the A and S keys, or K AND L for the K and L keys. Keys A and K are used to select a beast or sector; keys S and L enter your choice into the computer. If you want to take back a choice press the ESC key. If your are using paddles, rotating the paddle back and forth across the middle area will move the source and destination windows. Pressing the paddle button will enter your choices.

The Graphs:

To the right of the grid are three graphs showing energy, time and power. JThe Energy and Power grpahs show the condition of the beast the

```
=====
DOCUMENT beast.war
=====
```

```
Beast War Docs
-----
Written by:
Gandalf the White
```

History

In the galaxt if Alaxis, a game of strategy and cunning is played which has come to be known as the Beast War. Inhabited by several strong but warring races, their constant conflicts had reduced their population to where mutual destruction would result. In 3853 QA, the tribal leaders called a temporary truce, and formed the Council to find a nonviolent means for settling disputes. It was decided that disagreements would be settled by a tournament which would be won through the use of clever strategy. To avoid Alaxian bloodhsed, the tournaments would be fought using semi-intelligent beasts controlled by their Alaxian masters. Any disagreements between the tribes would be settled with a Beast War tornament.

Due to racial differences among its members, the Council agreed to three tournament standards. The Terran Common rules were facored by the Humanoid member of the council. These rules enabled the slower-thinking humans to devise innovative strategies. The Alaxian Universal rules were favored by most of the council members. These rules demanded rapid numerical analysis of your position, your strengths, and your opponents weaknesses. To compromise between the desires of the Humanoids and the Alaxians, the Galactic Standard was agreed upon. The rules were refined over the centuries. Advancements in holographics technology allowed the destruction of innocent beasts to end.

Object:

To capture more sectors than your opponent(s). The game consists of a series of rounds. During each round, you control an army of six beasts. A sector is captured by moving one of your beasts into the sector. Captured sectors will contain one of your beasts, or a small satellite in your color. Each round ends when only one players beasts remain on the galactic grid.

Options:

After you enter your name, the question "Would you like to play against the computer at novice level?" will appear. You can see the letter Y in a white box. This is the "default condition" and the computer will automatically accept this as your answer if you press return. If you don't want to play the computer at this level, press N for NO and hit return. There are four different sets of rules to choose from: novice challenge, terran common, galactic standard, and alaxian universal. Each set changes four factors. A fifth rules set will allow you to set the factors:

```
The number of rounds to complete a tournament
Time limit for each round
The energy recharge time for creatures on the plexus(center of the board)
Whether or not you want random starting positions
```

```
Novice Terran Galactic Alaxian Custom
```

of

window is on. Energy can be replenished by occupying the plexus sector and by defeating other monsters. When a beast runs out of energy it perishes. The power of a beast is determined by its strength, the amount of moral support it has, and its combat bonus. For more info see the Strategy section. The Time graph shows how much time you have left to make your moves. If you run out of time, the tourney ends and your beasts perish.

Beasts: -----

There are six different beasts. Each has strengths and weaknesses and a unique movement pattern. In addition any beast can jump into the plexus from any sector in the inner orbit and vice versa. Movement consumes energy. Each beast moves to an adjacent sector, but some can only move to a certain color or direction. Jumping to a sector containing your own satellite (left by a previous friendly beast) consumes two energy units. Entering an empty sector uses four units. Jumping into a sector containing an enemy satellite consumes 12 units of energy. If your beast uses up all of its energy in making the jump it perishes but leaves one of your satellites in the sector. The plexus is the center of the grid. As a focus of energy, it will channel that flow into any beast occupying that sector. The rate of flow is set at the beginning of the game. For example, if the recharge time is four seconds, that means that every four seconds, a beast on the plexus will receive one unit of energy until it is totally recharged.

The Aeroctus:

The aeroctus is the only winged beast chosen by the Council for Beast War. It has 44 energy units. When attacking its prey, the tentacles of the aeroctus close together to form a spear tip which can easily puncture the thin metallic skin of a mechanos. However, the light bone structure and musculature of the creature does not provide it with enough power to easily damage the thick plating of an arachnid. The aeroctus have a strength of four units. Movement pattern: the aeroctus can move only to an adjacent sector that is in a different orbit and color.

The Dracon:

The dracon is a fearsome inhabitant of Alaxis. Its awesome flame breath makes it extremely dangerous. The dracon has a strength of nine and its far reaching flame is especially effective against the light bone structure and musculature of the aeroctus. However, it has little effect on the metallic structure of the mechanos. A dracon begins with 16 energy units.
Movement pattern: the dracon can move to any adjacent sector.

The Arachnid

The arachnid has a highly evolved neuromotor system to control its many legs. It can have up to 38 energy units, and has a strength of 5 units. The great dexterity of this beast enables it to slip its pincers under the protective scaling of a saurus, inflicting especially grievous wounds upon the beast. Only the mighty dracon appears to be resistant to the attack of an arachnid.
Movement pattern: the arachnid can move diagonally only.

The Wraithil

The unique appearance of the wraithil is responsible for its association with a mythological group of hominoid creatures called the Undead. It strikes a chord of superstitious fear in many creatures. This effect is very much noticeable in the saurus, which seems to be afraid to bite down upon a wraithil with any degree of force. The energy field projected from a wraithil's hands during combat is known to be especially effective against the highly evolved neuromotor system of the arachnid.

However, the diversified nerve net of the aeroctus is resistant to this attack. Wraithils can have up to 30 energy units and have a strength of 6 units.

Movement pattern: the wraithil can move to a different colored sector.

The Saurus

The fearsome saurus is believed to be a distant relative of the dracon. Strong competitions for the same ecological niche is suspected of being the basis for the intense hatred sauri have of dracons. In combat, a saurus becomes quite frenzied the moment he bites into a dracon. Although the saurus recovers almost immediately, this results in especially serious wounds being inflicted on the dracon. Known for their bad tempers, sauri turn green with rage when attacking each other. A saurus can have up to 24 energy units, and has a strength of 5 units.

Movement pattern: the saurus can move to any adjacent sector of the same color.

The Mechanos

The mechanos is the only silicon-based lifeform in Beast War. It is therefore the only beast capable of using a gravgen propulsion system. A mechanos is not intimidated in the least by a wraithil, and is effective against one in combat. A mechanos can have up to 20 energy units, and has a strength of 8 units. The laser weapon of a mechanos is largely dispersed by the reflective scaling of the saurus and thus is less effective against the beast. Movement pattern: the mechanos can move to an adjacent sector in a different orbit.

Combat: -----

If you select a destination sector which contains an opponent's beast, its power and energy will be shown alongside your beast's ratings. If the move is made, combat occurs. The top view of the grid is replaced by a side view of the sector with the two beasts facing each other. At the top are their energy and power graphs.

Controlling the Beast -----

If the keyboard controls are being used, the following keys are used to control the beasts:

Left group:
A:move left
S:stop
D:move right
W:flee
X:attack

Right group
K:move left
L:stop
;:move right
O:flee
.:attack

If paddles are being used, turning the dial to the right will move the beast to the right and turning it left will cause it to move left. Centering the dial will stop movement. Pressing the paddle button while the beast is advancing or standing still will cause the beast to attack. Pressing the button while your beast is backing up near the edge of the screen will cause it to flee. A beast can flee only to its original position, and then only if it contains one of your satellites. If it is already occupied, it cannot flee. If it doesn't have enough energy to make the jump, then it will perish when it emerges from hyperspace.

Fleeing from your opponent will allow your enemy to move again.

Scoring:

The round ends when only one player's beasts remain on the galactic grid. At the end of the round, each player receives 300 points for each beast remaining on the field, and 150 points for each captured sector. At the end of the tournament, the player with the highest score wins. If you have been playing against the computer using one of the standard rule sets, your name and score will be saved.

Special Features:

PAUSE

Holding down the CONTROL key and the P key will stop the game. Press return to continue.

SOUND

Pressing CTRL-S will toggle the sound.

QUIT

Pressing CTRL-Q will end the tournament.

RESET HIGH SCORES

Press CTRL-R and the high scores will be reset back to 0.

SELECTING A DIFFERENT BEAST

If you have selected a beast and change your mind, pressing the ESC key will allow you to choose another beast.

Strategy for Beast War

The objective of Beast War is to capture more sectors than your opponent(s). To do this you should consider your beasts' movement patterns, energy, power, combat capabilities and strategic positioning.

The movement patterns of your beasts need to be carefully considered to enable you to capture sectors, attack your opponents, and defend your terrain. For example, certain beasts will only move on one color. Moving it through the plexus can change the color of the sector it is on. Moving a beast through the plexus also enables it to regain energy. However, trading beast positions can cost valuable time, allowing your opponent to take the initiative.

Moving to a sector containing an enemy satellite uses much more energy than moving to a free sector. It is advantageous to block your opponents' moves with your own satellites. If your opponent captures a sector containing your satellite, his beast will be weakened and open for attack.

This strategy calls for using your energy efficiently. Your beasts can gain energy by capturing and defending the plexus against your opponents, and by defeating them in combat. Since beasts lose energy through movement, any move that does not enhance your position is a wasted move.

If your beast's energy is less than three units it will perish on the next move. There is little you can do with it in combat unless it has a very long weapon range versus its opponent. (such as the dragon fighting the aerocetus) The kamikaze strategy is recommended: move into a sector containing an opposing satellite and (poof!) your beast is gone but leaving a friendly satellite behind.

But to be a successful Beast Warrior, you have to fight well. The amount of power a beast has is determined by its strength, moral support, and

combative relationship with its opponent. The strength is determined by its nature; it cannot change. If the adjacent sectors contain friendly forces, your beast will be strengthened by their presence. Each friendly beast will increase the combatant's power by one unit.

Finally, each beast is especially effective in fighting one other beast, and resistant to attacks by one other beast. These factors provide combat bonuses which can increase or reduce a beast's power by 2 units. The Beasts section provides more info on this.

The power graph reflects the sum total of these factors. In combat, the amount of damage a beast does is determined by a random number that depends upon its strength, moral support, and combat bonus. The minimum amount of damage inflicted upon your opponent is determined by your beast's moral support and combat bonus. So a beast which has a combat bonus and moral support can often be quite successful in defeating an apparently more powerful opponent by repeatedly striking with an above average amount of damage.

Your position becomes greatly improved when you defeat an opponent's beast, and greatly weakened when one of your beasts are defeated. If your beast is defeated, you lose a sector and a beast, your total energy pool is reduced, and the victor's pool is increased. It is often the better part of valor to retreat when threatened by a superior force. Fleeing from combat is also costly, though not as much as being defeated. Recovering from a flee will lose time and energy, but it will preserve your beast.

=====

DOCUMENT below.root

=====

```
(*)(*)(*)(*)(*)(*)(*)(*)(*)(*)(*)(*)(*)(*)(*)(*)
(*)          (*)
(*)          BELOW THE ROOT          (*)
(*)          DOCUMENTATION AND TIPS  (*)
(*)          (*)
(*)          (*)
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(*)          (*)
(*)          (*)
```

Welcome to the land of Green Sky! In Below the Root, you must find and return Raamo to the people, for he is their spirit leader. Looking everywhere is essential to complete the quest.

PREPARING A STORAGE DISK:

Format a disk in DOS 3.3 format. This may be used in order to save games to disk.

HOW TO BEGIN:

Create your storage disk if you wish to save games to disk. Then put the program disk into the drive and boot Below the Root. Choose "J" for Joystick or "K" for Keyboard. Be sure to insert Side 2 first. The game introduction will automatically begin. Introduction may be stopped by pressing space bar or joystick button.

KEYBOARD AND JOYSTICK COMMANDS:

JOYSTICK CONTROL: To move your character or cursor, push joystick forward or backward, left or right. To make a selection, press either joystick button. To get to the possible selections while you are playing the game, hold down the joystick button and pull the joystick down.

KEYBOARD CONTROL: Use the keys below to move in a direction. When you want to make a selection, press spacebar. Left-handed players may use alternate keys.

```
  R
  |
D--+---F
  |
  C
```

or

```
  I
  |
J--+---K
  |
  M
```

Left-handed players

Right handed players

MAIN MENU:

After the game is loaded, the main menu will appear with the following choices:

```
START GAME
CONTINUE
DISK STORAGE
SAMPLE QUEST
```

START GAME:
To Begin a New Quest

1. Choose START GAME on the main menu.
2. The message "CHOOSE YOUR QUESTER" will appear. There are five characters to choose from, each with their own abilities and personality. Push your joystick forward or press the up key to cycle through your options, then make a selection.

3. Depending on which character you choose, you may be asked to "INSERT SIDE 1". Follow the instructions on your screen.

4. You will be instantly transported to the nid-place (home) of your character, ready to begin the quest!

CONTINUE: To Return to your Quest

Use CONTINUE option after loading a previously saved game from the storage disk.

DISK STORAGE: To Save or Reload a Quest

1. Select DISK STORAGE from the MAIN MENU.
2. The following message will appear:

```
SAVE GAME
LOAD GAME
RETURN TO MENU
```

3. Move cursor to SAVE GAME and select. the following message will appear:

```
QUEST 1 2 3 4 5
```

You may save up to 5 different games on one storage disk. Saving additional games will erase an old one.

4. Move cursor to a number and select.

5. You will be instructed to insert your storage disk. Follow instructions on the screen. You will return to the Main Menu.

NOTE: After loading a saved game be sure to begin play by choosing the CONTINUE option and not the START GAME option.

SAMPLE QUEST: To get a preview of Green-Sky

To get a preview, simply choose SAMPLE QUEST. A character will demonstrate a few of the techniques on playing the game.

GREEN-SKY QUESTERS' STATS

```
NAME: Neric
SEX: Kindar-born young man
HOME: Star Grund
SPIRIT: 5
STAMINA: 20
```

```
NAME: Genna
SEX: Kindar
HOME: Grand Grund
SPIRIT: 0
STAMINA: 20
```

```
NAME: POMMA
SEX: Kindar child, Raamo's sister
HOME: Sky Grund
SPIRIT: 10
STAMINA: 10
```

```
NAME: Charn
SEX: Ten-year old erdling boy
HOME: Silk Grund
SPIRIT: 5
STAMINA: 15
```

NAME: Herd
SEX: Erdling
HOME: Broad Grund
SPIRIT: 5
STAMINA: 20

SPIRIT SKILLS:

Spirit skills will aid you in your quest. It is essential that you discover how to use and raise your spirit skills. As you master higher levels, you will have more spirit skills and come closer to uncovering the secret that will save Green-Sky. Check your spirit level by reviewing the STATUS option on your menu. Be aware that your use of spirit skills uses energy.

PENSE: An ancient skill, mind touching, allows you to read the minds of others and communicate without speaking.

Pense Emotions Can be performed from any distance. Uses 1 unit of spirit energy. Spirit Limit: 5

Pense Messages You must be within speaking distance of the one you are pensing. Uses 1 unit of spirit energy. Spirit Limit: 10

HEAL: The healing spirit allows you to restore partially your food and rest. This is helpful when you're far from your nid-place. Each use of the skill uses 5 units of spirit energy. Spirit Limit: 15

GRUNSPREKE: The ability to influence tree growth. Each use of the skill uses 2 units of spirit energy. Spirit Limit: 20

KINIPOINT: The ability to move inaccessible objects or your own body with your mind. This most highly advanced spirit skill is so difficult to achieve that few Green-Sky people have the ability. However, you must master Kiniporting if you are to succeed.

Kiniport Tools Will move objects out of reach. Uses 5 units of spirit energy. Spirit Limit: 25

Kiniport your Body Will move your body to a place of your choice. Uses 10 units of spirit energy. Spirit Limit: 30

EXPLORING GREEN-SKY:

Once you leave your nid-place, you are free to travel in any direction. It might be helpful to make a map. This is how you'll get around:

WITH JOYSTICK:

WALK: Move the joystick left or right.

JUMP: (while standing still) Hold the joystick button down and push the joystick in the direction you want to jump.

RUN: Jump and keep the joystick pressed toward the direction in which you wish to run. Return to a walk by stopping the character briefly.

CLIMB: Push the joystick forward or backward while you are on a ladder or vine.

CRAWL: Push joystick backward when in a standing position to stoop down. Then push joystick left or right.

STAND UP: Push the joystick forward when you are in a crawl position.

FALL: Walk off the end of a ramp or tree limb.

GLIDE: Gliding is possible only if you are carrying a shuba. To glide, push the joystick button while you are falling. Once the glide begins, push the joystick sideways to move left or right.

EXIT OR ENTER A DOORWAY: Position yourself over the door and press the joystick button.

ON KEYBOARD (use the keys shown on the diagram)

WALK: Press the appropriate key for the direction you want to go. **JUMP:** From a standing position, press the appropriate directional key quickly two times. While walking, press the appropriate directional key once. To jump from a ladder or vine, go right or left. Jumping from ladders is not allowed underground. **RUN:** After a jump, you will automatically start running. **STOP:** Press the key opposite to the direction you are moving. **CLIMB:** Press the appropriate directional key while you're on a ladder or vine. **CRAWL:** Press the down key when you are not on a ladder or vine to stoop. Then go right or left. **STAND UP:** Press the up key when you're in the crawl position. **FALL:** Walk off the end of a ramp or tree limb. **GLIDE:** Press the left or right directional keys while you're falling. **EXIT OR ENTER A DOORWAY:** Position yourself over the door and press the up key.

WHAT YOU CAN DO IN GREEN SKY:

After you choose your character, you'll be ready to explore Green-Sky. The option menu enables you to choose all the activities you will need in Green-Sky. To display and use the option menu:

WITH JOYSTICK:

1. Hold the joystick button down while you pull the joystick backward.
2. Move around the Menu by pushing the joystick in the direction you want to go.
3. Stop on the option of your choice, press the joystick button.

WITH KEYBOARD:

1. Press the spacebar.
2. Move around the Menu using directional keys.
3. Stop on the option of your choice and press the space bar.

NOTE: Whenever the Menu is visible, the timer will stop.

PAUSE: Pause during game then return to the quest.

SPEAK: Move close to another game character. Be sure you are facing each other. The other character's message will appear.

PENSE: Depending on your level of spirit skill, you can pense emotions or messages. To pense messages, you must be standing close to and facing the other character.

OFFER: Offer anything you are carrying to another character. Cycle through your inventory and select.

TAKE: Position yourself over any item you would like to take. If you can take the item, it will instantly disappear from the screen. You are now carrying it in your inventory.

BUY: Stand close to and face the merchant. The merchant will take your token and give you permission to take an item, provided you have room to carry it. After buying, be sure to take item.

USE: Use trencher beaks, vine ropes, honeylamps, and other tools you happen to acquire.

Trencher Beak: Face the bramble then USE the beak. One layer of bramble will disappear; repeat process until you clear bramble. If you get caught in a bramble patch without a beak or cutting tool, you must RENEW yourself.

Vine rope: Face direction you want to throw rope. Try to USE the rope. The rope will appear if there is something for the rope to connect to in the direction you throw it. CRAWL across the vine rope, or you'll fall.

Honeylamp: It will be obvious when you need to USE the lamp.

EAT: Eat any of the edibles you are carrying. Cycle through your inventory and select.

DROP: Drop an item, if you are carrying too much.

SELL: You may sell tools and food to any of the merchants.

HEAL: This spirit skill will restore your energy and food level.

REST: Rest indoors on the hanging green nids, either in your own nid-place or in the nid-places of others who offer you rest. Stand in front of the nid and select REST.

EXAMINE: Examine unfamiliar objects you happen to come upon.

INVENTORY: Displays what you are carrying.

GRUNSPREKE: If you have enough spirit skills, you have the power to make tree limbs grow. Stand at the edge of a limb, facing outward. With each successful grunspreking, the tree limb grows. Step out on the new growth and GRUNSPREKE again to create a living bridge.

KINIPOINT: If you have enough spirit skills, you have the power to move tools or your own body using psychic power. When you select KINIPOINT, a pointer will appear on the screen.

To kiniport tools: Move the pointer to the tool you want to move. Select. Then point to where you wish to move it. Select again. You must place the tool on a spot where you will be able to stand when you pick it up.

To kiniport your body: Place the pointer on your body near your feet. Select. Then point to the spot where you want to move.

STATUS: Displays your STATUS at any given point during your quest.

RENEW: If you get stuck somewhere, RENEW will return you home at the expense of losing a day of quest time.

MENU: Return to the main menu.

STATUS: How you can check on your progress:

Checking on status will give you all the information about yourself.

SAMPLE DISPLAY:

DAY 1	NERIC
EARLY MORNING	LEVEL OF REST 10
SPIRIT LIMIT 05	LEVEL OF FOOD 10
STAMINA 20	LEVEL OF SPIRIT 05

DAY: Your performance as a quester will be judged on the number of days

you take to complete the quest. At the end of 50 days your time will run out.

TIME OF DAY: Reports the current time of day. Game time passes whenever you are moving around the Green-Sky environment. Time stops whenever the Option Menu, Main Menu, Status Display, or text of any kind is being displayed.

SPIRIT LIMIT: Indicates your current Spirit Limit.

STAMINA: Rates your maximum strength. Questers with more stamina can store more rest and food energy, jump farther, and carry more. Your stamina can be increased in the Quest by eating Strange Exilers.

QUESTER: Displays your name. Depending on which character you have chosen, your beginning spirit and stamina will vary.

LEVEL OF REST: Your rest energy is used as your journey time passes. Jumping, climbing, and especially crashing will also use rest energy. Your level can be restored by resting in your nid or in the nid of a friendly character. Your maximum level is one-half of your stamina. If your rest drops below 0, you will be forced to return to your nid-place. You will have lost a day of game time but your energy levels will be replenished.

LEVEL OF FOOD: Food energy is depleted in the same manner as rest energy. Dropping below zero will return you to your nid-place. Keep your food level up by eating.

LEVEL OF SPIRIT: The amount of spirit energy you possess. This energy is depleted every time you use a Spirit Skill. Spirit energy is restored as game time passes.

Note: An example of the difference between SPIRIT LIMIT and LEVEL OF SPIRIT:

You may have a SPIRIT LIMIT of 20 and thus have the ability to GRUNSPREKE. Grunspreking, however, uses two units of spirit energy, so if your level of spirit is currently less than 2, you cannot Grunspreke until your energy is restored.

(*)(*)(*) BELOW THE ROOT GAME TIPS (*)(*)(*)

OBJECTS: (descriptions and where to find them)

PAN BREAD: Pan Bread is a main source of food for the people of Below the Root. Pan Bread is a good meal and provides good nutrients. You can find Pan Bread at Sky Grund, Grand Grund, and Silk Grund. You can also find Pan Bread at a shop.

ROAST LAPAN: Roast Lapan provides protein for long trips. Some roast lapans have strange tastes and lower your spirit energy. You can find Roast Lapans below Garden Grund at the Lapan House, and also at Broad Grund.

FRUIT AND NUTS: Fruit and nuts provide quick energy to keep going, and are a good snack. Fruit and nuts can be found at Garden Grund, Below the Root in Vatar's Quarters, at Temple Grund, and you can purchase them at shops.

SHUBAS: Shubas are used to glide between the Grund, and slow you down so you can land on branches without hurting yourself. You are automatically given one shuba at your home. Additional shubas can be found below Garden Grund, or may be purchased at Star Grund. Beware, for some shubas tear easily, especially when you're falling from braches.

TOKENS: Tokens are the money of Below the Root. Tokens can be used to bribe others, or to purchase objects at shops. Tokens are located every-

where in Below the Root. An enormous supply is also found in the caverns.

WISSENBERRIES: Wissenberries have no real use, except to bribe the guard at the front of the door that leads to the cavern. Never eat wissenberries, for they can weaken you. Wissenberries are found at Sky Grund, Garden Grund, and at Temple Grund. They can also be purchased at Grand Grund.

VINE ROPES: Vine ropes are used to cross from one place to another, and can prove very useful at times. Vine ropes can also be given to Raamo to save him. Vine ropes are located at Sky Grund, Broad Grund, and at Temple Grund. Can be purchased at Star Grund.

HONEYLAMPS: Honeylamps are used in the caverns to light the way. You need a big supply, for honeylamps die quickly. They can be found at Grand Grund, in Broad Grund shops, and in the caverns.

TRENCHER BEAK: Trencher beaks are used to cut bramble in order to make a path. Trencher beaks are weak and could break at any time. The Wand of Befal is a better tool. Trencher Beaks found at Broad Grund Shops, and at Silk Grund.

WAND OF BEFAL: The Wand of Befal takes the place of a trencher beak, but is very strong, and does not break. The Wand of Befal is hard to get. It is owned by the evil group called the NEKOM. You must get kidnapped by the NEKOM in order to acquire the wand. See elsewhere for the hideouts of the NEKOM. SPECIAL NOTE: The Wand of Befal can also be used to kill people, but completely takes away your spirit level and energy.

SPIRIT LAMP: The Spirit Lamp takes the place of the honeylamps, but does not burn out. The Spirit Lamp can only be acquired in Temple Grund using D'O Falla's key. The Chamber of the Forgotten is where the Spirit Lamp is found. The Chamber is located by Vine Palace in Temple Grund. See elsewhere for the location of D'O Falla's key.

SPIRIT BELL: The Spirit Bell rings whenever there is a door that you cannot see underground. The Spirit Bell is located on top of Sky Grund. See elsewhere for more details.

STRANGE EXILERS: Strange exilers are a type of food that you can eat, and you will grow stronger. Strange exilers are really useful if you're low on energy and strength and food, the strange exiler revives this plus gives you extra. Strange exilers are located in Sky Grund, Garden Grund, and in Temple Grund. Exilers are very rare. There is also one in the hideout of the evil gang, D'O Slatt and in the caverns. See elsewhere for the location of D'O Slatt's hideout and how to get there.

TEMPLE KEY: The Temple Key has a numerous amount of uses. The Temple Key can unlock the front gates of Temple Grund. The Temple Key can also unlock the door to the Temple. The Temple Key can also unlock the doors that hold objects in D'O Slatt's and the Nekom's hideouts. The Temple Key is located in Temple Grund, near the top of the grund. Use a shuba to glide down and retrieve the key. NOTE: If you don't have the key, and can't get the key, and need to get into Temple Grund, there's a way. See elsewhere.

D'O FALLA'S KEY: D'O Falla's key is the key to unlock the Chamber of the Forgotten. In order to get this key, first get permission from D'O Falla who lives in Temple Grund in the Vine Palace. Then jump off the edge of Temple Grund and glide to the ground. Go left, climb up the ladder, and glide down onto the platform and retrieve the key.

WHERE TO GET SPIRIT ENERGY:

WISE CHILD: The Wise Child lives up near the garden in Garden Grund, and is very easy to get to. The Wise Child gives you advice and 5 points of Spirit Energy.

RAAMO'S MOTHER: Raamo's mother lives in the Temple in Temple Grund, and gives 5 points of spirit energy. You need the Temple Key to enter.

VATAR: Vatar lives below in the caverns and gives 5 points of spirit energy, and has 2 fruits & nuts which you can get simply by talking to him. Once you enter the caverns, keep going right and you can't miss it.

HERMIT: The hermit lives atop of Grand Grund. It really isn't that hard to get there, but you need a trencher beak or the Wand of Befal to enter & exit.

D'O NESHOM: D'O Neshom lives atop Sky Grund, and it is not easy to get there. You will need at least 1 vine rope. If you are Pomma, you will need 2 vine ropes to get there. Vine ropes are all around in Sky Grund. D'O Neshom gives you 5 points of energy, plus the Spirit Bell.

ANIMALS: Pensing rabbits (lapans) and monkeys will give you 1 point of spirit energy. Spiders and snakes do not give spirit energy, and can tear your shuba quite easily. There are 3 spirit-giving animals in Sky Grund, 2 in Garden Grund, 1 in Silk Grund, 1 below Temple Grund, and 1 underground near Raamo. Simply get by the animals, and pence them for 1 point of spirit energy. If you get enough animals, that could amount up to 7 extra points, good for characters with weak spirit energy.

EVIL MEN'S HIDEOUTS AND DESCRIPTIONS

NEKOM: The Nekom is an evil organization that has the Wand of Befal, a type

of trencher beak, but much stronger and it does not break. The hideout of the Nekom is below Star Grund, and almost impossible to reach by hand. Getting kidnapped is easier. There are many kidnapers for the Nekom. If someone offers you sleep, pence them and you can tell if they're working for the Nekom. If they are, you can sleep there and you'll be kidnapped. Once you are kidnapped and in the Nekom hideout, you will need the power to kinfoport or you will need the Temple Key in order to get the Wand of Befal.

D'O Slatt: D'O Slatt's men are much more evil then the followers of the Nekom. These men also offer you sleep. Some can be found wandering outside, just waiting to kidnap you. Just pence them in order to find out if they're working for D'O Slatt. They usually say, "D'O Slatt's men are waiting." Sometimes, outside, men or women with an evil emotion usually work with D'O Slatt. Once you are kidnapped and arrive at D'O Slatt's hideout, you will need to use the Temple Key or the power to kinfoport to get the Strange exiler there. The hideout is located in Broad Grund. A man who lives near Broad Grund is a kidnapper for D'O Slatt also.

BRIEF STATUS OF CHARACTERS:

NERIC: Neric is a good one to use if you are just beginning to play Below the Root. Neric has good strength, and some spirit energy. He's a good one to quest with.

GENAA: Genaa is a good one if you need a little challenge. Genaa is very strong, but has no spirit energy. See elsewhere for places to acquire spirit energy.

HERD: Herd is kind of like Neric. He has moderate strength, and moderate spirit energy. He is a middle person. Note that some people do not like Herd and will not give him supplies.

POMMA: Everybody ADORES Pomma. They'll give her anything she wants. Even if people hate kids, her emotions win them over. Pomma has some strength, and is greatly spirit gifted. Pomma will need strange exilers

later in the quest.

CHARN: Let's all face it, Charn was created for a challenge, and I mean a big challenge!!! He is a weakling, and his spirit gift was created for the birds. If you want a challenge, here it is!!!

MORE TIPS AND HINTS FOR BELOW THE ROOT:

ENTERING THE TEMPLE GRUND WITHOUT A KEY: If you need to get into Temple Grund, and have no key, simply revive your spirit energy, and go to the top of Star Grund. Get to the rightmost edge of the highest branch, and grunspreke till it says you can't grunspreke anymore. Then jump off the edge, and quickly pop open your shuba. You will keep on gliding, right past the gate to Temple Grund, and you're in!!

SHOPS ARE NO GOOD: Shops really are no help. You can get the same supplies for free at houses. Each thing that is in a store is also in some house. Why buy when you can get it for free??

GUARD AT THE FRONT ENTRANCE: The guard to the front entrance to the cavern takes wissenberries before you enter. If you give him 2 batches of wissen- berries, the guard will disappear and you won't ever have to worry about gathering wissenberries ever again.

HOW TO GET TO THE CAVERN: Getting to the cavern is really quite simple. The cavern is directly below Sky Grund, simply go to the bottom of Sky Grund and go left. You can't miss it!

HOW TO GET TO IMPOSSIBLE PLACES: Using the grunspreke power, the wand of befal, and a shuba you can get almost anywhere!

WHAT YOU NEED TO EXPLORE THE CAVERN: You need wissenberries for the front guard, you need a token for the guard inside, you need a lamp (the spirit lamp, or many honeylamps) and you need the Wand of Befal or a trencher beak in order to clear the bramble in the cave. You also need a vine rope or a shuba in order to save Raamo, and the Spirit Bell in order to find some hidden doors.

HOW TO SOLVE BELOW THE ROOT:

Solving Below the Root is not an easy task. But here's a way to go about it. Explore every grund, take any supplies, get the spirit energy if there is any, and explore the next grund. Return to your house frequently to drop off items. When you have explored every grund, go in the caverns with your special cavern supplies, and keep going right. Going left in the caverns leads no place. You can visit Vatar. Keep going right, and soon you'll hear your spirit bell ring. Enter the invisible door, go left and use your power of kiniport to save Raamo! Be sure to offer him a shuba or a vine rope, and you've won!!

-END-

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DOCUMENT bet

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+-----+
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| Revision of September 1, 1991      |
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INTRODUCTION - Hello there!

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Big Edit Thing (BET) is a powerful New Desk Accessory-based word processor, designed to work under Apple IIGS System Software v.5.0.3 or newer. It supports loading, editing, and saving files in a number of popular file formats including: Text, Teach, ORCA/APW Source Code, and AppleWorks (v.1.0 - 3.0). It currently only supports one ruler, but it allows multiple fonts, sizes, styles, and colors throughout a document. Some of the other features include:

- In-window menu bar with full keyboard menu equivalent support
- Multiple ruler formats including inches, centimeters, and pixels
- Rulers automatically reformat to reflect current printer setup
- Hide/Show ruler option (NOTE: Disabled in this version, see below)
- Variable-interval auto save feature
- Powerful Find/Replace movable modal dialog
- Powerful custom Choose Font dialog
- Dynamic Font menu
- Document printing
- Optional 'live' character count
- Optional automatic word-wrap
- Optional intelligent cut and paste
- Optional intelligent quotes (curly quotes)
- Resource based interface

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THE INTERFACE - How to get there from here.

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The BET interface design is basically very straight-foreword. The main window layout borrows heavily from many other desktop-based word processors. The extensions that you will notice are the two distinct regions above the ruler. The area to the left being a fully-featured menu bar. It works exactly like you would expect, with full keyboard menu equivalent support. The second area is the status region. Currently the only information you may see here is a 'live' display of the total number of characters in your document, if activated via 'Preferences...'.

NAVIGATION

 BET supports a keyboard and mouse interface that provides many options for text entry, selection, deletion, and navigation. The following list summarizes the supported keystrokes and mouse clicks:

- Left Arrow** This moves the insertion point before the previous character.
- With the Command key, this causes movement by words, rather than by single characters.
- With the Option key, this causes the insertion point to move to the beginning of the current line of text.
- The Shift key extends the selection from the current insertion point to the left by one character. If modified with the Command key, this extends by words. If modified with the Option key, this extends by lines.
- Right Arrow** This moves the insertion point before the next character.
- With the Command key, this causes movement by words, rather than by single characters.
- With the Option key, this causes the insertion point to move to the end of the current line of text.
- The Shift key extends the selection from the current insertion point to the right by one character. If modified with the Command key, this extends by words. If modified with the Option key, this extends by lines.
- Up Arrow** This moves the insertion point up one line.
- With the Command key, this moves the insertion point up one page.
- With the Option key, this causes the insertion point to move to the beginning of the document.
- The Shift key extends the selection from the current insertion point up by one line. If modified with the Command key, this extends by pages. If modified with the Option key, this is to the beginning of the document.
- Down Arrow** This moves the insertion point down one line.
- With the Command key, this moves the insertion point down one page.
- With the Option key, this causes the insertion point to move to the end of the document.
- The Shift key extends the selection from the current insertion point down by one line. If modified with the Command key, this extends by pages. If modified with the Option key, this is to the end of the document.
- Delete** This removes the character to the left of the insertion point. If there is currently a selection, this removes the entire selection.
- Clear** This clears the current selection. This does nothing if there is no selection.
- Delete** This removes the character to the right of the insertion point. If there is currently a selection, this removes the entire selection.
- Control-Y** This removes all characters from the insertion point to the end of

the current line.

- Control-X** This cuts the current selection and places it on the clipboard.
- Control-C** This copies the current selection to the clipboard.
- Control-V** This pastes the current contents of the clipboard to the current insertion point. If there is a selection, this replaces the selection with the text from the clipboard.
- Single-Click** This moves the insertion point to the line clicked. By dragging, this selects by characters.
- Double-Click** This selects a word. By dragging, this selects by words.
- Triple-Click** This selects an entire line. By dragging, this selects by lines.
- Command-[1,9]** This supports the AppleWorks style of relative cursor navigation. By performing a Command-number sequence, the insertion point is moved a relative distance from the beginning of the document. Command-1 results in the insertion point moving to the beginning of the document. Command-9 moves the insertion point to the end of the document. Command-2 through Command-8 result in a relative movement into the document.

 =====
 OPERATION - 'If yesterday was an odd weekday (to determine, see schedule
 ===== 12-3a.7, 'How Can I Be Sure That Today Isn't Odd?'), only the even,
 non-shifted, non-vowel function keys will be operable.' :-)

When initially opened, BET will present you with an empty edit window. From there you may create a new document by typing, or you may load an existing document from disk. You may also paste in text that was previously copied or cut to the clipboard.

 LOADING

To load a file, select 'Open...' from the 'File' menu. BET will present you with a file selection dialog box. You will notice a pop-up menu at the bottom of the window. Through it, you may constrain the types of files that are shown in the file list. For example, if you choose 'Teach' from the pop-up, only those files that are saved as Teach formatted will be displayed. If the 'All Types' item is chosen, as it is initially, BET will display every file that it is capable of interpreting. You select a file that you wish to open by double-clicking on the file name, or selecting the 'Open' button while the file is highlighted.

 SAVING

The procedure for saving a file is quite similar to opening a file. You can select either 'Save' or 'Save As...' from the 'File' menu. If you have just created a new document and you select 'Save', you will be given the opportunity to name the new file. If you choose 'Save As...', you will always be given the opportunity to name the file before saving.

If you have already saved your document, or you have loaded a pre-existing document from disk and you select 'Save', BET will automatically save your document as it is named, in its current file format.

The save dialog also has a pop-up menu from which you can choose the format in which BET saves your file. If you have never saved your document, BET automatically displays 'Text' as the default save type. You may change this type

to whatever you wish. If you have saved your document, or you have loaded a pre-existing document, BET will display the original file type of the document in the pop-up. You may also change this.

One note about saving files with styled text is in order. Currently, BET can only save style information (font, size, attributes, color) when you save as 'Teach'. If you save a file that contains a variety of styles as Text or Source, all style information will be lost. A future version will address this problem.

 AUTO SAVE

BET has a powerful feature, selectable via 'Preferences...', that allows you to specify minute intervals that BET will attempt to save your document. If you have never saved the document when the auto save time occurs, BET will present you with the same dialog you use for a 'Save As...'.
 BET resets the save countdown timer in four instances; 1) Whenever you manually save your document. 2) When you open a new document. 3) When you select 'Save' from the 'Preferences...' dialog. 4) When it completes a successful auto save.

When BET's main window is deactivated, BET temporarily suspends auto-save. It will be re-activated when the window again becomes selected.

 NEW

'New' allows you to discontinue working on your current document. If the file has been saved, the current text is cleared and you may begin entering your text. If the document has not been saved, BET will ask you if you wish to save it before clearing the text. You may choose 'Yes', 'No', or 'Cancel'. 'Yes' allows you to save the document before BET clears the current text. 'No' clears the current text, ignoring any changes that you may have made to the current document. 'Cancel' returns you to your current document as though you had never chosen the 'New' menu item.

 PRINTING

'Page Setup...' and 'Print...' work exactly as you would expect them. You will see the appropriate dialogs for the current printer.

 QUIT

You may close BET by three means. The first is if you click in the close box in the upper-left corner of the edit window. You can also close BET through two menu items. The first is 'Close' and the other 'Quit', both in the 'File' menu. In all cases, BET will inform you if you have not recently saved your document.

 FIND/REPLACE

The 'Find/Replace...' feature allows you to search for, or replace, specific text strings throughout your document. The search starts from the current cursor location or start of a selection range.

Conventional find/replace features have usually appeared in two forms. The first is the standard modal dialog that is opened on top of your document. Its placement is dictated by the programmer, so it can obscure portions of your document. The second is the use of a modeless dialog. This is the kind of search

where the 'Find' window can be sent to the background, but it can be kept onscreen at all times if you wish.

Since BET is a desk accessory, using the second search type, a modeless dialog is not possible. Desk accessories can only leave one window permanently open (under System Software v.6.0 this is no longer true). I did not opt for the first method because I do not like being forced to do something that needs multi-window interaction, from a modal position.

The dialog that you are presented with differs from normal modal dialogs in a few ways. The first is that it is called a movable modal dialog. It always remains the frontmost window, but you may position it anywhere around the screen. It also allows you to position the main text editing window wherever you like, except that the front to back window orientation cannot be changed.

The scrolling and selecting of your document's text is also permitted. With this method you can change the search start location while you are searching. All that you have to do is click or drag in the appropriate area of the edit window. Note that the window will not move to the front as it would in a normal environment. Also, the cursor usually can be seen, but it will not flash as when editing is possible.

 PREFERENCES

From the preferences dialog you may set up your environment to suit your specific needs. BET saves your preferences to an external file which is maintained in such a way that BET is fully AppleShare friendly. BET may be run off of a server volume, with separately maintained preferences for each user.

The buttons at the bottom of the window provide you with three options for exit. The 'Cancel' button allows you to ignore any changes you may have made. 'Temporary' enables any changes you have made, but does not save them permanently. When you close BET, the preferences will revert to those that were previously set. 'Save' immediately writes your preferences changes to the preferences file.

The various preference options are:

Word wrap only on carriage returns - This informs BET when you wish it to wrap your text to the next line. If this item is selected, then BET will only wrap text when you enter a carriage-return. If it is unselected, then BET will wrap text to fit the current ruler. As you resize the window, the current text will be re-wrapped to fit the current ruler width.

Use intelligent cut and paste - This helps eliminate the need for you to insert space characters to fix a paste. With this option enabled, BET allows the you to select a word, and cut and paste that selected text without adding or removing any space characters.

Draw active character count - This enables the interactively updated count of your document's length. When selected, the character count in the status region is continuously updated to reflect the current number of characters in your document.

Auto save every XX minutes - This specifies the intervals in which BET is to attempt to save your current document. If you have never saved your document when the auto save occurs, you will be given the chance to give your document a name.

Use intelligent quotes - This enables the curled quotation marks that indicate the opening and closing of a quotation. If this feature is enabled, BET automatically uses the curled variation of quotation marks as you enter new text. Changing this option has no effect on previously entered quotes.

Covert 8-bit ASCII text on saves - When this feature is turned off, BET writes 8-bit ASCII text (such as files created by Merlin) just as it was read.

This means that you can use BET to edit such files without the manual conversion most text editors require. If this feature is enabled, BET will clear the high bits of all characters of such files at save time. This allows you to convert such files to normal 7-bit ASCII text, again, without a manual conversion process.

Default Font - This preference allows you to specify the font, size, style, and color settings BET uses when creating a new document. This allows you to override the normal 8 point Shaston system font. You make your selections from the same Choose Font dialog that you use during the normal operation of BET.

Source Save - This pop-up allows you to specify the language stamp to apply to Source files when using 'Save As...'. Note that this option's value is not used when you save your document with 'Save'. In that instance, your document is stamped with its current language designation.

Ruler Type - Allows you to specify the default measurement type that BET is to use in displaying the ruler. Current options are English, Metric, and pixel.

Miscellaneous:

BET saves the current position and sizes of the main and Find/Replace windows to the preference file when BET is closed. When BET is again opened, the windows are sized and positioned to reflect the saved values.

BET also remembers the current visibility state of the ruler when BET is closed. The next time BET is opened, the ruler will be visible or invisible, depending on its previous state.

NOTE: Some serious problems have arisen in testing this feature.

Unfortunately, I do not currently have the time to fully come up with an alternate method, so I've elected to disable this feature in this version. It should be enabled in the next release, most probably when System 6.0 is released later this year.

BET automatically saves the current printer setup (set via Page Setup) when it is closed. This allows you to set up your most common print variables once, rather than with each new document.

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 WHAT IT DOES - Or doesn't. It just depends on the way you look at life.
 =====

- Clicking upon the line spacing and justification buttons will reformat the entire document. Unfortunately, the Text Edit tool set, of which BET is based upon, doesn't support multiple rulers just yet.

- Just as the above changes are global, so are the placement of tabs. Tabs do not belong to a specific line, rather, they currently are for the entire document. This is also a Text Edit toolset limitation.

- The file translation routines for AppleWorks documents currently only extract the text. No formatting information that is embedded in the document is retained. Since the principal reason for implementing this translator was to enable me to quickly read AppleWorks documents, I've left out the formatting until a later version. That version will address both the importing and exporting of fully-formatted AppleWorks documents, including AppleWorks GS.

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PLANNED FUTURE FEATURES - Will we see it by version 7.0?
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My current future features list (is that mutually exclusive?) is rather

extensive, and growing. But for now, I will be concentrating on finishing those features that are already partially implemented. As always, your suggestions are greatly appreciated!

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BUGS, ANOMALIES, AND OTHER UNDOCUMENTED FEATURES - Or, 'What just happened?'
 =====

In its current incarnation, BET is a rather stable piece of code. That's not to say that everything will work completely properly, but thus far BET has not crashed for me. That's always a plus in my book.

As I've mentioned above, the Hide/Show ruler option is not enabled in this version. It should be fully working in the next release, which will coincide with the release of System 6.0. I have some great new features in the works that specifically take advantage of new System 6.0 features.

BET has strange behaviour with the AppleWorks GS Word Processor module. AWGS apparently does not play with the cursor properly. If BET is in the front, and your cursor keeps changing from the insertion cursor to the arrow cursor, somewhat like a strobe light, it's not my fault. Call Claris (do they still develop Apple II software, or just sell it?). Using a text editor while you are running AWGS's WP is also strange behaviour...

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ABOUT THE AUTHOR - I'm the one you should blame.
 =====

I'm currently a pre-junior (yep, that's what I said) computer science major at Drexel University in Philadelphia, PA. I try to be the Apple II champion here, but you don't know what oppression feels like until you've gone to a school where everyone thinks the only computer Apple has ever manufactured rhymes with 'Ack!' Heck, we only have 10,000+ of the suckers here. Somebody has to tell this place the truth. What is a 'Macintosh IIgs' anyway? I've heard that one far too many times...

I've been programming the Apple II since 1981, and the IIgs since the day it was released way back in '86. You probably haven't seen much work with my name on it due to two irritating habits that I've gotten myself into over the years. One, from '86 through '87, all I wrote were utilities to help me program. Very bad rut. The second, once I stopped the first, was the inability to completely finish projects due to the fact that I wanted everything perfect by the first release. Well, this is a fine example of the death of my second bad habit. :-)

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THANKS - The others you should blame.
 =====

First off, my tester at Carnegie Mellon, Gregory Ross Thompson. I don't know what you want to read here Greg, but there's your name. :) Next, all of the people back at APPLE PITTSburgh, my favorite users' group. Special thanks there to Matt Irvin and John LaScola. They were the first humans to see BET last December, and John has given me many fine and useful suggestions. Here at Drexel we have Reggie "put your favorite quote here" Adkins. He desperately wanted to see me finally get one of my many, many projects completely done. Does this count?

I'd also like to thank those that have offered many useful and quite varied suggestions. Keep them coming! And finally, to all of you who have graciously sent in your ShareWare fees. I really appreciate your support and you can rest assured that you will continue to have mine.

Thanks to all.

Well, there you have it. If you have any questions, comments, suggestions, or anything else that I may be interested in, you can reach me at:

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GENie: J.MURPHY7
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- II Infinitum -

- Created with Big Edit Thing v1.0b3

DOCUMENT bey.castle.wolf

Soft Docs for:

Beyond Castle Wolfenstein
Compiled by
Ctrl-Reset

Written exclusively for:
THE OUTPOST
(312) 441-6957 (10 meg!!)
&
All AE lines

Finally, "Beyond Castle Wolfenstein." Worth the wait? Maybe...you decide.

Commands

Movement (keyboard):

W -> north-west W -> north E -> north-east
A -> west S -> STOP D -> east
Z -> south-west X -> south C -> south-east

Gun Movement (keyboard):

I -> north-west O -> north P -> north-west
K -> west L -> fire one round + -> east
' -> south-west . -> south-east
-> south / -> south-east

Wepons/Arsenal Command:

: -> switches between dagger* and gun
B -> drops and picks up the bomb*
R -> resets the bomb timer if you have tool kit*.
(bomb must be dropped first)
H -> put away gun

Miscellaneous:

(RETURN) -> displays inventory
(SPACE) -> searches a guard (NOTE: anything found on the guard,
if needed, will automaticly be taken)
F -> uses first aid kit* (if wounded)
M -> bribes guard (costs 15 marks)
<ESC> -> saves game
U -> use object in closet

A "*" indicates that this item must be found

Game Notes

The object of "Beyond Castle Wolfenstein", is to find Hitler, drop a bomb in the room where he his, and run like hell back the room where you started. Hitler will always be on the lowest level of the

bunker.

Instead of chests, we now have closets. To open a closet, point your gun at it, and press the space bar. If it is locked, you must do the following:

1.
Point gun at lock
2.
Press buttons 1-0, until you here a click
3.
Start back at button 1, press it, if it does not click, go back to the original button and press it till it clicks. Then try the next button until you find the other "clicker".
4.
Repeat this process a third time and when you find the correct three digit combo, it will open. You can, of course, shoot the lock off, but that may attract unwanted attention, and is a wast of bullets.

You can get up to five passes. Each pass is different. You can see which passes you have by looking at the side of your screen and noticing how many inverse numbers there are. One of the five passes will randomly work on each level, but you never know which, so you have to test them out. If you show a guard a pass, and you don't produce the correct one he will draw his gun and ask again, if you still don't get it right, he will shoot, or go after you.

There are two types of guards:

1.
The kind that walk around and patrol the area.
2. The kind that sit behind desks.

If a guard hears a shot, see's a dead body, or see's you with a drawn weapon he will probably head towards the nearest alarm. Alarm's look like little holes. When a guard reaches one, he will set it off, thus alerting the whole place of your prescence (i.e. everyone will know who you are). There is only one way of resetting the alarm, if you find in a closet, the alarm controls, hit '1' to reset them (i.e. turn off).

The guards at desks are not to be reckoned with, it always takes more then one shot to kill them, so they will time to set off the alarm behind the desk. It is best just to bribe them or show your id.

There are two ways of getting to different levels:

1.
Find a secret passage way behind a closet.
2.
Enter an elevator.

An elevator is a boxed off room with one of the sides slowly opening and closing. You can see which way the elevator is going by looking at the upper right-hand portion of the room and seeing which way the arrow is pointing.

When resetting the bomb, always make sure there are no guards around, or they will go after you. The bomb timer automatically starts when picked up, and is displayed at the top of the screen.

To use the dagger, you must first select it, then sneak up behind a guard and run into him. This is the ONLY way the dagger will work, do not attempt head-on attacks. The dagger is useful when not wanting to alert other guards of your presence, but want to do-in another guard.

After killing a guard, you can drag his body by moving next to it, pointing the gun at it, and hitting the space (and moving in a direction of course).

You can have a maximum of five passes, 100 marks and 10 bullets, and three of the following: bomb, first-aid kit, dagger.

Apple II Computer Info

Finally, if you figure out how to use sound files from any place I haven't mentioned, let me know. I don't know if any other computers use the same kind of files as Apple IIgs and Macintosh, but I'd love to hear from anyone who does. My GENie mail address is GUYRICE, and my Post Office address is given below.

Final notes:

This software is completely public domain. You are not OBLIGATED to send any money at all. However, you are NOT RESTRICTED from doing so, either. If you really liked this program, STARTPIC, STARTSOUND, SYSBEEP, or any other public domain programs I have written, and feel you need to show your appreciation to me somehow, my address is:

Guy T. Rice
P.O. Box 13036
Dinkytown Station
Minneapolis, MN 55414

===== DOCUMENT bgmusic =====

BGMUSIC Background Music, by Guy T. Rice BGMUSIC

Version 1.0 documentation

This program lets you play music or some digitized sound in the background while you are using an Apple IIgs program. Since it is an NDA, it will only work with programs that use the standard IIgs desktop interface. It can play any digitized sound file. You can create these digitized files with an MDIdeas SuperSonic Digitizer, or with a Future Sound digitizer, or whatever.

How to set it up:

First of all, there's a program called BGMUSIC. This program must be copied into your DESK.ACCS directory, which is inside your SYSTEM folder. It doesn't matter what position it takes in the catalog. Personally, I always keep my desk accessories alphabetized.

Secondly, you will need a digitized sound file. Put this into your DESK.ACCS directory, and rename it MUSIC. Digitize whatever music you like best. You should probably digitize as slowly as possible, as you don't want to use up too much memory. (Memory used by BGMUSIC cannot be used by your program. However, if you run out of memory, you can click the Close box for BGMUSIC. This will release all the memory BGMUSIC was using immediately.)

Finally, there is a program called AUXSET. You can put that program anywhere you want, it doesn't matter. When you change sound files, you may have to run this program. It modifies the playback rate of the sound file by changing it's "auxtype" field. If a file is digitized at a different rate, then it must be played back at a different rate. This program can also be used to configure STARTSOUND and SYSBEEP as well as BGMUSIC.

When you run AUXSET, it will ask for the pathname of the file you wish to modify. You should type something like this:

/HARD.DISK/SYSTEM/DESK.ACCS/MUSIC

Replacing "HARD.DISK" with whatever the name of your hard drive is.

A note on digitizing for BGMUSIC:

Since loading sound files takes time, I would suggest digitizing sounds at the slowest possible rate, so that they take up the least amount of space and can be loaded quickly. The quality of the sound goes down, however, when you digitize slowly. Its a tradeoff, but I think it's best to speed up the boot process by slowing down the digitizing rate.

If you are using the MDIdeas SuperSonic Digitizer, and the new Sound Edit program, go into the "Preferences" section before digitizing. Set the Playback rate to 40, and the Digitizing rate to 34. Then click "Okay". This will result in the most compact sound files.

Oh, also, don't pack the resulting sound file when saving it. Leave it unpacked. And make sure the file's playback rate is set at 200. (Note, the playback rate used by BGMUSIC is on a different scale than that of Sound Edit. To be specific, the BGMUSIC playback rate is the parameter passed to the Sound Manager toolset as playback rate.) Run AUXSET to set this.

Macintosh and other sound files:

When playing back files digitized on a Macintosh, a playback rate of 450 has worked best for me so far. If that doesn't work, 200, 300, and 400 also are good bets.

=====

DOCUMENT bilestoad.cheat

=====

```

*****
**                               **
**      BILESTOAD CHEATS        **
**                               **
**      Revealed by:           **
**                               **
**      The Aluminum Gerbil     **
**                               **
*****
    
```

Hail fellow warriors in the distant realm of "THE BILESTOAD!" (Thunder & lightning please)

After completing any good game, the age old question always pops up: "What the Hell do I do now?" Coming from a relatively isolated part of the world (somewhere up in Canada) I can't speak for any other Pirates but myself. I say, "Take it apart! Dismember the Mother-Phucker!" and proceed to rip out subroutines which I might find usefull and try to figure out how the program does its stuff. When I completed the master level in The Bilestoad I became intregued with the level code generating routines and looked around and discovered a method of finding level codes for any password for any level. Here's how to do it:

Boot The Bilestoad and press <RESET> until the drive stops. Do a CALL-151, then an 803G.

This gets you into the player registration screen and prompts you for your password. Type in the password you want level codes for and press <RETURN>. When it asks you for your level code, press <RESET>. Do a CALL-151 and enter the following commands:

* ==> F3:xx N A7B0g N AA61G <RTN>
 where xx is the level MINUS ONE of the level code you want.

For example, if you wanted the level code for the master level 40, you would type:

F3:27 (decimal = 39) N A7B0G....

Here is a list for all you lazy bums who don't feel like trying this out. The password is "GERBIL" (what else?)

- KRK	11 - NWI	21 - JRI	31 - INK
2 - WVA	12 - OWK	22 - UZC	32 - OZK
3 - RMC	13 - JON	23 - SKA	33 - TWF
4 - PRA	14 - QRC	24 - POF	34 - UWC
5 - WSA	15 - IKK	25 - KOK	35 - LVI
6 - VTG	16 - WSF	26 - SKF	36 - NWN
7 - LSI	17 - HKN	27 - VUC	37 - SNA
8 - LSN	18 - HNI	28 - POA	38 - MSK
9 - NZI	19 - TWA	29 - JOI	39 - MVK
11 - KI	30 - RLG	40 - QOC	(Master Level)

=====

DOCUMENT blackbelt

=====

```

      _____
     /           \
    /  BLACK BELT  \
     \           /
      _____
    
```

ARCADE SOUND
 MOCKINGBOARD SUPPORTED
 APPLE 48K - 1 DRIVE

PROGRAMMED BY: KEVIN RYAN
 FROM: EARTHWARE COMPUTER SERVICES

CRACKED BY: CREATIVE CRACKER
 AND HIGH TECHNOLOGY

BLACK BELT INSTRUCTIONS

DETAILS OF SPARRING:

THE SPARRING MATCH FOLLOWS THE RULES OF TAEKWONDO SPARRING AND THERE ARE SIX SKILL LEVELS RANGING FROM WHITE TO BLACK. THE SKILL LEVEL OF THE MATCH IS DETERMINED BY THE COMBATANTS. IF YOU ARE SPARRING AGAINST A COMPUTER OPPONENT, THE SKILL LEVEL WILL BE THAT OF YOUR COMPUTER OPPONENT. IN A 2- PLAYER GAME IT WILL BE THAT OF THE HIGHER OF THE 2. THE SKILL LEVEL AFFECTS SPEED, FATIGUE EFFECTS, TAEKWONDO FORMS ALLOWED AND INTELLIGENCE OF THE COMPUTER OPPONENT.

LISTED BELOW ARE THE ACTIONS A PLAYER CAN TAKE AND THE SKILL LEVEL THAT THEY BECOME AVAILABLE:

```

SIDE BLOCK.....WHITE
LOW BLOCK.....WHITE
PUNCH.....WHITE
SIDE PIERCING KICK.....WHITE
FRONT SNAP KICK.....WHITE
TURNING KICK.....WHITE
BACK PIERCING KICK.....YELLOW
DOWN KICK.....GREEN
REVERSE TURNING KICK.....BLUE
FLYING SIDE PIERCING KICK.....RED
    
```

ALL MOVEMENT ACTIONS ARE ALSO AVAILABLE AT THE WHITE LEVEL. ALL ATTACK ACTIONS ARE AVAILBLE AT THE RED BELT LEVEL.

KEYBOARD CONTROLS:

```

W,R- UPPER KICKS
X,V- LOWER KICKS
E- WALK TOWARD SCREEN
C- WALK AWAY FROM SCREEN
S- WALK LEFT
F- WALK RIGHT
D- SWITCH DIRECTION FACING
U- FLYING SIDE PIERCING KICK TO LEFT
O- FLYING SIDE PIERCING KICK RIGHT
J- PUNCH TO LEFT
L- PUNCH TO RIGHT
M- TURNING KICK TO LEFT
.- TURNING KICK TO RIGHT
I- DOWN KICK
K- SIDE BLOCK
O- LOW BLOCK
    
```

JOYSTICK CONTROLS:

THE JOYSTICK CONTROLS ARE SIMILAR TO THE KEYBOARD CONTROLS, WITH BUTTON 1 USED TO SELECT WHICH SET OF CONTROLS TO USE.

WITH BUTTON 1 UP:

UPPER	WALK	UPPER
KICK	AWAY	KICK
TO	FROM	TO
LEFT	SCREEN	RIGHT
WALK		WALK
LEFT		RIGHT
LOWER	WALK	LOWER
KICK	TOWARD	KICK
TO	SCREEN	TO
LEFT		RIGHT

WITH BUTTON 1 PUSHED:

FLYING SIDE		FLYING SIDE
PIERCING	DOWN	PIERCING
KICK TO	KICK	KICK TO
LEFT		RIGHT
PUNCH		PUNCH
TO	SIDE	TO
LEFT	BLOCK	RIGHT
TURNING		TURNING
KICK	LOW	KICK
TO	BLOCK	TO
LEFT		RIGHT

HIT BUTTON 0 TO SWITCH DIRECTION.

PLAYERS CAN GET POINTS DURING SPARRING IN THE FOLLOWING WAYS:

1. CONNECTING WITH AN ATTACK
2. BLOCKING AN OPPONENT'S ATTACK

THE WINNER IS DETERMINED BY THE NUMBER OF WARNING.

PRACTICE SECTION:

OPTION #2 ALLOWS YOU TO LOOK AT THE DIFFERENT ATTACKS THAT ARE AVAILABLE.

=====

DOCUMENT blackspring

=====

BlackSpring GS v4.0

by: Ronand E. Mercer (aka. The Dungeon Master)

Copyright 1988/1989 Ronald E. & Robin R. Mercer

[A Full-Featured ACOS Word Processor]

This program utilizes the ProTERM Special terminal emulation for its effects

CHECKLIST

Here is a list of items that have been included in this package:

BLACKSPRING : the actual program
 BLACKSPRING.DOX : documentation on the program (what you're reading now)
 UPDATES : file which describes updates to the program

NUVISION.GS : NuVision GS Video Driver.
 NUVISION.PATCH : Installation program.
 NUVISION.DOCS : Documentation for NuVison GS.

INSTALLATION

To install BlackSpring into your system, you must first install NuVision GS. By installing this patch you will be able to see ALL of the ProTERM Special effects locally, thus taking alot of burden off of the editor.

Consult the NuVision GS Documentation file for installation procedures.

Now you will need to copy the USE file into your system. Simply copy the BLACKSPRING file to whichever drivespec you please.

And finally, you will need to modify your segments so that BlackSpring will be incorporated into your system. To do this, please refer to the next section.

BLACKSPRING OPERATION NOTES

BlackSpring has a buffer size of 96,854 bytes. However, the buffer size isn't really measured in bytes, it's measured by lines (a line is equivalent to 79 bytes). So really, the buffer size is 1226 lines.

The use format is as follows:

use "x:blackspring",[username],[filename],[optional]

[username] = a3\$ This is the variable containing the name of the person who's using the editor.

[filename] = "x:filename" This is the filename of the file that will be written when the save option is issued.

[optional] = 0 or 1 This is only used when editing text files. If you wish to edit a text file this must be set

to 1. Please refer to the next section.

When you return from BlackSpring, memory location 10 will contain one of three values which will give you some miscellaneous information:

```
peek(10) value 0 = No errors occurred and message was saved.
              1 = Message was aborted and not saved.
              2 = The file that was loaded was too large [buffer overflow].
```

BlackSpring creates a text file which corresponds to the SPEC/NAME defined in the USE string. You should copy this file into your MSG file and then delete it.

Please refer to the program example at the end of this documentation file.

EDITING TEXT FILES WITH EDITOR

A unique feature of BlackSpring is that it allows you to edit text files on-line. These text files can only be 1226 lines long, and no longer.

The process is very simple. Simply place a one in the [optional] extension and the file will be loaded instead of created.

If the text file that you are loading is longer than 1226 lines, memory location 10 will contain a 2 and BlackSpring will not allow you to edit it.

When the Save/Write command is issued the old text file will be written over with the newly edited one. If no text file existed, it will be created.

BlackSpring will allow you to use control characters in the text files. Control characters will appear in inverse during editing.

If a line in a text file is longer than 79 characters, it will be split into two different lines. It is not recommended that you use BlackSpring to edit segments, since most segments have lines that are longer than 79 characters.

Example Program:

```
input @2 \"Filename to edit: \" i$:if i$="" return
use "g:blackspring",a3$,i$,1:if peek(10)=2 print \"File too long...\":return
if peek(10) \\\"[ Aborted ]\"
return
```

GETTING HELP FROM THE EDITOR

If you, or one of your users, is in need of a command list, then he/she only has to press Control-A (user) or Open-Apple A (sysop) to get a Help Window.

The Help Window will appear on the screen. You simply press RETURN when you are done using the Help Window and the screen will be refreshed and you can continue to write your file.

COMMANDS

Control-A	Display Help Window
Control-B	Jump to Line 1 of the editor
Control-C	Center the current line of text
Control-D	Delete current line; pull text up
Control-E	Toggle Insert/Replace Mode
Control-N	Jump to Last Line of the file which you're editing
Control-P	Toggle Insert Control Characters ON/OFF
Control-W	Write: Save Message

Control-T	Toggle tab stop
Control-X	Clear the contents of the current line
Control-Y	Delete the word under the cursor
Control-Z	Insert Line; push text down
DEL	Delete character to the left of cursor
TAB	Jump to next tab stop
ESC	Abort: Abort Message

Arrow Keys The arrow keys allow for FULL SCROLLING CAPABILITIES

If the SysOp wishes to use BlackSpring, then he/she can only enact the above commands by means of the Open-Apple key (instead of the Control key). This alleviates the compatability problem with the ACOS control-character commands.

PROGRAM EXAMPLE

```
;BlackSpring v4.0 - Full featured ACOS word-processor
```

```
;variables used:
;a3$=full name of user that is on-line
;f$=filename of the text file you're writing/editing
```

```
editor
use "x:blackspring",a3$,f$:return
```

(this documentation file was written using BlackSpring v4.0)

=====

DOCUMENT blade.blackpool

=====

```
=====  
=          BLADE O' BLACKPOOLE          =  
=====
```

BLADE OF BLACKPOOLE <-> A NEW GAME FROM SIRIUS SOFTWARE DONE IN HI-RES GRAPHICS

GENERAL COMMANDS:

SAVE = SAVE A GAME
BRIEF = GIVE A SHORT DESCRIPTION OF A ROOM
SCORE = I HOPE YOU CAN FIGURE THIS ONE
RESUME = RESUMES GAME
LONG = GIVES LONG DESCRIPTION OF ROOM

WITH (I.E.- WITH ROCK, WITH SWORD,ETC)
HELP = GIVES HELP
Q = ABORT, SAVE, OR RESUME GAME

YOU MAY ALSO USE MULTIPLE WORD COMMANDS SUCH AS:

TURN THE LAMP ON
MOVE THE ROCK WITH THE LEVER
TALK TO THE BARTENDER

=====

DOCUMENT blazing.paddles

=====

BLAZING PADDLES
Documentation

Written by

The Camel Jockey

Introduction

What is Blazzing Paddles?

BLAZING PADDLES is a very powerful and easy to use drawing program. It allows you to use almost any input device to create drawing, diagrams, and text. It is easy enough for young children to use like a coloring book, yet sophisticated features are included for the serious computer artist.

Equipment requirements

1. An Apple //c, //e, //+, //, or compatible computer with 48K minimum and Applesoft.
2. One or two disk drive.
3. A color monitor or TV is preferred, but a monochrome monitor will work fine.
4. One of the following input device (properly connected):
 - 1) Mouse
 - 2) Graphics Tablet
 - 3) Touchpad (KoadlaPad or equivalent)
 - 4) Joystick, trackball, or similiar paddle port device
 - 5) Light Pen
5. A printer is optional. You can get a printout of your picture with most types of printers.

Getting Started

Before running the program, make sure your input device is properly connected. Carefully follow the installation directions supplied with the device. Make sure the power is OFF before connecting anything to your computer. Next place the BLAZING PADDLES disk in drive 1 (label facing up), and turn the computer on. When the drive stops spinning, you will see the following display on your monitor screen. At the bottom of the screen is a menu of the various input devices. The left and right arrow keys are used to make a choice from this menu. Press the right arrow [-=>] key to highlight the next selection on the menu. Press the left arrow [<=-] key to move backward through the menu. When the device you are using is highlighted, press [RETURN] to run the program. The disk will run for a few moments and then the main menu will appear. Since each input device is operated differently, you will have to learn the following techniques for your device.

- * How to move the "cursor" around the screen.
- * How to draw and select menu items using the "ACTION BUTTON."
- * How to delete actions using the "UNDO BUTTON."

*Note - Light pens require special techniques. If you are using a light pen, refer to the chapter on LIGHT PENS.

Moving the Cursor

The cursor is a small flashing marker that indicates your position on the screen.

*MOUSE - Move mouse to position cursor on the screen. Cursor can be moved off the screen by moving the mouse until the cursor disappears.

*TOUCHPAD - Places styles or finger on the pad to position cursor on the screen. Lift styles off pad to take cursor off the screen.

*GRAPHICS TABLET - The "screen" area is the lower 2/3 of the tablet. Touch the pen lightly on the surface of the tablet to position the cursor on the screen. Place the pen near the top of the tablet to move cursor off the screen.

*JOYSTICK - Joystick and other paddles port devices. Move joystick to position cursor. Move to the upper left corner to move cursor off the screen.

Action Button

The ACTION BUTTON is used when you want to make a menu selection or draw something on the picture.

*MOUSE - The mouse button is the ACTION BUTTON.

*TOUCHPAD - There are two buttons on the touchpad. The left button is the ACTION BUTTON.

*GRAPHICS TABLET - The ACTION BUTTON is the point of the pen. When you press down on the pen so that the point retracts, you activate the ACTION BUTTON.

*JOYSTICK - Joystick or paddles port device - There are two buttons. The left button (or button 0) is normally the ACTION BUTTON. Some joysticks may have a different layout so you may have to experiment to find out which button to press.

Undo Button

The UNDO BUTTON is used to remove the last item played on the picture. This allows you to try things out before they become a permanent part of the picture. The [ESC] key on the keyboard is used for the UNDO BUTTON. If you are using a device with two buttons (touchpad, joystick, etc.), the second button becomes the UNDO BUTTON.

*NOTE - The "undo" feature will work only on the very last thing drawn on the screen.

=====

DOCUMENT blk.work

=====

BLOCK WORK
by Mark Harris
Copyright (C) 1987

I - Introduction

Block Work is a sophisticated PRODOS block editor. Also known as a ZAP program. Although it is specifically designed to work with PRODOS, with certain considerations, Block Work can be used with DOS 3.3 and Pascal formatted disks as well. Block Work is also a flexible copy program. This is again designed around PRODOS, but can copy DOS 3.3 and Pascal formatted disks.

The Main strength and advantage of Block Work is it's flexibility. For example; Ever need to block edit a 3 1/2 inch disk, and you pulled out Copy II+ to do the job, and found that it couldn't handle the job? Well I did, and that's why Block Work was written. Or maybe you'd like to copy a 5 1/4 inch disk to a 3 1/2 inch disk, or to your RAM disk, again Copy II+ won't allow this. But Block Work has no problem with it. There are many other features that will be explained later in this text.

A word of caution: With flexibility, comes the possibilities of problems. So practice using a expendable disk until you get the feel of this program. But once you take a few moments you'll become quite adept in manipulating your disks. With Block Work, the possibilities are endless.

Shareware - This program is free to distribute to anyone you'd like. Use it for a while. If you like it please send the \$15.00 to - Mark Harris
8408 W. Aster
Peoria, AZ 85345 - Thank you...

(Please send any comments and/or suggestions along with your payment.)

Support lines;

Cottontail Ranch - (602) 433-0159
Route 66 - (602) 979-2858

II - Command Summary

All commands should be accompanied by the Open-Apple key. (OA).

OA-A = Ascii Display Mode	OA-B = Set Current Block #
OA-C = Copy Blocks between devices	OA-E = Edit byte
OA-F = Find Byte Sequence	OA-H = Hex Display Mode
OA-L = List disassembly of Buffer	OA-P = Print Screen to Slot #1
OA-R = Read Block to Buffer	OA-S = Set Current Slot #
OA-T = Toggle Tone On/Off	OA-V = View Directory of device
OA-> = Increment Block & Read	OA-< = Decrement Block & Read
OA-Ctrl-W = Write Buffer To Device	OA-? = Help Screen

III - Command Explanation

All inputs must be in Hexidecimal, unless otherwise noted. See Appendix A for more information on the Hexidecimal numbering system.

OA-A = Ascii display

This puts Block Work into the Ascii display mode. Everything that is done from then on will use Ascii information. For example, when you search for a byte sequence you'll be prompted for Ascii information instead of Hex. This command also resets the default search string to null, no default search string.

OA-B = Set Current block

Pressing this key will allow the user to change the current block # being work with. For example, if you would like to read block #3A, make a change and write it back to block #110. You would follow this sequence of keystrokes;
- OA-B enter 003A, or just 3A and <Return>.

- OA-R Read block into buffer
- OA-E Edit what you need.
- OA-B enter 0110, or just 110 and <Return>.
- OA-Ctrl-W Write buffer to disk at block #110

OA-C = Copy Blocks between devices

Pressing this key puts you into the copy mode of this program. With this command you can do any of the following, plus other things not listed or thought of yet.

- Copy 5 1/4 to 5 1/4 inch disks. One or two drives.
 - Copy 3 1/2 to 3 1/2 inch disks. One or two drives.
 - Copy Ram disks to any of the above or visa versa.
 - Copy Hard disks to any of the above or visa versa.
 - Or any combination of the above.
 - Copy ranges of blocks between any of the above.
 - Search and replace byte sequences between any of the above
 - Search and replace within ranges of blocks.
 - Backup hard drives, or ram drives onto 5 1/4 or 3 1/2.
 - And other things that I haven't run across yet.
- See Appendix B on the copy program for more information.

OA-E = Edit Byte

Pressing this key will allow you to edit the buffer. This can be done either in Hexidecimal or Ascii. If your in the Hexidecimal mode, by pressing OA-E you'll be asked for which byte you would like to edit. Enter in the byte # you want to work on. At this time the byte in the buffer will be highlighted, the byte number, the current value and a prompt will be presented to you. If you press Escape, you'll back out of this operation. If you press Return, no change will be made to the byte, and the next byte will be presented to you for the same evaluation. Pressing the arrow keys will allow you to quickly and easily move around in the buffer. You'll always be presented with the current byte value for the same evaluation as before. You may also use any of the OA-keys to go to any other operation without hitting the Escape key. If you choose to enter a new hex byte the buffer will be updated, and the next byte will be displayed. This will continue on until you press Escape.

If you're in Ascii mode, the same order of events will happen with one notable difference. Before being asked which byte number you want to edit, you'll be asked to specify if you want the High bit set, or reset. The difference being in the Hexidecimal value of the byte. For example the letter "A" has a hexidecimal value of \$C1, (High bit set). This letter on the screen is displayed normally. The letter "A" can also be represented on the screen as a flashing character (40 columns), or Inverse (80 columns). The hexidecimal value for this letter "A" is \$41. It is important to edit a letter in the correct mode, otherwise problems can arise later while using the edited data. An example of this problem can happen if you want to change the volume name of a PRODOS disk. PRODOS looks for the volume name in block #502, and it must be in high bit reset mode, (Flashing). If you edit it with the high bit set, PRODOS won't recognize it as a valid volume name. So to prevent problems, mark down which type of letter is being used.

*** Note- Editing a byte does not alter the disk in any way. To save the edited information to a disk you must use the OA-Ctrl-W, Write command.

OA-F = Find Byte Sequence

Pressing this key will allow you to search the disk for a specific byte sequence. You may enter up to a 20 byte sequence to be searched for. The "=" sign (or BD in hex mode), is the Wildcard, and can be inserted anytime you need to find a range of bytes. For example, if you want to find out anytime softswitches are being accessed you could search for this sequence; A9 BD C0 (LDA \$C0XX); Remember BD="="

This will show you the places on the disk that this instruction is being executed. Or if you want to find the occurrences of a word that might be spelled incorrectly, but you're not sure how it's spelled, you might search for this sequence:

```
MISP===== (MISPILLED)
```

This will show you all the places on the disk that mispxxxx occurs.

If you want to search for a Hex sequence, you must be in the HEX display mode, (OA-H). And if you want to search for an Ascii sequence you must be in the ASCII mode, (OA-A). You'll find that while searching for Ascii bytes, you may enter the characters in lowercase, but the program turns them into uppercase. This happens

because the Ascii search looks for the entered sequence in uppercase, lowercase, high bit set, high bit reset or a mixture of any.

Once you hit OA-F, assuming your in hex mode, you'll be presented with a prompt that ask's you to enter your search sequence in hex. If you have already entered a sequence it will be displayed as the default. Pressing Return here will accept the default and start it's search. Pressing Escape here will back out of this operation. You may also use any of the OA-keys to jump to another operation. Any other hex bytes can then be entered. After the proper sequence is entered, press Return to accept, and the search will begin. Pressing Escape while searching the disk will stop the search and end the operation.

If your in Ascii mode, the sequence of events is the same, only you'll have to enter Ascii information.

Remember, when you hit OA-A or OA-H you'll set the default search string to null, no default string will be displayed.

OA-H = Hex display Mode

Pressing this key will set the program in the Hex display mode. All work on the buffer data will be done in Hex.

OA-L = List disassembly of buffer

Pressing this key lists a disassembly of the code read to the buffer. This command also shows the Ascii equivalent along side of the disassembled code. You may disassemble a page at a time by pressing the Return key. Or you may disassemble one instruction at a time by pressing the space-bar. Holding down the space-bar will give you a slow non stop scroll of the code. Holding down the Return key will give you a quick non stop scroll of the code. Pressing Escape at anytime will back out of the operation.

OA-P = Print screen to Slot #1

Pressing this key will print the contents of the screen to your printer connected at slot #1. This command can be invoked at anytime the program is waiting for keypress. The initialization string is set up for the Imagewriter printers. Other printers may not work as cleanly. Eventually the user will be able to designate his own initialization string. Sorry for now though. If you really need to change the intialization string, then follow these steps:

- Scan the disk that the Block Work program is on.
- Look for this sequence - 89 90 8E 00 EA EA EA EA EA
- This equals "Ctrl-I 90 N". For the Imagewriter...
- Replace this with your init string.
- You only have 8 bytes to work with and an ending 00.
- You must append the 00 to the end of your string.
- Write it back to the same block number and try it.

OA-R = Read Block to Buffer

Pressing this key will read a block of information to the buffer, and display the information on the screen. This command uses the information on the top of the screen to find the correct block. You will need to set the correct Slot #, Drive #, and Block # to read first. (See Appendix C for what device is located in which slot and drive #).

OA-S = Set current Slot

After pressing this key, you'll be prompted for the slot number of the device you're working with. Pressing Escape will restore the old slot number and end this operation. Enter a number between 1 and 7. When the program first starts up, it uses the slot it started up from as the current slot #. Also, when ending the program, set the Slot and Drive that you want your selector quit code to access first. This will greatly speed up your selection of the next system program.

OA-T = Toggle tone ON/OFF

Pressing this key will toggle the tone on or off. So if you like it silent, press this key once. If you decide you want it back, press it again. The program starts up with the tone enabled.

OA-Ctrl-W = Write buffer to Block

Pressing these keys will write the contents of the buffer to the block number designated on the top information line. The control key was added for safety.

OA-> = Increment Block # and Read

Pressing this key will allow you to increment the block number and read it's contents to the buffer and display it on the screen. This is particularly useful to scan the disk for text while in the Ascii mode.

OA-< = Decrement Block # and Read
Pressing this key will do the same as the above only decrementing the block #.

OA-? = Help Screen
Pressing this key will give you an online summary of all the commands available to the user. Pressing any key will return you back to the main screen.

ESC = Escape key
Pressing the Escape key will always allow you to back out of a particular operation. If no operation is underway, pressing the Escape key will end the program.

I hope that this program is of value to you in your library. I intend to update this program periodically and release it. You are welcome to pick-up updates and keep them without charge if you have sent in the initial purchase price. They will be available on BBS's or Public Domain libraries.

Thank-you for your interest.

Mark Harris

Appendix A - The Hexidecimal numbering system

The hexidecimal numbering system is a convenient system for programmers to use. An example of a hexidecimal number would be \$10. (The dollar sign "\$" is the standard representation of a hexidecimal number.) The number \$10 does not equal the number 10. The former equals 16 in our normal decimal numbering system. While the latter does equal 10 in the decimal numbering system. The Hex numbering system utilizes 16 unique digits, they are 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F. While the decimal numbering system just uses 0-9. There are a couple of reasons why hexidecimal is so important to the computer programmer but unfortunately I don't have the space to thoroughly discuss it. But I would like to give you a couple of sources to look at.

- Assembly Lines, Softalk Publishing, Roger Wagner. \$3.00 from Polarware software company.
- Prodos inside and out, Appendix B, Tab Books inc. Dennis Doms and Tom Weishaar. \$16.95 Walden books etc
- And any other good Apple publication on Assembly.

Appendix B - Copying Blocks between devices

The Copy option of this program is one of the nicest features of this program. It's extremely flexible, and has features not found on any other program that I've seen. These features are;

- Normal Disk copy
- Copy a range of blocks from one device to another.
- Copy disk while searching and replacing a string.

You are not limited to device types. For example I can copy a 5 1/4 disk to a RAM disk. Or Back-up a Hard Disk. (There are other programs that will do this job more efficiently.) Or any other combination of devices. Now this could cause problems, but if your careful you'll have no problem.

When copying disk to disk, you must have a formatted disk for your target disk, Otherwise a write error will occur. The upper information line will display the Slot, Drive, Block and operation that is being worked on at any given time.

The normal disk copy option will keep reading from one disk and write to another disk until either the source disk runs out of blocks, or the target disk runs out of blocks. This allows you to use any combination of devices while copying.

The Copy range of blocks option allows a much more controlled copying process. If you want to copy the first 80 blocks of a 5 1/4 disk to you Ram disk, you could specify this. You can even set the starting block of the target disk to a different starting block.

The Search for byte sequence option allows you to specify either a hex string, or an Ascii string to search for. If the string is found it is replaced with another string that

you specify. The number of times a replacement is made is displayed down at the bottom of the screen. You can use this option on the whole disk or use the Range option to be more controlled in your search.

All these options allow for alot of combinations, so try them out and see what works the best.

Appendix C - Device mapping in PRODOS

PRODOS upon booting checks to see what machine is it's running on, and what devices are connected to it. It now stores all the information about these devices in a special location inside PRODOS. Storage devices such as Disk II's, Duo Drives, Ram disks, Hard disks, etc, are mapped to go into a specific slot and drive number. The problem is, depending on your configuration, the slot and drive number given to a device may not be the exact slot and drive that it is setting in. So, for those of you who need it heres a list of where PRODOS will map the following devices. (Assuming that these devices are connected at once.)

Slot #	Drive #	-	Device
7	1	-	Hard Drive #1 (Prodos)
7	2	-	Hard Drive #2 (Prodos)
6	1	-	5 1/4 Floppy drive #1
6	2	-	5 1/4 Floppy drive #2
5	1	-	3 1/2 Floppy drive #1
5	2	-	3 1/2 Floppy drive #2
	or	-	IIGs RAM5, if setup
3	2	-	RAM disk 64K
2	2	-	3 1/2 Floppy drive #2 if RAM5 is installed on IIGs.

=====

DOCUMENT block.0.gs

=====

BLK0SAVE, by Guy T. Rice

Bob Garth recently pointed out that one of the most likely places to hide a virus, or at least to patch one in, is block 0, the bootup code, on your ProDOS disks. I don't know if such a virus has been made yet, but this program will protect you from one if it has been or will be developed.

Put this into your SYSTEM/SYSTEM.SETUP directory. Now, everytime you boot up, it will check the boot code to see if it's been modified. If it has, it will tell you so, fix block 0, and then reboot. (It lets you know, so you might possibly be able to figure out which program did it. If you just downloaded and tried out a new program, and then this message pops up, LET US ALL KNOW IMMEDIATELY!!!)

It would probably be wisest to rename this program to something unique. That way, a virus install program can't delete or modify this file. (For example, you could rename BLK0SAVE to something like ZSDFSLKJHERSUR.)

Comments? My GENie mail address is GUY.T.RICE

=====

DOCUMENT blu

=====

Documentation for BLU - Binary II Library Utility
 Copyright (c) 1987 by Floyd Zink, Jr.
 All Rights Reserved.
 Updated - 10/09/87

REQUIRES EITHER AN ENHANCED //E, //C OR IIGS.

About BLU

This program is FREeware. You can distribute BLU freely, just don't sell it. I do ask that you make sure that this doc file is made available with the program. You are under no obligation to pay anything for BLU.

However, if you like this program and want to show your appreciation I do accept gratuities. If you send me \$10.00 I will send you the latest versions of both BLU and TEX - Text File Utility and any other FREeware programs I might write. The \$10.00 will also entitle you to 1 additional free update that will be AUTOMATICALLY mailed to you when I update the programs again. This way I make a little money and you do not have to spend the money downloading the updates. After the first mailing and the free update I will continue to mail out updates, but I will include a bill for \$5.00 to cover disk and shipping costs. This way you will always have the most current versions. I will do all mail outs before I upload them to any source. You will find that in the long run this method will be cheaper for you than the connect charges would be for downloading this program. My address is:

Floyd Zink, Jr.
 P.O. Box 060069
 Palm Bay, FL 32906

I repeat YOU ARE UNDER NO OBLIGATION TO PAY ANYTHING FOR BLU.

Features

- 1) Catalogs disks
- 2) Makes Binary II files
- 3) Squeezes files
- 4) Unsqueezes files
- 5) Extracts individual files from a Binary II file
- 6) Lists the contents of a Binary II file
- 7) Deletes files

The Menu

You can select a menu item by either the first letter in the item or by using the arrow keys to move the inverse bar to your selection and then pressing return. You will be returned to the menu after all processing is done.

By pressing OA-? or OA-/ from the main menu one can view a help screen listing the commands.

Selecting Files To Be Processed

After making your menu selection you will be prompted for a source directory name and where necessary a destination pathname or target directory. You can use the TAB key to skip to the next '/' in the pathname shown or OA-TAB to back up to the previous '/'. The DELETE key will delete characters and the <-- --> keys will backspace and move the cursor forward. When prompted for a destination pathname be sure and enter a pathname for a file not a directory.

After the directory(s) are selected a catalog of the source directory will be displayed. Using the up, down, left and right arrows will move the inverse bar accordingly. Pressing the space bar will toggle a file for normal selection and will display a checkmark next to the name. The 'S' key will toggle a file to be squeezed when added to the Binary II file and will display a '\$' next to the name. OA-space or control-a will toggle all the normal items and OA-S will toggle all the squeezed items. Pressing return will start the processing using the selected filenames.

Pressing OA-D when selecting the files will cause ALL the files and sub-dirs to be squeezed and all subsequent files and sub-dirs contained within them. You could use this to sqz a WHOLE disk if you wanted.

Using The Mouse

If you have a mouse BLU will find it and allow you to use it instead of using the arrow keys and you can use the mouse button to select files though you still have to press return to start the process after the files are selected.

Holding down the OA (open apple) key when pressing the mouse button will toggle the file for squeezing. Holding down the CA (closed apple, option on the gs) when pressing the mouse button will act just like pressing return does - it will start the processing.

The sensitivity of the mouse is at location \$204B when the program is in memory. This is the \$4B byte after the beginning of the program. It is currently set at \$08. This means the mouse must move 8 increments to move inverse bar. If you want to change this use a block editor or from the basic prompt enter:

```
CALL-151 ;enter monitor
BLOAD BLU,TSYS,A$2000 ;load file
204B:XX ;XX being the new value. Higher value=lesser sensitivity.
BSAVE BLU,TSYS,A$2000 ;save file
^C ;back to basic
```

Making Binary II Files

You can use the Destination pathname to pick which directory or disk the Binary II file is placed.

BLU will display all the sub-directories that are selected and allow you to select files from them unless of course you use OA-D which will select them all automatically.

Squeezing Files

BLU will NOT squeeze an existing Binary II file. Squeezing an already

formed Binary II file defeats the whole purpose behind using this format. The correct method is to use BLU's ability to squeeze files WHILE making the Binary II file.

BLU adds an extension of '.QQ' to the original filename to form the squeezed filename.

All file types, except for DIRs, are able to be squeezed.

BLU uses the Huffman algorithm to squeeze files. It first encodes repeated characters by doing a byte for byte pass through the file except that DLE is encoded as DLE, zero and repeated byte values are encoded as value, DLE, count for counts that are greater or equal to 3. On the second translation it develops a binary tree representing the decoding information for a variable length bit string code for each input byte. Each string's length is in inverse proportion to its frequency of appearance in the incoming data stream. Decoding information is included in the squeezed file, so squeezing short files or files with uniformly distributed byte values will actually increase the size.

Special thanks to Don Elton for the donation of his SQ/USQ source code to the Public Domain. I adapted these routines to speed up the processing of squeezing and un-squeezing files and to fix a bug that sometimes caused large files to squeeze incorrectly. There also had to be some changes to integrate the routines into BLU. The core of the algorithms though are basically unchanged from Don's source.

Un-squeezing Files

The squeezed file is un-squeezed to the original file's name. If this name already exists then BLU overwrites it.

Extracting from Binary II Files

BLU will NOT overwrite any files, except the above. If there is a duplicate file then BLU will add an extension of '.n' to the filename. You can then rename the file when you are done with BLU.

BLU checks available disk space to make sure there is enough room for all the files. If there is insufficient space then the program will issue an error message and exit back to the main menu. It will not extract any files unless there is enough space.

Squeezed files within the Binary II file will be AUTOMATICALLY unsqueezed when extracted. You do NOT have to use the USQ function from the main menu to unsqueeze bny files. If the files were squeezed separately first and then made into a Binary II file BLU will still unsqueeze them automatically as long as the files have a suffix of '.QQ'.

Deleting Files

BLU will not delete locked files.

Final Words

If you encounter any bugs or come up with a suggestion on improving the program please let me know.

Floyd Zink, Jr.
Compuserve - 73147,2717
Genie - F.ZINK

```
=====
DOCUMENT bodyfat.calc
=====
```

+++

```
^ BODYFAT CALCULATOR @
  By Jerry Robison
```

"BODYFAT CALCULATOR" is based on work published in a book titled NUTRITION, WEIGHT CONTROL, AND EXERCISE by F Katch and W McArdle (c) 1977.

The percent bodyfat calculated by this method is within 2.5 and 4% of values obtained by hydrostatic weighing. Variations may exist for some people, but usually this method is accurate and reliable.

On the screens to follow, you will be asked enter to information on your age, sex, bodyweight, and 3 circumference dimensions (using a tape measure) for 3 places on your body. Males and females will have different places to measure. Also, each sex will have different places to measure depending on age.

Enter all your dimensions in INCHES. This program will not accept FRACTIONS. You must enter DECIMALS for FRACTIONAL parts of an INCH. What follows is a conversion table to aid you.

FRACTION TO DECIMAL CONVERSION TABLE

FRACTION	DECIMAL
1/8	.125
1/4	.250
3/8	.375
1/2	.500
5/8	.625
3/4	.750
7/8	.875

The following information will help you determine where and how to measure yourself properly to get more accurate results from "BODYFAT CALCULATOR". Remember, you will need to measure only three places on your body. The program will instruct you on which places. However, we will list instructions for all six places.

HIPS--Measure at largest part where hips are broadest side-to-side and deepest front-to-back.

FOR WAIST--Measure the smallest part usually above the navel. Keep abdominal muscles relaxed. Stand erect.

FOR FOREARM--Measure at largest part, usually below the elbow.

FOR ARM--Measure the upper arm with muscles relaxed. Keep arm straight at elbow.

FOR CALF--Measure at largest part of calf, usually about 3 inches below the knee.

FOR THIGH--Measure at largest part, usually at the crease below the buttock. Keep your weight evenly distributed on both feet.

FOR WEIGHT--To measure body-weight, you should have no clothing on. Use beam scale if possible.

"BODYFAT CALCULATOR" IS VALID ONLY FOR WEIGHTS of 75-300 and AGES of 15-50.

All measurements should be taken with a good quality cloth or plastic tape. Use same tape each time for consistency. Do not pull tape too tight and compress the flesh. Tape should make gentle contact with skin. Also, measure and enter your muscle girth dimensions when the muscle is relaxed, unless otherwise instructed.

Files Needed:

---<>11:CROWD-YOU MUST MOVE A LOT OF BOULDERS AROUND IN SOME TIGHT SPACES.

---<>:WALLS-BLAST THROUGH WALLS TO GET AT SOME OF THE JEWELS. DROP A BOULDER ON A FIREFLY AT THE RIGHT TIME AND PLACE.

---<>:ENCHANTED BOXES:THE TOP OF EACH SQUARE ROOM IS AN ENCHANTED WALL, BUT YOU'LL HAVE TO BLAST YOUR WAY INSIDE.

---<>:FUNNEL:THERE IS AN ENCHANTED WALL AT THE BOTTOM OF THE ROCK FUNNEL.

THAT IS BOLDERDASH DOCS.....
TOPPLED BY MR. WIRES.....

=====
DOCUMENT boulderdash
=====

*****Boulderdash*****

AS BOULDERS CRASH DOWN ALL AROUND HIM, ROCKFORD DIGS FRANTICALLY THROUGH 16 MAGICAL CAVES AND 5 LEVELS OF DIFFICULTY. HE NEEDS SKILLFUL GUIDANCE TO DROP BOULDERS THROUGH AN ENCHANTED WALL, BLOCK THE AMOEBA TURN BUTTERFLIES INTO GEMS. AFTER EVERY 4 CAVES THERE IS A PLAYABLEINTERMISSION. THE OBJECTIVE OF BOULDER DASH IS TO SEARCH THROUGHOUT EACH CAVE AND COLLECT AS MANY JEWELS IN AS SHORT A TIME AS POSSIBLE.ONCE THE INDICATED AMOUNT OF JEWELS ARE COLLECTED, THE DOOR TO THE ESC TUNNEL IS REVEALED AND YOU GO TO THE NEXT CAVE. BONUS ROCKFORDS ARE AWARDED AFTER EVERY 500 POINTS. THE TUNNELS CREATED BY ROCKFORD WILL 'SHIMMER' WHEN YOU ARE AWARDED A BONUS. A BONUS IS ALSO EARNED BY COMPLETING A PLAYABLE INTERMISSION.

::: C A V E S
::
:-1-A-(INTRO) PICK UP JEWELS & EXIT
:-BEFORE TIME IS UP.
::: C A V E S
::
:-3-C-(MAZE) PICK UP JEWELS.YOU MUST
:GET EVERY JEWEL TO EXIT.
::: C A V E S
::
:-4-D-(BUTTERFLIES) DROP BOULDERS ON
:BUTTERFLIES TO CREATE JEWELS.
::: C A V E S
::
:-5-E-(GUARDS) THE JEWELS ARE THERE
FOR::THE GRABBING, BUT THEY ARE GUARDED
BY ::THE DEADLY FIREFLIES.
:
::: C A V E S
::
:-6-F-(FIREFLY DENS) EACH FIREFLY IS
:GUARDING A JEWEL.
::: C A V E S
::
:-9-I-(GREED) YOU HAVE TO GET A LOT OF
:JEWELS HERE, LUCKY THERE ARE SO MANY.
:
::: C A V E S
::
:-10-J-(TRACKS) GET THE JEWELS. AVOID
:THE FIREFLIES.
:::

+ Modified the boot text.

Bill Tudor
3925 Greencastle Rd. Suite #108
Burtonsville, MD 20866
GEnie: W.Tudor

===== DOCUMENT bram.chk =====

===== BRAM.Checker v1.2 =====

by Bill Tudor
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=====

NOTICE: BRAM Checker is provided at no cost, and may be used in
----- any manner you see fit. It may also be given to others.
However, BRAM.Checker remains the copyrighted work of
Bill Tudor and may not be offered for sale except as part
of a disk of free and/or shareware programs in which a fee
of less than \$50.00/disk is charged.

BRAM Checker is not Shareware. It's free. Have fun.

Introduction

BRAM Checker is an Apple IIgs Temporary Initialization file (TIF) that
checks the contents of the battery RAM present in an Apple IIgs for
changes from an image that is saved to the disk. You will be notified
at boot time of any changes to the battery ram since the last time you
booted the computer. The program will inform you of the battery RAM
locations that were changed, and give you the opportunity to restore the
old values or continue booting with the new values.

Installation

Just copy the file "BRAM.Checker" to the "*:System:System.Setup" folder on
your boot disk.

That is all.

Using the Program

If you make a change (or someone else does) to your battery RAM, for example,
change the monitor border color, BRAM.Checker will inform you of the change
during the next boot. You will have the option of accepting the changes and
continuing with the boot, or you may restore the old values.

If the battery RAM has changed, the IIgs boot process will be interrupted
by a dialog on the text screen informing you that there was a change. Press
ESC to see which values were actually changed; press return to simply accept
the changes and continue. After viewing which items were changed, another
dialog allows you to either restore the old values (press ESC), or continue
with the new (changed) values (press RETURN).

BRAM.Checker saves a copy of your battery RAM to a file called "BRAM.Image"
in your System.Setup folder. This saved image is compared to the battery
RAM image at boot time, and you are informed of differences.

That's it. Have fun with it.

New for Version 1.1

+ Added text for BRAM locations \$5E and \$5F.
+ Added a resource fork with rVersion & rComment resources.
+ Shows boot info under System 6 (icon).

New for Version 1.2

+ Added a few more BRAM location text.

the surface the air thins out, refraction stops, the light fades into a dome of ever-deepening cobalt, streaked with sudden fire as stellar debris arcs through.

Turquoise leaves twitched a mile below the surface in a deep, mist-bound rift. Seven pairs of golden eyes checked a clearing for danger before one of the group stepped into the open. The creature was slight, unclothed, with a large hairless head, a small round mouth and wide eyes that gave it an expression of solemn astonishment. Its skin had the same luminous golden sheen as its eyes. It carried a document in one hand.

After a moment the six others emerged from the jungle, and the seven golden beings stood looking straight up through a gap in the mist at the narrow band of dark Borgian sky.

pg.12

One of them pointed. "The Creator!" The constellation they beheld was like a benign face, with one golden eye and one blue eye gazing down into the rift. Something like a drop of blood gleamed in its forehead - a red dwarf pulsing irregularly.

"Something is wrong", said one of the golden creatures. "A dark cloud hides the Creator's face - the evil mask of prophecy!" Indeed, the constellation seemed dim, and even the brightest stars were slightly obscured by the shadow, darker than space, creeping over them.

"When the Creator shall be masked", intoned one of the seven, and the others chanted, "then the world will die..." "When the mask shall fall away", chanted the first, and the others responded, "then the world will live again..."

The first one said, "The darkness quickens - it is the time of renewal. When the blood star vanishes, the dark storm will scour the planet clean. All our people must be returned to Borg. And then we must perform the ritual of the elements, to recreate the Creator so that the Lau may live".

Another murmured, "All our training has brought us to this day".

In reverence and awe, the seven gazed upward at the stricken constellation. Suddenly they heard rough voices drifting up the path, then creaking leather, rattling chains and thudding boots.

"Breakers!" Terrified, the golden creatures fled into the jungle. Oaths broke out behind them, followed by blades flashing in the dim violet light. At the edge of the jungle, one of the golden creatures fell - two bone-handled knives in its back - and lay twitching as the Breakers, cursing and joking, surrounded it. Their leader had a face like a peeled carrot, scarred down one side. With a raspy chuckle, he yanked his knives out of the corpse and growled, "Like Mulcahy says -

pg.13

they're no good dead, but it's better than letting 'em get away!" He wiped the blades on his filthy leather pants amid guttural laughter.

Nobody saw the luminous golden mantle that rose from the turquoise jungle and wafted up out of the rift, billowing into the sky until the bright spots in its midst, like pale eyes, winked out one by one.

pg.17

Far above the planet, a shiny fleck hangs in the blue-black band of shallow space. It flickers intermittently in fixed geographical orbit over scars on the surface left by a large ore-

=====
DOCUMENT breakers.1.of.3
=====

Breakers Docs

Typed up by Digital Monk

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(From here on out, I'm going to include page numbers due to the fact that in order to start the game, you will face a message that says, "Enter the 1st word of the 2nd line on page 15". You will obviously not be able to get very far if you don't know what is on what page.....D.M.)

For those of you who have 80 columns, and you are wondering why I might have one word on a line and then a new line, this is because the ware asks for a certain word on a certain line on a certain page in order to start the game. Well the one word is included in the line above, know what I mean???

pg.5

ABOUT THIS BOOK

The book you're holding is not a computer manual. You don't have to read every word before you boot the disk. In fact, you may want to play for a while then browse these pages. Use the Reference Card packaged with your disk if you want to get going quickly.

This book is really a tour guide and survival manual in one. The idea is to give you some handy background information before you find yourself in the center of the action. The chapters in The Beginnings of BREAKERS set the scene and introduce the characters before you meet them on your computer screen. You'll find out how to move around through the terrain of the adventure, and you'll get some ideas for dialogue with characters in How to Talk to BREAKERS.

Relax and have fun with the book, but as you read, be on the lookout. In BREAKERS, clues - like magazine pages behind a metaplast wall plate - can be anywhere.

pg.11

Starlight on naked rock: a phalanx of meteors charges through space - fan mail from some dead planet, hurtling across the universe like blazing pinballs to flame out, rock by rock, in gravitational fields along the way. After eons of tumbling through darkness, the last meteors veer toward two stars and the golden planet lopping around them in an endless figure-eight.

Borg turns regally in its atmospheric envelope. High off

mining operation. The industrial space colony's age is revealed by the obsolete spherical design, with antiquated solar power panels, reflector and shields spread over its translucent dome: picture a round blown-glass sculpture hanging in a dark void - a dirty yellow glow inside - its outer surfaces, points and spires dusted with fairy light from distant fireballs.

A vagrant meteor smashes through one of the solar panels, blows a dish antenna to junk and bounces off the colony's hull. Then it wobbles on into eternity, leaving the hull plates ruptured and gaping behind.

The luminous golden mantle rolls up from the planet and drifts toward the colony, surrounding it and seeming to stare in through the dome with shining eyes as the colony shudders in the meteor's wake. The lights inside dim and flicker for several moments. Hovering outside the dome, the vaporous eyes peer into the colony's heart. A universal intelligence feels along the maze of corridors, through the residence modules, the shoppes and bays, across the rotting hydroponic vegetable beds and rusting transport pods to the administration module, and out again, sensing everything. Except for a skeleton mining crew, a handful of drifters and a large force of security mutants, the colony seems abandoned.

pg.18

The mind feels its way to a barroom on one of the utility levels. Under garish colored lights, entities of every description are killing time, drinking, fighting, planning trouble. Ouch! The sordid violence in these entities' brainwaves is painful to the probing awareness. It recoils, and the dusty glow outside the colony hull seems to intensify briefly. Then, tentatively, the intelligence touches some of the more accessible minds in the barroom...

"Haw haw! The look on that thing's face when eight thousand volts whipped into its face! Haw!" The Cirdonian smacked the bartop, spilling drinks and shaking the floor. Since he was a Cirdonian, nobody complained. Buying a new drink was easier than buying a new head.

"Sounds pretty funny", said a huge boxlike entity next to the Cirdonian. He sounded dubious, or maybe just depressed.

"Haw haw! Face turned to jelly, lookin' surprised as livin' karg - haw haw haw!" The Cirdonian, gasping with mirth, clacked his beak and glared up and down the bar. Everyone laughed along obediently.

Panface nodded to Betty the Bartender and gave up his place to another Breaker. Even the Cirdoinian pulled back slightly as he left. Panface was known for his sweet, melancholy disposition, but he had also been known to drink too much of Betty's lava and convulsively tear three-inch metal plates into confetti while in the throes of some unknown grief.

The big solemn guy rolled across the clamorous room, tilting his occipital bulge this way and that while his dark, sad eyes searched for a familiar face among the walking flotsam of a galaxy. A diabolically lousy musician began belaboring an electric lute. Somebody threw a cup of lava toward the stage, and it splattered all over the wall.

pg.19

"Panface!" The massive frame trundled around, and something like a smile lit his aptly-named visage.

"Bobo", he grunted, extending a cloven ham. A tall blond Terran woman shook it heartily and slapped Panface on his shoulder. She glanced around furtively and, looking like a

Chan-Lockheed MX99C hauling the oldest subzone barge in the system to a scrap orbit, tugged him into a corner. She brushed a mess of hair out of her eyes, but it fell back immediately.

"I found something out just now", she intimated out of the side of her mouth. "See that geek about to fall on his face over by the supply locker hatch? Been pourin' Betty's lava down his pipe to loosen him up. Know what he said?"

Panface shook his head, intent on her long face, watching the expressions flit across like starlight on a moonscape.

"He said - get this, he said - " holding the hair out of her face so as to pin him with both ice-blue eyes, "and this is no goof, he looked me right in the face and said real clear, but don't worry, nobody else was listening, he - "

"What did he say?" rumbled Panface.

Bobo whispered, "Casey Jones".

"What about Jones?"

"He's here!"

Panface looked quickly around the bar, scrutinizing the motley crowd losers and thieves from every dim hole in the Slug Nebula. "Where?"

"Not in the bar," hissed Bobo. "But here on Nimbus Colony. He's working out of the shuttle bay, dealing with Mulcahy and his Breakers on Borg. Mulcahy sells him slaves and hijacked goods, and Jones runs'em out from here. he's even using UMC shuttles. The geek heard it from a buddy on the Essex when it stopped here, and it goes along with what that guy Delbert Riggs said."

"Hmm." Her immense companion thought it over. "I'd like

pg.20

to meet Jones, just to see what kind of guy could do the things they say he's done."

"Meet him? You want to do more than that. Panface, listen - Jones is our ticket. He can get us to Borg! Then we can find the subterranean violet sea with all the jewels - we can buy our own planet and retire!" She watched the broad face, saw something like a supernova behind the occipital bulge. The small eyes blazed for a moment.

"I get it," he said slowly. "All we have to do is get to the shuttle bay and pass a little gold to Casey Jones. Only one problem, Bobo - we're broke."

"Not for long". Bobo slid an object to Panface. "Hide this. It's an extra VBX I got off that drunk ensign from the Essex. All we have to do is sell it off, then we can go to Borg".

"But who can we sell it to? All these derelicts in here are broke".

"Don't worry", laughed the blond adventurer. "Some sucker will come our way with a few coins. But we have to work fast - word is out that Mulcahy and Jones are trying to knock each other off for control of Borg and the booty." Panface nodded dubiously and the two adventurers, scheming over their future, drank lava and watched the mystic sage named Beekanavskemich do tricks with green rubber balls.

pg.23

The great eyes blink outside the hull. The intelligence probes back into the corridors. Sudden viciousness makes it recoil briefly. what's this? A gang of uniformed mutants, hanging around their armored mobile in a utility corridor station. Apparently the Breakers are being strictly controlled. Other Gaks are patrolling the corridors, looking for trouble.

The curious mind sliks along corridors, around corners, through hatched, into dark places. The colony, an industrial support operation for mines down on the golden planet, seems nearly deserted. A few hundred workers are perform-

pg.25

"Heard worse." What was he up to? A muckraking columnist from a publication like Spiral Arm Today doesn't just show up on a wreck like the Nimbus Colony for fun. He had to be after a story.

Riggs tingled with a newsman's hunch. He knew he was onto something. Nimbus was an absolute disaster - paralyzed, almost. There were more security mutants on board that miners. The ore had stopped coming up from the planet quite a while ago, but the United Mining Corporation was still reporting major yields. He knew that from the SpaceWave intercepts that Druella scanned for him. Grey had to be lying to everybody, including the press.

The mines would be close to shut down, Riggs calculated. All that expensive machinery would be just sitting down there on the golden sand, rusting, slowly turning turquoise in the thick Borgian atmosphere. soon the scavengers would be orbiting like sharks: vast junker ships with green three-armed giants at the controls - Kargons, junkers to the galaxy. the salvage yards of Karg were famous throughout the Slug Nebula. There was hardly a working ship that didn't have at least one part obtained from the Kargons. They had every kind of ship ever built anywhere, piles of them, a parts farm. Riggs had been there, but not just to see that. Karg was also the site of the Gak Academy. Riggs shifted uncomfortably in his seat.

"I guess Riggs is as good a name for a star as Kangor." Kangor was Karg's main star. "By the way, who did that painting?"

Grey glanced at the painting. It was a lousy painting. Ostensibly a landscape of Borg - but the artist had obviously never seen Borg, only read about it.

The planet in this painting was covered with silica, decomposed from sandstone. The actual Borgian surface was pyrite and mica, flecks of the stuff in a layer several miles deep.

pg.26

Miners had to put metaplast tubes through it just to reach the ore-bearing strata, which accounted for most of the expense of the UMC's Borgian operation. Walking on that surface was like walking through dry soup, Grey remembered.

The Artist depicted deep, rocky canyons, barren except for a few thick vines. In fact, the canyons were volcanic rifts, miles deep, choked with jungle and debris. The debris showed distinct strata, indicating sudden die-backs approximately 3,000 years apart. All the strata that had been studied, Grey knew, showed a marked decrease in higher plant forms after each die-back. Spectrochromatographic test results hinted at periodic cataclysms of unknown origin.

The artist must have read about the carnivorous vines. Sure, there were still vines in places, and Grey had scars to prove it. But they were dying out. Unfortunately for them, they tended to grow down cliffs and ravines, dangling in places where carnous life was scarce. Sometimes a poor Lau would wander by; then there would be flowers in that spot and the other Lau would avoid it. Those were the flowers, reflected Grey, that they used to manufacture their sacred narcotic. They called it Magic. Grey had experienced it, once....

The intelligence cringes; its luminosity writhes away from the colony hull. The elder Terran is thinking thoughts he

ing maintenance tasks, but the colony appears to be disintegrating.

Probing the administration module, the intelligence watches a tall young Terran stroll along a corridor, read a doorplate and jauntly enter an office. A far-world receptionist of indeterminate gender interrupts filing its nasal flanges to buzz another office, then directs the young Terran through a door.

An older, slightly-built Terran with shifty eyes stands to greet the youth with a nod and the ritual hand clasp. Then the two sit down on opposite sides of a desk and begin talking.

The glowing spots outside the hull seem to blink; the intelligence focuses on the office. Ubiquitous Terrans, infesting the galaxy! Such messy little minds on the surface, but capable of such devious complexity. Reading one from the outside is like crossing a room full of Breakers in the dark, but the intelligence grimly reaches out, touches one of the minds and then the other...

pg.24

Nate Grey had a funny feeling the moment he saw the guy. "Welcome to Nimbus Colony", he said cordially.

"Thank you", said the guy. He didn't seem like a bad guy, really. Nate Grey could have liked him in another situation, on a free planet maybe, or a mission to the swamps of some nacreous moon where they'd be on the same team perhaps, a colonization or something.

grey tensed his eyes. "Don't mention it." What was the guy's game? What was he after? Look at those duds - gold fake noogahide, thumbs hooked in his asteroid belt, smiling. What's he up to?

"Nice office." They both looked around the office. It was a lousy office, the kind they give you when they don't care whether you quit or not. But not as bad as the kind they give you when they want you to quit. The UMC logo was everywhere. Except for that, Grey didn't mind it.

"Thanks," he said. "Miss yours?"

"Oh, I don't have an office," said the guy, flexing his asteroid belt. "I'm a little too mobile for that."

"Out there counting stars," nodded Grey. counting stars. that's what they called it when you were young and on the move, out there in deep space, arcing through atmospheres too strange to breathe, maybe landing on some paradise where everything was perfect for life but no life existed, or landing in parasitic slop and barely escaping, rousting from colony to colony, adventure to adventure. And during the voyages you'd sit in the observation bay for years, counting stars."

"See any new ones you could name after yourself?"

The guy smiled, an honest smile. "Riggs? What kind of name is that for a star?"

has no right to think, recalling memories that are forbidden all but the Lau. But in the wide universe, indignation and anger are inconsequential. The great eyes widen. The mind again peers into the small office.

"I think a machine did that painting, to tell the truth", said Nathan Grey.

pg.27

The other guy laughed, rubbing a ring on his left hand. Grey noticed the inlaid insignia, which could have held a printed circuit, or maybe a chip. What device did it operate? Abruptly, he asked, "When are you leaving us?"

The guy stopped laughing and shrugged. "I haven't made any plans", he said, meeting Grey's eyes. "I take it you've been reading my columns?"

"No I haven't had time", said Grey blandly. "Have you written about Nimbus Colony already? I thought you roving correspondents filed on SpaceWave twice a day. I haven't noticed any transmissions to Spiral Arm Today on our log."

"I've been slipping them in", said the guy a bit to quickly. "Those little columns only take a half-second burst."

But Grey was suspicious now. He glanced at the ring. A shielded transmitter?

"Anyway", the guy continued, "Mr. Gibbons wants me to stay, see what UMC might be up to out here. As a matter of fact, I might want to get down to Borg. Would you mind arranging that?"

Grey almost snorted. "Impossible, of course. As you are aware, Borg is a Class IV planet."

"Why?"

"I'd have to be a Federation agent to know that," said Grey with a soft laugh that sounded like a loose rock sliding downhill.

"Or a smuggler", said the guy, and Grey's mind registered a thought that sent the eavesdropping entity reeling...

The gaseous eyes drift outside the hull. the intelligence watches a the young Terran woman stroll jauntily out of the office, but doesn't follow. The Nate Grey Terran intrests it more. The cloud hovers outside the colony dome as the awareness watches Grey punch a button on his desk.

pg.31

"Grgla! Hey - stop filling your face and get in here!" Nate Grey had to avoid looking at his receptionist when it appeared in the doorway. Why couldn't he have had a Terran female for a secretary? Unfortunately, the UMC was an Equal Entity Employer...

"Have you been saving those SpaceWave tabloids? I want to see the current issues of Spiral Arm Today."

"Certainly Mr. Grey", honked Grgla, flouncing out. The floor shook. In a few moments Grey had a stack of the cheesy publications on his desk. He flipped through the top one, started reading a groaned. The latest edition of the beam-published newspaper carried stories in many languages. One of several in Terran was a popular column called Be Here Now, by award-winning reporter-at-large J.Delbert Riggs.

BE HERE NOW
By J.Delbert Riggs

No Silver Lining on Nimbus
(part one)

DATELINE: UMC Nimbus Colony,
Slug Nebula

As you read these words, a bizarre drama is being played out in this forsaken corner of

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nowhere, on a sleazy industrial satellite and the mysterious desert planet it orbits. The cast of characters includes intergalactic dropouts, smugglers, murderers, at least one Federation agent, and an ancient civilization of mystical beings called the Lau.

Just to make the plot a little thicker, the star player - a powerful Lau shaman known by the name Garbo - may not even exist.

The scenario is convoluted, to say the least. And there's only one reporter who has managed to gain an overview of the whole sordid mess: Yours truly, J.Delbert Riggs. I'm here now.

Still reading? Good. Here's what I have so far:

A band of space pirates - "Breakers" in Slug Nebula Standard Received (SNSR) has established a headquarters in deep volcanic rifts on this Class IV desert orb called Borg. For some time now, according to Federation sources, the Breakers on Borg have been using Nimbus Colony as a base for Galaxy-wide smuggling operations.

This orbiting junkpile is allegedly owned and operated byt the omni-present United Mining Corporation (UMC), which ostensibly uses it as an operational base for mineral recovery on Borg. (The astute reader will recall that UMC recently acquired exclusive mineral rights to Borg following a protracted legal power-playa directed by UMC executive Nathan Grey. See my column, Where the Heck is Borg? in SAT # 449681-B.)

I say ostensibly, because quite frankly it is rather hard to believe anybody owns this colony - or "klink" in SNSR - and harder to imagine it's actually being operated at all. Token work crews do shuttle down and back regularly, but no ore has been shipped out for months. According to the company's own geological projections, the latvium deposit they were working should have been exhausted by now.

So why does Nimbus Colony remain in fixed orbit? More to the point, why is the klink deserted except for a skeleton workforce, and oversize departement of fierce mutant security cops - known as "Gaks" in SNSR - and of dropouts, drifters, adventurers and other deep-space detritus - "Breakers" in SNSR - confined in a wrecked bar on the utility level of a deserted residential module?

Why, indeed.

Having been assigned to quarters in that very module - and yes, it is quite deserted - I unavoidably made contact with these Breakers in my first few hours here. They are most certainly a motley

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and a dangerous bunch. But I can assure you that the Breakers are a far better company that their adversary, the Gaks.

At last, I can appreciate the recent rash of "Gak

jokes" (How many Gaks does it take to catch a red ball, etc.) - although I now know I wasn't missing much. They are stupid, sadistic, scumbags, and I've said as much to their visors. You can't ever see their faces - which is probably just as well.

(Tomorrow: Breakers - the Entities your Mother Warned You About)

"Damn!" howled Nathan Grey. "That wulla-brain! Why now? Why him? Damn!" Angrily, he grabbed the next issue on the pile and continued reading.

BE HERE NOW
By J.Delbert Riggs

No Silver Lining on Nimbus
(part two)

DATELINE: UMC NIMBUS COLONY,
SLUG NEBULA

In the last column, I sketched the particulars of a bizarre drama now playing on the UMC colony, Nimbus. I'm here now.

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There is a species of spacefarer known as a Breaker. That's a loose synonym for adventurer, shuttlebum, pirate, outlaw, loser, and any other kind of misfit one might care to avoid mentioning - or associating with.

For reason or reasons unknown, virtually all the Breakers in the Slug Nebula are now on Borg. Most of them have been trapped on Nimbus Colony, but a fair number seem to be making it down to the planet, where they join up with a band of smugglers headquartered in Borg's deep volcanic rifts.

The Breakers on Borg are lead by a former Federation agent, professional ballet dancer and convicted murderer named Vulkos Mulcahy. Little is known about Mulcahy except that he's fast, smart and treacherous. His sidekick is a wicked punk who currently goes by the name Don. Mulcahy's mistress is Minnie Markarova, the one-time pride of Sector X's Paris Colony and Mulcahy's ballet instructor until she fell under his spell. Minnie dropped out of sight after helping him extort virtually every cent in the Paris Colony Ballet's operating fund. (See my column, Minnie Makarova, Bad Girl or Pawn? in SAT # 4449677-B.)

This unsavory trio, and a bunch of their closer friends, are now working out of Borgian Rifts. They reportedly deal in some especially unsavory contraband: slaves and narcotics.

It seems that some of the Lau - a particularly gentle folk said to possess unique telekinetic powers - have been turning up in chains on other worlds. Pets of the rich? I'm told by my close personal friend Druella Comstock, the glamorous shuttle-set ingenue, that having your own Lau is the height of the current top-drawer chic. Immoral? Certainly. Illegal? Of course. In fact, it

stinks - but that's the rich for you (close personal friends excepted, Druella, and I mean that).

Mulcahy's contact on Nimbus Colony is a veteran bootlegger whose name is known to shcool-kids in every system from here to Andromeda: the legendary, nearly mythical Casey Jones himself, another former Federation agent turned smuggler, killer, and thief. But before we start inquiring into the basic nature of Federation agents, let's get to the crux of the matter.

Jones and Mulcahy are duking it out. It seems that the two master criminals - one controlling the source of contraband, the other its distribution - are now going for each other's throats in an all-out war over the proceeds of their nefarious trade.

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Enter the mysterious Federation agent. Nobody, not even inside sources who have never before let me down - at any price - will reveal who this agent is, but all concur that he or she is the best they have. The agent is allegedly on Nimbus Colony even as I write this. In fact, it's quite likely that I spoke with the agent in the Breaker bar, but I would have know way of knowing. Keep in mind that Mulcahy and Jones were both Federation agents at one time. Incredibly, Nathan Grey was also a Fed before his early retirement to join UMC. Confused yet?

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At any rate, the deal seems to be about to go down here on Nimbus Colony or, more probably, on Borg itself. Any yours truly, intrepid correspondent that I am, has every intention of witnessing it.

Meanwhile, mysterious ore freighters continue to stop here regularly. They take on cargo - but it sure isn't ore. So far nobody here cares to recall (for a reporter's benefit, anyway) what the last one looked like or who was aboard.

Grey has agreed to give SAT an interview at some point, but never seems to be in his Administration Module office, or anywhere else, when this reporter shows up to talk.

That's okey for now. I have other leads to pursue. Sources in the Breaker bar have told me that Casey Jones works out of a concealed room near the shuttle bay on the lower level of this colony. As soon as I make a final attempt to see Grey, I'm going down to find Jones and interview him on the situation. I trust he'll keep his famous Colt .45 holstered out of respect for the press.

That's it, I'm on my way.

(Tomorrow: Casey Jones - the Rat Behind the Legend)

"That dirty...Grgla!" The hideous receptionist slithered into the office with the flange-file in one limp claw. Grey shouted at it on his way out. "I'm away from my desk, in a meeting and with a client until further notice, got it?"

"Sure thing, sir" said Grgla, already making plans.

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DOCUMENT breakers.3.of.3

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heavenly bodies intersect. Although the resulting collision is not physical in nature, due to the insubstantial properties of the alter-orb, it nonetheless precipitates utter chaos and destroys all life on Borg, except for the Lau themselves and certain portions of their habitat deep in the Borgian rifts (see Chapter 4).

Survival is not guaranteed, however. In order for them to live through the catastrophic energy storm, the Lau themselves and that certain preparations must be made well in advance. These involve assembling a number of sacred objects - the so-called elements - which are employed in a ritual recreation of the universe in its proper image. The ritual is said to be performed in a sacred cavern deep in the rifts.

I have never seen the cavern or its alleged contents. But I have observed apparent transmogrifications of Lau individuals from corporeal form into water, fire and other states. (Note: As I was the sole non-Lau witness, and given that my profound astonishment precluded a precise recording of my observations, this may be taken as a subjective field report of empirically observed phenomena, although, I humbly assert, something more than mere anecdote.) These transformations were apparently made possible by drawing energy from certain stones. Could these have been the elements alluded to previously?

At the time of my visit with the Lau, they believed that the grand event, the collision of Borg and the alter-orb, Garbo, was imminent. As one of the more garrulous elders

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informed me, "The Creator wears a mask" when the cataclysm is nigh. The old Lau was an habitual user of Magic, the psychotropic narcotic unique to Borg (see Appendix B), and may not have been entirely reliable in an objective sense.

"The Creator wears a mask" apparently refers to the chief constellation in the Borgian firmament, called the Crrerator (or, sometimes, Garbo). The image imposed on the stars of the Creator is that of an ancient sage, his white hair and beard blowing in the solar wind, with arms outstretched in offering. In his left hand is a golden star, in his right, a blue star, and his forehead is marked by a red dwarf, equidistant from the two, which pulses blood-red, especially in the low sky where the constellation resides for most of the year.

It seems that during the latter part of 4999, the Creator's face had begun to be occluded by a sort of celestial shadow. Indeed, the constellation looked rather dim to me, and the forehead stone seemed to shine bloodier each morning, but I was unable to distinguish any kind of shadow. Of course, I wasn't given to the use of Magic, either.

My garrulous friend also informed me that his people were worried because the various disruptions and pressures brought on by the gold rush had made it difficult for them to maintain control over the elements. Some of them confessed to deep fear that the elements would not be assembled in time to avert the end of the Lau race and of the planet Borg.

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When the Federation mandate of 4999 forced me to leave Borg, the Lau were in a state of deep trepidation, almost

The vast intelligence probes the receptionist's mind, but Grgla has a powerful mental scrambler in place. Turning into the maze of corridors and pod chutes to locate Nathan Grey, the intelligence comes across Riggs in his residential module. Riggs is talking with someone called Druella. The intelligence is mystified - it can't locate another functioning mind in the module. Nonetheless, it tunes in:

"Druella", said Riggs, "I'd like to go over that material on Borg again."

"Okay, Delbert", responded a perky voice. "Coming right up." There was a melodious beep.

Touching the young Terran's mind, the intelligence read along with him in a book called All About Borg, by famed explorer Captain Brumus Dart, Ph.D. The table of contents listed the chapter headings typical of a scholarly work. Riggs turned to the one titled, Garbo: Alter-Orb or Legend? He began to read:

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GARBO

Alter-Orb or Legend?

According to Lau belief, Borg has a shadowy, insubstantial twin that orbits on the same path (see Appendix Q: Source Mythology, Borg and Garbo). Our instruments have not been able to detect such an entity, but the Lau believe in it absolutely. They call this alter-orb Garbo, and have invested it with a persona which is manifested collectively by a body of seven Lau shaman. (Note: I was never able to meet a "Garbo" shaman, and wonder whether they, too, may not be a figment of the Lau mythology.)

Moreover, they believe that the mysterious alter-orb is the wellspring of Lau energy, and the source of all life on Borg. They say that a kind of balanced polarity exists between the unique forces emanated by each of Borg's two suns, the blue and the gold. These forces are held in dynamic stasis by energy from the Garbo alter-orb. (Note: This is my interpretation of the various indistinct, incomplete, and often incomprehensible versions of the Garbo myth obtained from individual Lau. It should be treated as hearsay.)

Perhaps the most familiar facet of the Garbo myth is its apocalyptic emphasis. Like so many other deities, this Garbo creates through destruction. The Lau believe that once every several thousand years, the orbital paths of the two

of shock.

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Riggs said, "Thank you, Druella". Then the young Terran sat thoughtfully for a while listening to the broken hum of worn-out machinery in the colony's gut and pondering what he had read. Abruptly, he said, "Druella, would you open that panel for me?"

"Certainly Delbert," the perky voice replied. Then Riggs stood and put on a heavy plastacot shirt, slipped his pass-card into the pocket, and left the little room in D Module.

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Another meteor whacks the hull; a hollow boom shudders through the overgrown hydroponic beds, the domed administration module, the empty residential modules, and slowly fades. In its wake, structural stresses clang and groan in the pipes dripping rusted water and machine fluids.

One maintenance bay attracts the roving intelligence with signs of activity. The mind peers in at a lone, greasy Terran in overalls, working on a broken-down pump. He looks miserable. One of his fingers is bleeding, and there's blood on the rungs leading up to the hydroponic carrot beds on the agricultural level. The Terran stares at the gear assembly, trying to remember how he got it out of the pump. He keeps trying to tap it into place that's not quite its size. A pale insect scuttles along a puddle of dirty oil and disappears under a locker.

Puzzled, the mind probes deeper into the colony. Where are the ones it seeks? Abruptly, it finds them - in the shuttle bay.

A bug-eyed shuttle had just come in from Borg. Amid guffaws and wise cracks from lounging Gaks, six small golden beings clambered down the ladder. One of them carried a document. A Terran wearing a slouch hat and gray mask stood with his hands on his hips and regarded the group with amusement.

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"I understand you carry some sort of ultimatum, eh? Destruction! Oh, my goodness. And you want to tell the Federation that you people are being abused by this Mulcahy and his Breakers? What - tortured, killed, kidnapped, sold into slavery?" He shook his head. "That's tough. I feel for you." Motioning to a pair of smirking Gaks, he said, "Tell you what. Follow these gents topside, and you can present your grievances to the head megalope, Mr. Nathan Grey."

The Gaks led the Lau to a wide lift. They rode on level up to a transfer bay, then filed through a hatch into a corridor. The intelligence began to worry, they were headed straight for the Gak station.

Without warning the Gaks in the station turned on the Lau, beating them and then tying them up and loading them on the Gakmobile. But one of the six escaped and fled down the corridor. Two steps ahead of the Gaks, the golden being ran into the Breaker bar. A single mutant followed and beat the little creature savagely, then strolled out contentedly, leaving the Lau unconscious on the blood-stained dance floor. All the time, the Breakers looked on respectfully. They knew better than to get in a Gak's way.

Hurt and reeling, the all-seeing mind pulls back. The great eyes blink outside the colony hull as the luminous, bubble-like cloud begins to dissipate.

Nearby, the golden planet, a solar system unto itself, majestically orbits its two suns in seeming tranquility. But the shining eyes, knowing where to look, spot the sinister shadow dogging Borg. The golden planet's curse! It seems closer than before, and has almost totally acclused the benign constellation known as Garbo - the Creator. The malevolent shadow has come on again to engulf and ravage the golden planet. Only a holy Lau, one of the seven Garbo shaman, can perform the ritual ceremony that will save Borg.

Within hours, it will be too late!

HOW TO TALK TO BREAKERS

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You enter a world of BREAKERS by typing on your computer keyboard. You can type whenever text appears on the screen and you are ready to respond. Your decisions and your dialogue with characters will determine how the novel unfolds.

BREAKERS responds to a wide variety of commands. Some common ones are explained below, but you'll discover others as you begin play. In fact Electronic Novels recognize a vocabulary of over 1200 words. Many synonyms of commands are possible. For example, "get" works as well as "take", and "rub" is a synonym for "touch". For ease of typing, some commands can be abbreviated. You can also type commands in either upper or lower case. When you are finished typing a command, press the RETURN key.

You can also take a greater part in the action by talking to characters and evaluating their responses. A note on how to use dialogue follows the discussion of commands.

The universe of BREAKERS is constantly transforming itself. Even if you do nothing, characters will patrol Nimbus Colony, monsters will prowl the Borgian seas, the cosmic weather will continue to change.

Occasionally, the text being displayed will be longer than your screen. Instead of "scrolling" information out of sight faster than you can read it, BREAKERS will pause and instruct you to Press any key to continue. When you press a key, the rest of the text will display on your screen.

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COMMANDS

AGAIN: Repeats you last command, just as though you had typed it again. After this command, you must still press RETURN.

BOOKMARK: Retains your progress in the novel by making a copy of your current position on a formatted diskette. Later you can resume the novel from that point with the RESUME NOVEL command. See the Special Features section of the computer reference card packaged with your novel diskette for details.

CLOSE (object): Tries to close the object you specify.

DROP (object): Frees you of an object you are carrying.

EXAMINE or EX (object): Checks the characteristics of an object - works like LOOK

FOLLOW or FOL (person): Allows you to follow a character who is going his won way. But be careful; some characters don't like to be followed.

GET (object) Tries to pick up the object you specify. Produces the same effect as TAKE.

GIVE (object) TO (person): Giving objects to characters can be risky, innocuous, or crucial. You can also use this form: GIVE (person) (object).

HEALTH: Checks your physical condition. Are you injured? Just stunned?

HIT (object or person) WITH (object): This and commands like it exercise your aggressive tendencies.

INVENTORY or INV: Tells you which objects you've collected and are currently carrying.

LOOK (direction): Describes what lies in a particular direction from your position.

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LOOK AT (object): Describes the features of an object - works like EXAMINE.

NORTH and others Allows you to move in the direction you specify. You can also abbreviate directions (N,S,E,W, etc.). GO TO (object) and WALK (direction) produce the same result.

OPEN (object) Tries to open the object you specify.

PAUSE NOVEL: Halts the changing world of the novel as long as you wish. You can resume the action by pressing any key. To stop the novel in a fster way, see the Using Special Keys section of the computer reference card packaged with your diskette.

PLAY: Lets you indulge yourself with songs and musical instruments.

PRINTER ON: Creates a printed record of your progress though BREAKERS. See the reference card packaged with you diskette for details.

PROGRESS or PR: Reports on achievements of importance in your electronic mission.

PUT (object) IN (object): Tries to merge objects. The results may be important or pointless.

QUIT NOVEL: Ends your session of BREAKERS without saving your current position.

READ (object): Obtains written information, such as priceless clues, from the object you specify.

RESTART NOVEL: Begins BREAKERS again from the start.

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RESUME NOVEL: Reopens the novel from the point at which you typed the BOOKMARK command. For specific instructions, see the reference card packaged with you diskette.

SHOW (object) TO (person): Displays an object to a character. You may recieve an interesting reaction.

SING: Ventilates your vocal chords.

TAKE or T (object): Allows you to collect objects which seem interesting or useful. You can take on thing or several at a time.

THROW (object) (direction): Lets you toss precious things accurately at a crucial moment in BREAKERS.

TIME FASTER: Speeds up the changing world of the Electronic Novel. This command does not change the speed at which your commands are responded to by the novel. It increases the rate at which characters and elements of the novel's physical world enter the scene, pop up, or fly by. Typing this command repeatedly will speed up the universe a little each time. To slow donw the changing world type TIME SLOWER.

TIME SLOWER: The opposite of TIME FASTER. Typing TIME SLOWER repeatedly will slow down the changing universe of the Electronic Novel by degrees.

BREAKERS will respond to many other commands; feel free to experiment. Some interesting examples might be:

get and examine the red bal

get the wire knife and the lava and drink it

look at everyone but the cirdonian

offer the medallion to nate grey

sparry the bolt with the spray can

look at myself

give 15 pieces of gold casey

When you use numbers in commands or dialogue, use the numeral form; don't spell the numbers out (25 not twenty-five)

DIALOGUE

Electronic Novels allow you to talk to characters and creatures, real and imagined. You can ask them questions, order them to do your bidding, or tell them to do things with objects or to other characters. They will respond in their own unique ways. The FORM you use for this kind of dialogue is important. Here are two examples:

betty, "who's mulcahy?"

druella, "thanks for the information"

Notice that it is not necessary to capitalize or to use periods at the ends of sentences.

When your are finished typing a line of dialogue, be sure to press RETURN.

To relieve you of some typing, dialogue also has a shorter form. You may omit the comma following the name of the character you're addressing. The second quotation mark may be omitted also. Example:

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Instead of

bobo, "give me the vbx"

you may type

bobo "give me the vbx"

Some other examples of BREAKERS dialogue might be:

panface "where's delbert riggs?"

betty "please give me a drink"

beek "what does it all mean?"

cirdonian "you're a punk"

jones "what is west from here?"

corpse "you don't look so hot"

TIME AND SPACE

Many of the characters in BREAKERS move around of their own volition. When you talk to a character in your area, he will answer you in his own special way. If he happens to move to the next room, he won't brush you off; he will still answer. However, if the character moves far away from your position, he'll no longer be able to hear you. Examples:

(betty in your area)
betty "who are the gaks?"

"Not so loud - you're talking about the toughest cops in the galaxy",
Betty cautions.

(betty in the next room)
betty "who are you?"

"Don't try to get personal with me", the bartender snaps.

(betty far away)
betty "let me take you away from all this"

Your words don't reach that far.

Engaging characters in conversation allows you to enter the world of BREAKERS completely. But remember, when you talk to an Electronic Novel, anything can happen.

PERIOD

By typing several periods (...) and pressing RETURN, you can watch the universe unfold over several time intervals. This is an advanced strategic tactic you may find useful.

RETURN KEY

Press RETURN whenever you are finished typing a command. If you press RETURN without typing any command, the world of the novel will still continue to change all around you. When you press only RETURN, time will pass and the universe will turn together with whatever else may be happening at the time: characters entering the vicinity, conversations beginning, etc. As in life, the universe of the

Electronic Novel
is constantly unfolding.

check ya later dudes....

disk!!!!!!

For Those With Two Disk Drives:

Bronze Dragon can be configured for two disk drives quite easily. Instead of switching disks and pressing return when the program prompts you, just put the required disk in drive two and enter "2".

From then on, the program will know to access drive two for that disk. The character disk should be put in drive two when you're copying a modules or creating a castle.

Beginning Play:

Boot the Bronze side of disk one to start playing Bronze Dragon. The first screen you'll see after the Bronze Dragon logo clears is the Main Menu. The choices on that menu are summarized below, then explained in detail later.

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=====
#Main Menu#
=====

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1> Create a Character: You can actually make a flesh and blood being! Well not really, but you can determine the name, race, class, and alignment for each character.

2> Enter Dragon Village: Dragon Village is a mystical town where almost anything can be bought or sold.

3> Copy a Module: Seekers of the Storm, our first module, must be copied on a blank disk that you provide - you can't play on the original. The disk you've copied in on will henceforth be called the "Castle Disk," so remember that when you're asked to insert it. See "Copying Modules."

4> Construct a Castle: A "castle" is the setting for one of the 12 plots which the computer can generate itself. While not as complex as a module, they're fine adventures in their own right. The blank disk upon which the castle is constructed is called the "Castle Disk." See "Constructing a Castle."

5> Gather a Party: One to five character MUST be "gathered" before they can start and adventure. It's kind of like assigning a group of characters to a certain adventure temporarily. Be sure the characters have finished their business in Dragon Village before gathering them into a party.

6> Go On An Adventure: After you've equipped and gathered your party, it's time to go on an adventure

7> Go To The Crossroads: After the adventure is over, a group of characters must travel to the Kingdom of King Leopold or the Pit of Lord Usul to gain skill points and skill levels.

How To Create A Character:

Bronze Dragon begins when you start to create a party of characters. Every Bronze Dragon "persona" is unique and will help the party with individual powers.

You create characters by choosing among the options in each category, such as name, race, etc. After everything is entered, the status of the character is shown, including ability scores and bronze pieces. The meaning of the ability scores is given in the glossary under "ability scores." Each character starts with 75 bronze pieces.

Name: Any name up to 16 characters in length is acceptable. By entering

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=====
DOCUMENT bronze.dragon.1
=====

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*****
--<Bronze Dragon>-
*****

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Softdocs typed by
The Cracksmith of First Class

Introduction:

You've just entered another world. A world with fabulous riches, unbridled sorcery, and no end. Your adventuring parties may work together or break up and fight one another. Over 200 different monsters are waiting for a chance to kill your characters in dozens of exotic ways. Even if the monsters don't get you, the traps lurking around every corner certainly will.

Ahem. You say you're a veteran of many types of role playing games? you've always emerged victorious? We shall see. Computers show no mercy. If you're new to adventure games, you'll find that Bronze Dragon is an easy game to play, yet it creates an infinite variety of situations.

Bronze Dragon is a fantasy role-playing game that can accommodate up to 5 players at once. There are many objectives in Bronze Dragon. In fact, there are no less than 12 castles and 1 full-blown module contained in the basic game. The ultimate goal is survival, and more importantly, enjoyment!

The Disks:

Bronze Dragon consists of two disks that we provide and one that you must supply. Whenever you're prompted to insert a new disk, do so and press return. If the program doesn't tell you to change disks, you don't need to. To abort a procedure at a disk prompt, press the space bar.

Disk one ->

S1 <Bronze Side>: The Main Menu and Dragon Village Menu are on this disk side. You will always boot the Bronze Side to begin play.

S2 <Dragon Side>: The disk side contains the monsters, the plots, and generates the castles.

Disk two ->

S1 <Character Disk>: Up to 40 of your characters can be saved on this disk side. If characters aren't saved, they don't exist.

S2 <Module Disk>: Our first module, Seekers of the Storm, is contained in its magnificent entirety on this disk side. The monsters and the standard plot are already there, waiting for you. You must copy the module onto a blank and name it Castle Disk before you can explore in it. See "Copying Modules."

Disk Three ->

S1 <Castle Disk>: Use one of YOUR blank disks for this, name it Castle Disk. You'll copy the module and castles onto it. Instructions on how to copy castles and modules are under "Copy Modules" and "Constructing Castles."

Write Protect all sides except the character disk and your castle

"r", you can check the roster and delete characters if you want to...

Race: You have 3 to choose from: humans, elves, and dwarves. Each is detailed below.

Humans-> Humans are a very odd race, one that isn't very well liked by more advanced creatures. They are usually around six feet in height and seem to regard this mutation as an advantage somehow. Special Commands: Humans can approximate the value of any object.

Human ability	scores:
Strength	: 12
Agility	: 10
Intelligence	: 11
Constitution	: 10
Endurance	: 11

Elves-> Elves are the fairest of all races and never hesitate to point this fact out to others. Arrogance and Vanity are currently the two most popular elven children's names. Special Commands: Elves can detect evil in characters or monsters.

Elven ability	scores:
Strength	: 09
Agility	: 13
Intelligence	: 13
Constitution	: 07
endurance	: 08

Dwarves-> Dwarves are generally a sullen and ill-tempered race. Many scholars attribute this to the fact that they're incredibly ugly. In fact, most females dwarves have beards, which is why so many dwarves go on adventures. Special Command: Dwarves are always aware of their relative position above or below ground.

Dwarves ability	scores:
Strength	: 12
Agility	: 08
Intelligence	: 08
Constitution	: 14
Endurance	: 13

Class: You have 5 classes to choose from. The special commands are explained in their own section.

Knights are fightin' strong, blood 'n guts, here's mud in yer eye type characters. they're blue collar adventureers; they can take damage and dish it right back out. Knights can wear any type of armor and use any type of weapon. Their special commands include swordplay and rage. They have the most hit points and can carry up to 15 objects.

Assassins are shifty, underhanded, and extremely dangerous. They're somewhat restricted in armor, but they can use almost as many weapons as a knight. Their special commands include assassination and sneaking. Assassins have average hit points and can carry up to 13 objects.

Ninjas are mysterious masters of the orient fighting arts. They can only wear little more armor than wizards, but they have many weapons to choose from. Their special commands are martial arts, imitate dead, and leap. Ninjas have average hit points, and can carry up to 10 items.

Elders are experts on living systems; their spells make them adept at both healing and killing. Elders are slightly more restricted in armor than assassins, and have very few weapons to choose from. Sorcery, destroy, and innate healing are their special commands. Elders have a

few more hit points than wizards and can carry up to 8 objects.

Wizards are powerful magic-users who can create massive amounts of damage with their powerful spells. They can own very little in the way of armor or weapons. Sorcery and cast energy are their special commands. Wizards have the fewest hit points and can carry up to 8 objects.

Alignments: This is a character's basic nature, whether it's virtuous, lawful, chaotic, or vile. Virtuous and lawful characters are "good," while chaotic and vile characters are "evil."

During an adventure a character's alignment will change according to the player's actions. The most common method is by striking a monster or character. If you constantly attack good monsters, your characters will become vile if they didn't start out that way. If you adopt a "wait and see" attitude toward creatures you're not sure about (like lions), and only attack the evil creatures you're characters will become virtuous. It's much easier to become vile than virtuous. One or two swats on a unicorn will make anyone vile, but a vile character will have to kill many hobgoblins to become virtuous.

I can't resist mentioning that character can change their alignments by attacking themselves! If a virtuous character attacks himself, he'll become evil. By the same token, a vile character will become a little less vile by attacking himself. Sure, it's a radical way of doing things, but Bronze Dragon inspires such lunacy....

Dragon Village:

After you've created a party of characters, you'll need to supply them one by one with weapons and equipment in Dragon Village. The guard at the outer gates will ask for the name of one of your characters. If you can't remember it, just hit "R" and you'll get a complete roster of characters. If you just hit "return," you'll go back to the Main Menu.

Dragon Village Menu:

1> Purchase Equipment: The provisioner brings out his stuff in three groups: weapons, armor, and miscellaneous equipment. Hittle the space bar will take you to the next group; the return key brings back the Dragon Village Menu. Characters who go adventuring without wearons or armor are known as "Bronze Dragon Chow." Consult appendices 3,4, & 6 for details on equipment.

2> Haggle with Merchants: Wanna sell something? Anything at all? Our three crooks -excuse us, merchants, will buy anything except cursed objects. They use haggling system, so wise folks don't take the first offer. Hit return if you wish to cut short a haggling session. Don't get cute by asking outrageous prices, because these guys are extremely touchy. See tips for advice on bargaining.

3> Learn Spells: Only Elders and Wizards can learn spells, which they buy with spell points instead of bronze peices. They receive two spell points for each skill level, bonus points are given for high intelligence. Even beginning character can acquire several spells. Spells cost their level number. in other words, a second level would cost 2 spell points. High level spells are only available to high level characters. Spell points are regained when a character uses a spell or forgets it. A maximum of 7 spells for Wizards and 6 for Elders can be learned at one time. See appendix 7 for details 7 for details.

4> Learn Martial Arts: Only Ninjas can learn martial arts, and even they have to have the money and skill levels to use 'em. As with spells, there are different levels of martial arts, only they're called disciplines to confuse you. Check appendix 5 and special commands for details.

5> Mingle in the Pub: You'll probably need help to solve the plots, and who better to ask than the drunkards of Dragon Village? After you tell them which plot you're working on, many of our blotted barflies will spill their guts for free. Some pub people want money for their cooperation, and still others lie through their teeth. We never said an adventurer's life was easy!

6> Visit Healers: When your characters get bashed around a bit, the Healers will fix them up completely for a price. If you pay anything less than the asked-for fee, we'll make no guarantees.....

7> Consult Wizard: The Tower Wizard loves to check out rare and wonderful goodies. If you bring him an object, he'll try to detect a magical aura about it. If the object is indeed magical, he'll try to guess its nature. The Wizard also uncurses items, but charges a fee for this service.

8> Resurrect a Character: Aw...Did one of yer characters fall down and snuff it?? You're in luck. In addition to his other abilities, the Tower Wizard brings the dead back to life. All you have to do is inform the Wizard of the dead character's name and he'll attempt to resurrect the character from a distance. He's not very good at it, however, and giving him the asked-for amount of bronze peices will only give you a 50-50 chance. If you offer more or less, your chances will adjust accordingly. The resurrected character will lose 3 points of constitution if the process is successful.

9> Look at Status: This will show everything about the character you currently have in Dragon Village.

10> Bring in Somebody Else: When your character is through messing around in Dragon Village, this commands will bring a new character. Make sure the "old" character has been saved (by pressing "S") before using this option.

Hit "S" when you want to save your character. To go back to the Main Menu, just hit Retrn.

Copying Modules:

Warning: Copying a module destroys all data on the disk you provide, so we recommend using a blank disk.

You can copy the module on the castle disk by pressing 3 on the Main Menu and following the prompts. The entire procedure should take less than 5 minutes. After you've copied the module, you can gather your party and fo on an adventure.

Our first module, Seekers of the Storm, is an extremely entertaining and complex adventure of tremendous scope. If you find it too difficult, you might try exploring a castle (suck as Dungeon of the Undead) to familiarize yourself with the world of Bronze Dragon.

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DOCUMENT bronze.dragon.2

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Constructing Castles:

Bronze Dragon can generate adventure settings, called "castles," for 12 different scenarios. Like the module, you can use either side of the castle disk to construct a castle. Unlike the module, you get to customize a castle according according to your taste.

There are a few limitations to this. Castles have a minimum of 10 rooms and a maximum of 100 rooms. To get an entire plot, however, the castle must have at least 60 rooms.

Your castle will be constucted from your answers to the questions below. Your replies are limited by previous answers. To illustrate, if you choose to have 25 rooms per level, you can't have 8 levels below ground (that would be more than 100 rooms).

1> Rooms per level: Your answer can be any number from 10-30. This is the number of "areas" on each level of the castle, whether they're hallways, rooms, chambers, or whatever.

2> Levels below ground: This can be any number from 0-10. This determines the number of floors below ground level.

3> Levels above ground: This can be any number from 1-10. Level 1 is ground level.

4> Starting monster level: There are ten different "levels" of monsters. High level monsters are much harder to kill than low level monsters. You are allowed to pick the level of the first batch of nasties loaded in the castle.

5> Difficulty: Difficulty ranges from 1-10. High difficulty means more monsters and traps, but it also means more treasure.

6> Plot number: Refer to appendix 1 to choose the appropriate plot. DO NOT choose a "sequel" unless you have successfully completed the preceding plot.

You'll be told how many rooms are in your castle and whether or not it contains the entire plot. You'll be asked if you still wish to make it. If you do, just enter "Y" and follow the prompts.

Your castle will be built from the bottom up. When the word "making" is in the upper left-hand corner, the blueprint is being fashioned. When the word "filling" is there, the rooms are filling with monsters and treasure. It should take bout 15 minutes to construct a 60 room castle.

Gathering a Party:

By now, you should have created and equipped a part of rouch and ready characters. You've also either created a castle or copied the module on a blank disk. It's time to gather your party (option 5 on Main Menu).

You'll be shown the name of each character who's already in the party (if any) and asked the name of each member who wants to join. After you've entered the names, the computer will check to see if each character is available. If som it will print "<Name> has joined". Any character who is unavailable (i.e. dead or already on an adventure) will not be allowed to join.

When characters come back ot Dragon Village, they are dispersed. In other words, they must re-gather before goin on another adventure.

If you try to gather a party for an adventure that already has five characters assigned to it, the computer will say the party is full. Next, it will ask you if you wish to destroy the party by killing all of the characters. If you decide to destroy the old party, you'll be able to gater a new party for the adventure.

Going On An Adventure:

After you've fathered your party, it's time to have some fun and actually play the game (option 6 on the Main Menu).

The Screen:

During play, there is a "menu window" at the top of the screen. These four lines contain a lot of information. The top line shows the character's name and which menu is up. The numbers of the left represent the commands; the command you choose is highlighted to the right. For your convenience, the bottom line shows the character's hit points, armor rank, and endurance.

Don't be put off by the complicated looks of the window. Before long, you'll only need to glance at it for a moment to get the information you need.

The Controls:

The number, arrow, and letter keys all perform the same function, highlighting commands. Choose the method of input which suits you best.

0-9: Pressing any number will highlight a command.

Arrow keys: These highlight commands left and right. The arrow keys must be used to highlight a number higher than 9 when characters have more than 9 objects in their inventory.

Letter keys: The first letter of each regular command also highlights it. The two exceptions to this are "V" for look and "Z" for retreat.

Return: Implements the highlighted command.

Space bar: The space bar has two functions depending on when it's hit.

1> If you haven't chosen a command (pressed return), the space bar will toggle between the regular commands and special commands.

2> if you've chosen a command that affects another monster or character, the space bar will toggle between the name groups.

Escape key: This key will abort almost any action in case you change your mind.
The slash key works the same way..

Ctrl-G: Toggles "group move" off and on. Group move is on when you start, which means characters travel together. Characters can't toggle this off during module play.

Ctrl-T: Allows you to set the time delay, which is how quickly stuff prints out. Initially set to 25, it ranges from 0-50, with the lower numbers increasing the speed. Zero time delay waits for you to press a key.

Ctrl-Q: Saves the game at its current place. This can only be done during the first character's turn.

Ctrl-R: Reorders the party. This can only be done during the first character's turn.

Ctrl-D: Toggles the area description on and off. It is on when you

start. When off, it allows for faster movement through known areas.

The Regular Commands:

The following is a list of the command options available when playing Bronze Dragon. The numbers in brackets correspond to those in the menu window. Some commands, such as search, will bring up another menu.

1> Rest: The pause that refreshes. Resting regains some endurance for weary characters.

2> Fight: Fighting is attempting to strike a monster or character with a weapon. Your weapon must work in the range you're in for your attack to have a chance at success. See "How To Fight" and "Range."

3> Search: There are 4 different ways to search.

1) Search for objects: Let's talk treasure. If you want something that's in a room, this is the command to pick it up. It'll also allow you to read a scroll or even push a button.

2) Search Creature: You can plunder dead monsters and characters.

3) Search for Secret Doors: Hidden exits can sometimes be detected using this command. High intelligence increases the chances of detection, and repeated searches increases it even more.

4) Search for Traps: The truly paranoid can check a room out if they suspect a trap. High intelligence and repeated attempts also improve the chances for detecting traps.

4> Look: This will give you a description of your immediate surroundings if there is sufficient light. Hitting space bar after the description will let you see the exit locations and the monsters (if any). Since "look" is automatically executed when you enter a room, mapping is usually done at the very start. An important note: Any objects you happen to see with "look" aren't necessarily the total contents of the area.

5> Diversion: This gives every character in the area except the diverter a "+1" to hit on their next turn and allows assassins to assassinate. A drawback, the diverter draws the monster's attention.

6> Advance: This is moving within a room toward a certain monster or character, generally used to get in proper range for fighting. See Range.

7> Retreat: The opposite of advance. It can also be used to get in proper range, especially when using weapons that won't function in short range, such as a flail or javelin. See Range.

8> Use Object: There are 5 different ways to use an object.

1) Unlock Item: An attempt to unlock some sort of container, such as a chest or coffer with whatever is in hand. It is not used to unlock anything else (such as doors). Thief's tools are the best at doing this, but you can use anything.

2) Use On Creature: This is using the object in hand on a monster or character. Food, elixir, and magic items work under this command. While food and elixir are beneficial when used this way, magic items could be harmful. Your fellow characters probably wouldn't appreciate a "dancing sword" being used on them..

3) Examine Object: Finding out how unusual objects work is one of the biggest sources of puzzlement for Bronze Dragon players. When you look at an object closely, you might discover something interesting or important.

4) Use On Your Possessions: This is using the object in hand on another object. If you wanted to connect two rods together or put poison on a dagger, this is the command to use. See "Solving Plots."

5) Use In Room: This is sort of the "default" command when you don't know what else to do. It could be unlocking a door with a key; using a wand to levitate a rock, etc. See "Solving Plots."

9> Inventory: There are 5 sub-commands under inventory.

1) New in Hand: It is often necessary to put the proper object in hand before fighting, using an object, etc. This doesn't take up a character's turn. Once something is in hand, it will stay there until you say otherwise.

2) Status: This will tell you absolutely everything about your character's health and standing.

3) Get Rid Of: This command will erase the object of your choice, never to be seen again. It does not affect the object in hand, unless you happen to choose it for disposal. This command does not take up a character's turn.

4) Give Object: This command transfers one of your possessions to a monster or character of your choosing. Gifts often convince non-vile creatures to leave in peace.

5) Give Money: This works exactly like give object, except the medium of exchange is bronze pieces.

0> Leave: Yep, the thrill of adventuring is right here: there's always that last kill to climb or secret chamber you haven't seen yet. Characters travel in a pack unless you toggle group move off with Ctrl-G. Exits will appear on the numbers 1-4. If you're outside the castle, "Go back to Dragon Village" will be at number 5.

Special Commands:

The regular commands on the preceding pages are available to any character. Hitting the space bar will toggle on a second menu, which has the "special commands." Each character gets one command due to race, as explained under race in "How To Create A Character." The character's class affords several additional commands which are detailed below.

Knights:

1> Swordplay: This adds a "+1" on the to hit roll for every two skill levels of a knight. It also maximizes a sword's damage. This command can't be used unless a sword of some type is in hand.

2> Rage: Knights can attack at twice their normal rate with this command, although it reduces endurance to zero.

Assassins:

1> Assassinate: Successfully using this command will instantaneously kill any monster or character. To even have a chance at assassinating, however two conditions must be met....

- A) The assassin must have a dagger in hand.
- B) Someone else must divert or area must be dark

Once an assassin reaches the 10th skill level, condition B no longer applies.

Ninjas:

1> Martial Arts: Martial arts are a special method of defense and fighting. There are 10 different levels of martial arts, called disciplines, which range from Yeti to Dragon style. Each discipline has 3 modes: an attack, a strike, and a defense. Ninjas can master a maximum of 5 modes, if they wish to learn more, they must replace one that they have previously learned. The different modes are explained below, and appendix 5 should further enlighten you. The best way to figure all this out, of course, is to create a ninja and experiment.

Attack modes: This is a short range attack that causes damage if successfully rolled, much like an ordinary weapon attack. A martial arts attack does double damage if the creature attacked is covered under the attack's discipline. A Yeti attack, for instance, does 1-10 damage against everything except for monsters with a "freeze" attack. A hit against such a creature would automatically do 20 points of damage.

Strike modes: Strikes are short range attacks that will not affect characters or monsters nor under the strike's discipline. If a strike is used against a monster under the correct discipline, however, it will automatically hit and cripple the monster. If a tiger strike, which affects anything that claws or bites, were used against a ghost, it would have no effect. If it were used against a bear, however, the bear couldn't use its claw or bite.

Defense modes: Defense modes improve your armor rank (subtract from it) in addition to making you invulnerable under the defense's discipline. Their effects are cumulative, meaning that having both bear defense (-1) and eagle defense (-2) would lower armor rank by three, in addition to making one invulnerable to encircle and drain attacks.

2> Leap: Like sneak, a successful leap moves a character across a room without taking a turn. Ninjas can position themselves anywhere within a room this way, but there is one drawback - the only action allowed at the end of a leap is a martial arts attack or strike. First level ninjas have a base 25% chance of leaping with bonuses added for high agility and additional skill levels.

3> Imitate Dead: If successfully done, a ninja is unable to do anything for 4-6 turns after using this command. During the trance-like state, neither monsters nor characters will strike the Ninja. Upon awakening, the ninja will no longer be poisoned, illusioned, beserk, frozen, etc. If you fail to imitate your chances at imitating dead.

Elders:

1> Sorcery: This is the act of casting a spell. Spells work at any range, each for having a certain number of charges, or times it can be used. If the charges are used up, the spell is gone and the caster will regain the spell points used to learn the spell. Check appendix 7 for details.

2> Destroy: Any "undead" creature less powerful than the elder casting this will be burned to ashes. Undead creatures are those who have lived and died, yet still walk the earth. Typical undead monsters are ghosts, devils, lethal deadlies, etc. Characters get no skill points for destroying monsters.

3> Innate Heal: This will heal characters whose hit points now have fallen below 50% of hit point max. The side effect is that hit points max will be lowered a little: Example: A knight named Joey started an adventure

with 100 "hit points now" and 100 "hit points max." Hit points now was reduced to 40 by an ill-tempered fire beetle. An elder used innate healing on Joey, which put both "hit points now" and "hit points max" at 90.

Joey's hit points max isn't permanently crippled - both the healers and

king Leopold can fix him up. The healers do it for a price and Leopold doesn if Joey brings him an artifact.

Wizards:

1> Sorcery: See sorcery under the elder's special commands.

2> Cast Energy: This is a damaging attack that will function at any range. Damage is 10 times the Wizard's skill level, but if reduces a Wizard's endurance to zero

Range:

Characters must be in proper range to fight. The proper range depends on what weapon is being used (see appendix 3). The three ranges, short range, medium range, and long range, are listed on the character and monster screens. There're abbreviated SR, MR, and LR, respectively. You can move into the proper range by advancing or retreating.

EXAMPLE: Arch Mage George wants to hit a giant rat with his lucern hammer. He tries, but the rat is in medium range and hit hammer can only hit monsters in short range. George has a choice - he can either advance toward the rat and hit it next turn, or he could put a sling & stones in hand and hit it this turn (A sling and stones works in medium or long range).

How To Fight:

Before you fight, you should put the proper object in hand. This is done by hitting inventory and new in hand.

The next step is pressing fight and choosing a victim, either a character or a monster. You can toggle between the monster and character names by hitting the space bar. Hitting escape aborts the fight command.

You can hit any number corresponding to a monster to see the creature's name and range. When you find the monster you wish to strike, hit return and the "attempt" will take place.

Smack any key to freeze the rolling randomizer. Afterwards, any plusses or minuses will be added to the number and if it's enough, you'll hit. Good luck!

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Solving Plots:

Read this carefully, for enjoying Bronze Dragon to its fullest depends on your understanding of how to solve its many puzzles, which are called plots. The module, Seekers of the Storm, has an extremely intricate plot that may take months to solve.

A plot consists mainly of a legend concerning an object or series of objects that you must recover. For a complete listing of these, check appendix 1. IMPORTANT: The King abd Overlord often want objects other than tge final object, so bring back as many goodies as you can. In plots where you need tge final object to start another adventure, they'll let you keep the final object.

The four steps to solving a plot and gaining skill levels are listed below.

1> Study the Ledgens: Dont't start on an adventure without any information! After you've picked your adventure, mingle in the pub. The people there will give you all sorts of information, although some of it might be false. Write down anything that seems important because it probably is. Later, when you're starting to explore the castle or module, a story about it will be shown that could prove helpful.

2> Finding the Peices: In most plots, you must recover some minor object before you can get the "final" object, which is the one either Leopold or Usul will reward you for. How do you know when an object is needed to solve the plot and not just ordinary rubbish? The Wizard in Dragon Village may be able to help. Look for objects that the pub people or ledgens mention, also look for objects that are extremely unusual or inaccessible. If something is inaccessible, find out why and think about what you might need to get the object.

3> Using the Objects: This is the act of putting the puzzle together. The two commands which are most ofter used for this are "use in room" and "use on your possessions." EXAMPLE: You find a glowing iron crown in a room, and you want to take it, but it's too hot to touch. Suddenly, you remember that bucket of ice water you passed over 12 rooms ago! If you get the ice water and use it (in room), it'll free the iron crown.

Sometimes you might have to fit two plot objects together to form a new object. EXAMPLE: You want to take a dancing sword, but it's flying about the room just out of reach. You have two wands, a red and a blue one, but neither seems to stop the sword. By using (on possessions) the blue wand on the red wand, you form a bronze wand. When you use the bronze wand "in room," it stops the sword from spinning.

4> Taking it Back: When you've recovered the "final" objectm it's time to go back to the King or Overlord for your reward. Either of them will greatly reward you if you give them the final object, unless the final object is used for some furture plot. In this case, they will take something else that you've picked up during the adventure and (hopefully) saved. EXAMPLE: The talisman in plot 3 must be kept in order to solve plot 4.

Saving a game:

Since it takes hours to complete an adventure, you probably wish to save the game in progress several times. All you have to do is press CTRL-Q during the first character's turn. If you wish to continue play at that point, answer "Y" to the prompt. Answering "N" will take you back to Dragon Village, but not your characters.

To restart the game later, boot the Bronze Side and hit number 6 on the Main Menu, "Go On An Adventure." You'll be back at the point you left off.

You can also save the game by having your party return to Dragon Village. If you do this, however, you must gather the party again before you go back to the adventure.

The Crossroads:

After you've finished an adventure, your characters should go to The Crossroads (Option 7 on the Main Menu). From there good characters go to King Leopold and evil characters go to Lord Usul to gain skill points and skill levels. Afterwards, you can sell any trinkets the rulers don't want to the merchants. The personalities (and quirks) of the two rulers are explained below.

1> King Leopold: King Leopold is a benevolent ruler, a champion of truth and justice everywhere. He is an extremely pleasant man to deal with, although the same can't be said for his wife, Queen Putrid. He'll look over your possessions in hopes of finding valuable objects, which he'll want to have for himself. He desires the final object most of all, naturally. In return, Leopold will grant each character in the party skill points and (if anyone has enough skill points) skill levels. If he's in a good mood, the good King may even grant some extra ability points to favored characters. Incidentally, Leopold also heals characters who give objects to him.

2> Lord Usul: Lord Usul is the evil counterpart of King Leopold. To say he's unpleasant is an incredible understatement - I hyst hope he doesn't see me writing about him like this/ If you bring anything to Lord Usul that interests him, say goodbye to it! He'll probably give you skill points and skill levels, but he's been known to take them away if he's in a real foul mood. The same goes for servants' (that's you) ability scores, they go up and down according to Usul's whim. Lord Usul does NOT heal characters, although he's been known to do the opposite. Unsubstantiated rumors have it that Lord Usul becomes very friendly to high level servants, giving them many extra ability points.

After you've increased your characters' might and prestige, it's time to go back to Dragon Village. If you've picked up anything you wish to sell, start haggling with the merchants. What next? The Provisioner's? The Healers? How about learning more spells from the wizard? Then you'll be ready for another adventure and....

Glossary:

Ability scores: Ability scores are numbers which represent how strong, smart, agile, and hardy an individual character is. The "average" score is 10, anything above or below 10 may increase or decrease a character's power. Each character has five ability scores, the values of which are determined by race.

1) Strength: Strength is the might and power a character possesses and affects the amount of weight that can be carried. High strength can add bonus in accuracy and the amount of damage inflicted when fighting.

2) Agility: Agility measures how quick and nimble characters are. Special traits such as leap and sneak are affected by agility; high agility can give "to hit" bonuses in fight.

3) Intelligence: Secret doors and traps are easily detected if a character is intelligent. High intelligence can also give spell casters extra spell points.

4) Constitution: This is how spirited and hardy a character is during rough situations. Constitution is closely related to

endurance, but the two shouldn't be confused. Constitution is permanent score which determines how much is regained when a character rests.

5> Endurance: Endurance, the measure of fatigue, is the only ability score that fluctuates. Activities such as fighting and spell casting causes endurance to go down. If it reaches zero, you'd better rest or you'll lose hit points.

Armor: Equipment which affects armor rank is called armor. If you possess armor, you're automatically wearing it. There are two obstacles that could prevent a character from wearing a certain piece of armor:

1) The character's class is incompatible or

2) The character is already wearing that "type" of armor. EXAMPLE: A wizard tries to pick up some chain mail. EXAMPLE 2: A character tries to take elven boots when she already has high boots. See appendix 3.

Armor Rank: Armor rank, or AR, is a measure of how vulnerable a character is to physical attack. Low numbers are better than high ones in this case. A character with no armor has the armor rank of 10, which means an unlucky dart-throwing blind man could hit him from 500 peters!

Beserk: A character in this state is slightly insane, but in a bloodthirsty kind of way. Berserk characters often behave normally one moment, and then try to hack their friends to pieces in the next moment. Luckily, it's a temporary condition.

Beter: A unit of measurement. It's the length between the tip of King Leopold's nose and his outstretched hand. Really.

Bilo: The weight of one bronze piece. See weight.

Bronze Piece: Otherwise known as BP's or bronpies, bronze pieces are the basic unit of money in Bronze Dragon

Castle: "Castle" is a generic term for a place where you adventure. Monsters, treasures, and all sorts of strange and wonderful objects are found in castles.

Characters: A character is a persona that you, the player, assume. Up to 5 characters can go on an adventure at once.

Charges: The amount of uses a spell or magic item has is referred to as charges. Each time a spell or magic item is used, one more charge will be spent until none are left and the magic is gone.

Class: This is the profession of a character. There are 5 classes: Knight, Assassin, Ninja, and Wizard. Each class has at least two special commands unique unto that class.

Cursed Objects: Cursed objects are objects you can't "get rid of." They usually perform poorly. EXAMPLE: A cursed weapon might be a broad sword that has a -5 penalty "to hit." The only way to get rid of a cursed item is by consulting the Wizard in Dragon Village or casting a remove curse spell. Cursed stuff doesn't reveal its true nature until it is put in hand. Of course by then, it's toooooo late!

Damage: Anytime hit points are taken from a character or monster, damage has occurred. Objects such as lanterns and dishes can be "damaged" when they're used as weapons. Characters can actually destroy objects by using them this way in a fight.

Difficulty: How tough a castle is survival-wise is difficulty. This is probably the most important part of designing a castle.

Double Damage: If the number you get on the rolling randomizer is twice as much as the number you need to hit, you'll do twice as much damage.

Eating: Ya gotta eat to live! Eating is done by putting food in hand, then hitting <use> and <use on creature>. Then it's simply a matter of picking who you wish to feed (it could be yerself). Going without food for a long period of time leads to unconsciousness.

Food: Eating good food will keep you from starving, but beware of the stuff you pick up off castle floors, because it may be poisonous. If you go without food for 200 turns, you'll drop unconscious.

Healing: Raising hit points now or hit points max is healing.

Hit Points: This is a measure of how much "life" a character has. When a character is damaged, hit points are lost. When all hit points are lost, the character dies.

Hit Points Max: His points max is the highest number of hit points a character can have. This maximum number is lowered when an elder uses innate healing.

Hit Points Now: Hit points now is a character's current number of hit points.

Level: The term level, not to be confused with skill level, means the floor or story of a castle. Negative levels are below ground level.

Light: The contents of a room can only be seen if there is a good source of light. Incidentally, monster tend to fight better in dark rooms.

Magic Items: Magical onjects often have special powers. Consulting the Wizard in Dragon Village about such items might reveal a clue to their use.

Maze: An area where characters become confused about directions. Going left might make them go north, etc.

Menu Window: The four-line information bot at the top of the screen during actual play is called the menu window.

Module: The most complex and interesting adventures are called modules, although the castles your apple creates are pretty good too..

Monster Levels: There are 10 different levels of monsters, level 1 contains the weakest and level 10 the hardest.

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DOCUMENT btl.chess

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Factus Presents...

Battle Chess 2e

Cracked By : The Mechanic --- Thanks To : The Kid
Docs By : The Mechanic --- and Senkrad

REFERENCE CARD

GETTING STARTED

Before you begin, make a backup copy of your BATTLE CHESS disk. To make a backup of your disk, select option (1) at the first screen that appears after loading Side A (label facing up) of your Battle Chess disk. You will need to copy both sides of the disk. To make your backup copy, simply follow the instruction displayed on screen.

LOADING INSTRUCTIONS

1. Insert Battle Chess disk Side A (label facing up) into the disk drive.
2. Turn on your computer and the program will load automatically.

TITLE SCREEN OPTIONS

After several seconds a screen will appear allowing you to make a backup copy of Battle Chess or to Play Battle Chess. (This screen will not appear when loading from your backup copy.) Press the '1' key will allow you to make a backup copy of Battle Chess, while pressing the '2' key will continue loading the game. If option '2' is selected or if played from your backup, the color title screen will appear as the game loads. Press the <Space Bar> to get past the title screen or press the <ESC> key to bring up the game credits and any changes or revisions made to the program (if any).

HOW TO ENTER THE CODE

After several seconds, a window will come up, asking for a specific move from one of the twenty games listed in the Appendix A of the Battle Chess manual. Find the proper game and type in the correct move.

Mech Note: If you're wrong, it doesn't matter, it will think you're right.

MOVEMENT

You can play Battle Chess from either the keyboard or joystick. The 'Z' key puts you in joystick mode and the 'X' key puts you in the keyboard mode.

Using Keyboard:

I = up
J = left
K = down
L = right

Or use the proper arrow keys to position the flashing square under the piece you want to move, then press <Return> to select it. (The piece will be surrounded by a solid black border.) Select the desired destination square by using the keyboard or arrow keys and press <Return>. (You will notice that legal moves are flashing black squares and illegal ones are flashing red).

Using Joystick:

To move your chess pieces, use the joystick to position the flashing squares under the piece you want to move, then press the joystick button to select it. (The piece will be surrounded by a solid black border.) Use the joystick to

move the flashing square to the location you want the piece to move to and press the joystick button. (You will notice that legal moves are flashing black squares and illegal ones are flashing red.)

BATTLE CHESS MENUS

Using Keyboard:

Press the <ESC> key or move the flashing square off the top or bottom of the board so that the menu bar appears and press the <Return> key to pull down the menu. Use the keyboard or the arrow keys to switch between the menus and highlight an option. Press the <Return> key to select it. Select the "Return" option at the bottom of any menu to exit without selecting.

Using Joystick:

Move the flashing square off the top or bottom of the board so that the menu bar appears and press the joystick button. Move the joystick left or right to change menus, and then up or down until the desired menu option is highlighted. Press the joystick button to select it. Select "Return" at the bottom of any menu to exit without selecting.

The four menus contain the following options:

DISK: Load Game, Save Game, New Game, Setup Board, Quit
MOVE: Force Move, Take Back, Replay, Suggest Move
SETTINGS: Sound On/Off, Walk On/Off, Combat On/Off, 3-D Board, 2-D Board,
Human Plays Red, Apple Plays Red, Modem Plays Red, Human Plays Blue,
Apple Plays Blue, Modem Plays Blue.
LEVEL: Novice, Level 1-6

An asterisk (*) to the left of an option denotes that option as currently unselectable.

A plus (+) to the left of an option denotes that option as currently selected.

MENU OPTIONS EXPLAINED

LOAD GAME: If you've saved a game before, this option recalls the game and picks up where you left off. After selecting Load Game, the Load window will appear, displaying a list of your saved games numbered 1 through 7. Select the game you wish to load by pressing the joystick button when the highlighted bar is over the game you wish to load or using the keyboard or arrow keys and pressing the <Return> key if you don't have a joystick. Select the "Return" option at the bottom of the menu to exit without loading.

SAVE GAME: You can save games to your backup disk only. Pick this option if you want to save a game to disk while the game is in progress. Choose the game number (1 through 7) you wish to save to (erasing the old game at that number) with your joystick or the keyboard or arrow keys and press the button or <Return>. Select the "Return" option at the bottom of the menu to exit without saving.

NEW GAME: This option lets you start a new game at any time.

SET UP BOARD: This option lets you set up games for testing strategies or for playing classic chess problems. Set Up is performed on a 2-dimensional chess board with the additional chess pieces arranged vertically on each side of the board. Any of the pieces can be selected and moved into any position by selecting them with the joystick or keyboard. To select a piece on the side of the chess board, use the joystick or keyboard or arrow keys to move off the board and choose a specific piece, and press the button or <Return> key. This will pick up your chosen piece for you to place. From Set Up, you have three additional menu options.

CLEAR BOARD: Removes all pieces from the board.

RESTORE BOARD: While remaining in Set Up, this aborts any changes you've made.

DONE: Returns to normal playing mode so you can play the game you've set-up.

QUIT: You've had enough. Reboot the disk.

FORCE MOVE: If you get impatient while waiting for Battle Chess to make its move, you can force it to move with this option. This interrupts the computer's thinking process and makes it take the best moves that it has thought of so far.

TAKE BACK: This option will take back the last move made by either side. You can take back about five moves from both sides.

REPLAY: If you've just taken back a move, then decided it wasn't such a bad move after all, you can select Replay to put the piece back where it was before the Take Back.

SUGGEST MOVE: Want a hint for your next possible move? The Suggest Move option will give you that hint. Flashing highlights will appear on a square occupied by one of your pieces and the suggested destination square. This command is not instantaneous.

WALK ON/OFF: Turning this off will move the pieces in 3-D without animating them.

COMBAT ON/OFF: Turning this off will skip the combat animation. (The above two options are useful for those who want a quicker game on the 3-D board.)

LEVELS: Levels Novice through 6 are available. Novice is the easiest, and 6 is the hardest. Under the Novice level, Battle Chess does only one simplistic board evaluation and occasionally makes poor moves. At each higher level, Battle Chess will look ahead further in the game, thus playing a better game of chess. Remember, if it's taking too long, you can always override the thinking time by using the FORCE MOVE option.

SHORTCUT KEYS

Certain shortcut keys are available during a game as follows:

F = Force Move
T = Take Back
R = Replay
S = Suggest Move
V = Toggle Sound On/Off
W = Toggle Walk On/Off
C = Toggle Combat On/Off

CHECK

When your King is in check, a "check" cursor will appear in the upper left corner of the screen to warn you. It will go away when your king escapes check.

PAWN PROMOTION

When a pawn reaches the eighth rank, a window will appear in the center of the screen. This window contains four pieces; you can change the pawn into any of them. Choose the promotion by pressing the joystick button when the piece you want to promote to is underscored or by using the keyboard or arrow keys and <Return>.

CASTLING

If it's legal to do so (as discussed in the manual), you may castle by moving your King two spaces to his destination square. The rook will know what to do on its own.

PLAYING BATTLE CHESS BY MODEM

You can play BATTLE CHESS against a far away opponent if each of you has a Hayes-compatible modem hooked up to your computer with BATTLE CHESS. Your

modem must be hooked up to an Apple Super Serial Card with interrupts turned on, or an Apple //c. If your modem is properly connected, as shown in your modem manual, there are 3 steps to start playing over the modem with B.CHESS.

1. Arrange with your opponent who will play Blue. After you've agreed, both of you should load BATTLE CHESS and set your opponent's color with the Modem Plays Blue or Modem Plays Red menu option. Hang up the phone on both ends before continuing. (But say "Bye, Bye!")
2. One player must set his modem to auto-answer mode. You can do this by bringing up the text window with the <TAB> key and typing ATSO=1. And press the <Return> key.
3. The other player must call the player whose modem is set to auto-answer. To dial a number, bring up the text window with the <TAB> key and type ATD 555-1212, substituting the correct phone number, and press the <Return> key. You can use any phone number with the ATD command, including area codes.

Your modem will pick up the phone and dial the number, and if all goes well, it'll then connect with the modem on the receiving end. If you get this far, you're set; you can start your chess game. When you move a piece, that move will happen on your opponent's end as well as yours. Note that after the two players are connected, the menu options New Game, Set Up Board, and Load Game will send an entirely new chess board to both sides, discarding the current game.

When you set one player to modem, you can send a text message to your modem or opponent by pressing the <TAB> key and typing your message or command and hitting <Return>. After hitting <Return> at the end of your message, the window will disappear and the line of text will be sent. (This is also the way you control your modem in BATTLE CHESS). A window will pop up on your opponent's screen with your message. After he or she dismisses the window, the game can continue. You can receive these messages at any time except when a window is open on your screen. If you send commands to your modem in this way, your modem will act on them. See your modem manual for details on AT commands.

There are two set ups to break the connection and hang up the phone. First, type +++ (three plus signs), press <Return>, and wait a moment. This will get your modem's attention. Then type ATH to tell your modem to hang up. This will close the connection between the two players.

BATTLE CHESS communicates at 300 baud with 8 bits and no parity.

PLAYING BATTLE CHESS WITH SERIAL CABLES

If you and an opponent have two computers, you may play with one person at each computer. Hook up a null modem cable between the computers' serial ports. Then one person show pick Modem Plays Red and the other, Modem Plays Blue. You can proceed to play as if you were connected by modem. The only difference is that you never need to type any dialing commands.

Official Listing of [Factus] Boards

The LookOut [403] 457 - 0114 Private Storage [215] 745 - 0495
 Apple Tree Midwest II [816] 826 - 4158 Brave New World [707] 938 - 2997

And Some Other [Great] Boards!

Castle GS (514) 276 - 4047 Lexicon of the Cabal. (714) 879 - 6857
 Distar's Swap Shop .. (816) 524 - 3044 University of Piracy. (415) 991 - 4832

End of File.

===== DOCUMENT bug.byter.1 =====

BugByter Documentation

BUGBYTER IS A RELOCATABLE 6502 DEBUGGER. IT INCLUDES:

1. USER DEFINABLE DISPLAY
2. LITERAL/TRANSPARENT BREAKPOINTS
3. RESIDENT ASSEMBLER/DISASSEMBLER
4. COMPATABILITY WITH 3.3 DOS

OPERATION

BUGBYTER IS A 7.6K (\$1A00 BYTE) BINARY FILE. TO EXECUTE IT, TYPE

BRUN BUGBYTER <CR>

OR, YOU CAN MAKE IT RUN WHERE YOU LIKE, FOR INSTANCE:

BRUN BUGBYTER,A\$1234 <CR>

TO PUT BUGBYTER IN THE LANGUAGE CARD,

CALL -151 <CR>
 C081 C081 F800<F800.FFFFFM C083 C083<CR>
 BRUN BUGBYTER,A\$D000 <CR>

DEFAULT RUN IS AT \$7C00.

BUGBYTER IS SELF-MODIFYING. THEREFORE, ONCE YOU RUN IT A PARTICULAR SPOT, YOU CAN NOT SAVE THAT VERSION AND RERUN IT AT A DIFFERENT SPOT.

MASTER DISPLAY

THE BUGBYTER MASTER DISPLAY IS DIVIDED INTO 6 DIVISIONS:

```

-----
!           !
!           1           !
!           !           !
!           !           !
!-----!-----!
!           !           !
!           2           !   3           !
!           !           !
!           !           !
!-----!-----!
!           4           !   5           !
!-----!-----!
!           !           !
!           6           !
!           !           !
-----

```

1. REGISTERS: 6502 AND BUG BYTER
2. 6502 STACK WITH STACK POINTER HIGHLIGHTED
3. CODE DISASSEMBLY AND TRACE/SINGLE STEP OPTIONS
4. USER SELECTED MEMORY CELLS
5. USER SELECTED BREAK POINTS

6. BUG BUYER COMMAND LINE

---TYPICAL SCREEN---

```
C   R B PC  A X Y S P NV-BDIZC
0014 00 0 030D FF 20 01 FF 30 00110000
```

```
1F9:C6
1FA:42
1FB:17
1FC:FB 0300: LDX #20 E: (2)
=1FD:FD= 0302: STX $01 E: (3)
1FE:FB 0304: LDY #00 E: (2)
1FF:FD 0306: STY $00 E: (3)
100:B3 0308: LDA #FF E: (2)
101:FB 030A: STA($00),Y E:2000 (6)
102:17 030C: INY E: (2)
103:26 =030D: BNE $030 =
104:17 030F: INC $01
105:6B 0311: DEX
```

```
0000:2000 BP POINT COUNT TRIG BROKE
2000:FF 1 030F 0000 0001 0000
0000:00 @ 2 0000 0000 0000 0000
0000:00 @ 3 0000 0000 0000 0000
0000:00 @ 4 0000 0000 0000 0000
```

NOTE: =...= MEANS HIGHLIGHTING

DISPLAY #1

IN THE EXAMPLE ABOVE, BUG BYTER IS DISPLAYING THE 6 6502 REGISTERS AT THE TOP OF THE SCREEN.

EXAMPLE

```
PC PROGRAM COUNTER 030D
A A-REGISTER FF
X X-REGISTER 20
Y Y-REGISTER 01
S STACK POINTER FF
P PROCESSOR STATUS 30
```

IN THE UPPER RIGHT OF THE SCREEN, THE PROCESSOR STATUS (P) IS DIVIDED INFO INDIVIDUAL BITS: NV-BDIZC

EXAMPLE

```
N NEGATIVE BIT 0
V OVERFLOW BIT 0
- UNUSED 1
B BREAK BIT 1
D DECIMAL BIT 0
I INTERRUPT BIT 0
Z ZERO BIT 0
C CARRY BIT 0
```

DISPLAY #2

THE HIGHLIGHTED ROW (=..= IN THE EXAMPLE HERE) IS THE CURRENT ONE. NOTICE THE FF IN THE STACK REGISTER IN DISPLAY #1.

SETTING THE STACK POINTS:

S=E0 <CR>

THIS CAUSES 2 CHANGES:

1. THE COMMAND LINE WILL DISPLAY "S=E0" AND THEN CLEAR AFTER <CR> IS PRESSED.
2. THE STACK POINTER IN DISPLAY #1 WOULD CHANGE TO E0. (UNDER "S")
3. THE STACK WINDOW WILL SHOW NEW POSITION.

THE STACK POINTER IN DISPLAY 1 WOULD SHOW E0, WHILE THE WINDOW WOULD SHOW \$1E0. THE 6502 STACK IS IN PAGE 1 THEREFORE, SETTING STACK TO \$1E0 IS THE SAME AS \$E0.

DISPLAY #3

TO THE RIGHT OF THE STACK WINDOW, BUG BYTER DISPLAYS THE PROGRAM CODE IN THIS FORM:

ADDRESS:OPCODE OPERAND OPTION

TYPE: FCA8L <CR>

THE DISPLAY #3 WILL NOW SHOW A LIST FROM FCA8 UP.

EXAMPLE: FCAC: BNE \$FCAA D0 FC

```
FCAC: HEX ADDRESS
BNE: 6502 OPCODE
$FCAA: OPERAND
D0 FC: ACTUAL BYTES IN MEMORY
```

DISPLAY #4

CONTAINS USER-SELECTED BYES OR BYTE PAIRS

DISPLAYS #5 AND #6

#5: USER DEFINED BREAKPOINTS

#6: BUG BYTER COMMAND LINE

SET

DISPLAYS #1 AND #6 ARE FIXED. THE "SET" COMMAND ALLOW YOU TO ALTER THE SPACE ALLOCATED TO THE OTHER DISPLAYS.

TYPE: SET <CR>

1. USE <- AND -> TO INCREASE/DECREASE NUMBER OF BREAKPOINTS. HIT <CR> WHEN DONE.
2. USE ARROWS TO MODE THE NEXT-INSTRUCTION-TO-BE-EXECUTED INVERSE BAR. PRESS <CR> WHEN DONE.
3. USE ARROWS TO ADJUST THE LINES AVAILABLE FOR THE STACK.
4. USE THE ARROWS TO POSITION THE STACK POINTER. <CR> EXITS

SET COMMAND DOES NOT AFFECT MEMORY LOCATIONS.

COMMANDS

```

<CR>      ACCEPT USER INPUT
<-        MOVE CURSOR LEFT
->        MOVE CURSOR RIGHT
^X        DELETE COMMAND LINE
^B        CURSOR TO BEGINNING OF LINE
^N        CURSOR TO END OF LINE
^D        DELETE ONE CHARACTER
^I        INSERT MODE
^C        ACCEPT NEXT KEY VERBATIM
<SPACE>  IF <SPACE> IS FIRST COMMAND ON A LINE, BUG
          BYTER WILL NEXT (??) AVAILABLE MEMORY ADDRESS.
    
```

COMMAND: ASM

TYPE: ASM <CR>

BUG BYTER WILL CLEAR DISASSEMBLY LINE AND OUT YOU IN ASM MODE.

TYPE: 300:LDA C000 <CR>
<SPACE> BPL <CR>

COMMAND: L (DISASSEMBLY)

L WILL JUST LIST FROM A LOCATION UP.

TYPE: FAC8L

COMMAND: M (MONITOR)

ENTERS APPLE MONITOR

^Y RETURN TO BUG BYTER

COMMAND: DOS

ENTER A PERIOD FIRST.

TYPE: .CATALOG

DOS ERROR->BASIC (CALL 1016 RETURNS TO BUG BYTER)

COMMAND: REGISTER REFERENCE

TO ASSIGN A REGISTER, JUST

TYPE: A=8D <CR>

COMMAND: SCREEN DISPLAY

OFF: TURN OFF DISPLAY #1-#5

ON: TURNS ON WHEN OFF TURNED OFF

BASE CONVERSION

```

HEX->DEC      $C3= <CR>
                OR
                78D= <CR>
DEC->HEX      +43= <CR>
                OR
                -15119= <CR>
    
```

QUITTING

Q <CR> WILL QUIT TO BASIC+DOS

MEMORY REFERENCE

1. USE MEM DISPLAY TO DISPLAY 184 BYTES
2. USE MEM COMMAND TO EDIT DISPLAY #4

MEM COMMAND

TYPE: MEM <CR>

-ARROWS MOVE TO NEXT/PREVIOUS ADDRESS
 -USE "H" TO DISPLAY CONTENTS OF ADDRESS AND ADDRESS+1 IN HEX/ASCII
 -USE "P" TO DISPLAY CONTENTS OF ADDRESS AND ADDRESS+1 AS A POINTER

<ESC> QUILTS

MEMORY DISPLAY PAGE

TO DISPLAY A SCREEN WORTH OF HEX/ASCII

TYPE: AA60: <CR>

THIS CAUSES BUG BYTER TO SWITCH TO A MEMORY DISPLAY WITH \$AA60 AS ADDRESS IN UPPER LEFT CORNER.

APPLE ASCII:

```

00-3F  INVERSE
40-7F  FLASHING
80-FF  NORMAL
    
```

<ESC> QUILTS

TRACE/SINGLE STEP MODE

DURING THE SINGLE STEP/TRACE MODE, ONE MAY SELECT ONE OF THE FOLLOWING TO BE DISPLAYED ON THE RIGHT HAND SIDE OF THE SCREEN:

COMMAND	DISPLAY
O=A	6502 ACCUM
O=X	6502 X-REG
O=Y	6502 Y-REG
O=S	STACK-PNTR
O=P	PROCESSOR STAT
O=B	INSTRUCTION BYTES

O=E EFFECTIVE
 ADRS, BRANCH-
 ES, CYCLES

O=E IS THE MOST POWERFUL OF THE ABOVE COMMANDS. USING THE FOUR METHODS OF ADDRESSING, INDEXED, INDIRECT, INDEXED INDIRECT, AND INDIRECT INDEXED, THE DISPLAY WILL SHOW THE BYTES ACTUALLY REFERENCED.

HERE ARE SOME ADDITIONAL COMMANDS USABLE IN THIS MODE:

COMMAND	RESULT
<SPACE>	STEP ONE OPCODE
<CR>	CONTINUOUS TRACE
<ESC>	RETURN TO NORMAL BB
R	TRACE UNTIL RTS
->	SKIP NEXT INSTRUCTION
C	CLEAR CYCLE COUNTER
P	USE PADDLE (0) TO ADJUST THE TRACE RATE
K	USE KEYBOARD TO ADJUST
Q	SOUND OFF
S	SOUND ON
1	DISPLAY PAGE 1
2	DISPLAY PAGE 2
T	DISPLAY TEXT
L	DISPLAY LO-RES
H	DISPLAY HI-RES
F	FULL SCREEN GRAPHICS
M	MIXED GRAPHICS

RATE ADJUSTMENT:

1. USE "R=#" FOR RATE
2. PRESS "P" OR "K" TO ADJUST MODE
3. TO SPEED UP TRACING, TYPE "OFF" TO TURN OFF MASTER DISPLAY

BREAKPOINTS

POINT- USER DEFINED BREAK POINT

COUNT- # OF TIMES POINT HAS BEEN FOUND

TRIG- USER DEFINED COUNT BEFORE BREAKING

BROKE- # OF TIMES "TRIGGERED"

TO ENTER BREAKPOINT:

TYPE "BP" FOLLOWED BY BREAKPOINT ROW ADDRESS

BP1 <CR>

BUG BYTER WILL MOCE CURSOR TO FIRST 0 IN POINT FIELD. ENTER A HEX NUMBER FOR ADDRESS OF BREAK POINT. USE THE ARROWS TO MOVE FROM FIELD TO FIELD. IF TRIG=0, THE BREAKPOINT IS IGNORED. WHEN COUNT=TRIG, BUG BYTER WILL STOP. TYPING "T" OR "S" WILL RETURN TO TRACE. TYPING

"CLR" WILL CLEAR BREAKPOINT.

TRANSPARENT BREAKPOINTS

THE USUAL BUG BYTER METHOD OF BREAKPOINTING IS TRANSPARENT, INTERPRATIVE. TYPING "OUT" WILL FORCE BUG BYTER TO THE TRANSPARENT MODE. THIS WILL MEAN THAT 6502 BREAKS (00) WILL HAVE NO EFFECT.

REAL BREAKPOINTS

TYPE "IN" TO GET TO REAL BREAKPOINTS. YOU CAN NOT EDIT BREAKPOINTS IN THIS MODE.

SOFT SWITCHES

LOC	ABSOLUTE	LOC	FUNCTION
S+3	7C03		EXECUTE UNDEFINED OPS
S+4	7C04		USE PAD(0) FOR TRACE
S+5	7C05		USE PAD(0) FOR RATE
S+6	7C06		TRACE KEYBOARD POLLING
S+7	7C07		SOUND
S+8,9	7C08-9		CYCLE COUNTER

COMMAND LINE EDITOR

<CR>	ENTER LINE
<SPACE>	DISPLAY NEXT ADDRESS
<-	CURSOR LEFT
->	CURSOR RIGHT
^B	CURSOR TO BEGINNING OF LINE
^C	ACCEPT NEXT KEY VERBATIM
^D	DELETE CHARACTER
^I	INSERT CHARACTER MODE
^N	CURSOR TO END OF COMMAND LINE
^X	DELETE COMMAND LINE

COMMANDS (GENERAL)

ASM	ASSEMBLE
ADR L	DISASSEMBLE STARTING AT "L"
M	ENTER MONITOR (^Y RETURNS)

SET CUSTOMIZE MASTER DISPLAY:

->	WINDOW DOWN
<-	WINDOW UP
<CR>	FIXES WINDOW

ON	MASTER DISPLAY ON
OFF	MASTER DISPLAY OFF
+DEC=	CONVERT POSITIVE DEC->HEX
-DEC=	CONVERT NEGATIVE DEC->HEX

VALUE=	HEX->DEC
\$VALUE=	HEX->DEC

V DISPLAY COPYRIGHT

Q QUIT

=====

DOCUMENT bye.80

=====

August 26, 1987

Better Bye 80
A program by:

David D. Ely
27 Ponderosa Park
Barco, NC 27917

BYE.80 is a selector program called from memory whenever a ProDOS QUIT or BASIC BYE is given. This program is based on Alan Birds' Better Bye but works ONLY in 80 columns and gives the user the added ability to choose from 32 System programs and/or Directories. I wrote this version for Hard Disk users, however, all users of large storage devices will appreciate the added control.

To use Better Bye, simply move the Light Bar to the desired program or directory name, and press return. If a directory is chosen, a new set of programs and/or directories will be presented. Pressing escape will allow you to change Volumes.

This program is donated to the Public Domain, however, you must contact the author for the right to include this program in any commercial software.

For those who wish to permanently change ProDOS the following table of QUIT code locations is given:

Operating System Version	QUIT Code Location
ProDOS 1.0	\$5900
ProDOS 1.1.1	\$5700
ProDOS 8 1.2	\$5900
ProDOS 8 1.3	\$5900
ProDOS 8 1.4	\$5900

The process to be used is as follows (note:always use a backup file!):

```
BLOAD BYE.80,A$2000,TSYS
BSAVE BYE,A$2054,L$300
UNLOCK PRODOS (if nessasary)
BLOAD PRODOS,A$2000,TSYS
BLOAD BYE,A$5X00
BSAVE PRODOS,A$2000,TSYS
LOCK PRODOS
```

This program is part of a series of programs that explore the QUIT code in ProDOS and is distributed with the permission of Alan L. Bird, the originator of the Better Bye selector program. For more information (or source code) write to the address given at the beginning of this file.

=====

DOCUMENT c.brown.abc

=====

Brought to you by:
Apple Tree - Midwest
(816) 826-4158
9600/2400

CHARLIE BROWN'S ABC'S

A Macmillian/McGraw-Hill Company
(Pre-school thru Grades 2)

INTRODUCTION

Charlie Brown and The Peanuts Gang help children make words! Packed full of giggles and hours of play, Charlie Brown's ABC's uses delightful animation, music, and Charlie Brown's actual voice to introduce pre-schoolers and early elementary school children to letter names and letter sounds. Four different games entertain and challenge children to learn the alphabet. Watch and listen as Charlie Brown gives the directions and teaches the alphabet!

USING THE PROGRAM

Equipment Needed:

- > An Apple //gs with 1 megabyte of Random Access Memory (RAM)
- > one 3.5 inch disk drive
- > monitor (color recommended)
- > printer (strongly recommended)

To Begin Playing Charlie Brown's ABC's:

- > Make sure the computer is off and the monitor is on.
- > Insert the disk with the label side up.
- > Turn on the computer and the program will load.

Note: The first time you run this program, you'll be asked to type in your name on the Owners Frame. Afterwards, you can change the owners name through the Change Owner option on the Options menu.

Special Keys:

The following keys are used throughout the program:

- ? - to see game directions
- ESC - to leave the game and return to the title screen
- Space Bar - to move within the Options Mnu or "pop-up" menus
- OA-O - (Open Apple-O) to go to the Options Menu (see below)
- OA-P - (Open Apple-P) to print any screen at any time
- OA-Q - (Open Apple-Q) to quit the program

THE OPTIONS MENU

From the Options Menu you can select a different game, review game directions, change the owner screen, print Charlie Brown's ABC's Certificates, and turn the speech or sound "on" or "off". To go to the Options Menu, press (Open Apple-O). The status of each option is displayed in parentheses. Use SPACE BAR to move and RETURN to select option. When an Option is selected, a "pop-up" menu will appear. Use SPACE BAR to move within this menu and RETURN to select. After RETURN, the "pop-up" menu will close and your change will appear in parentheses on the Options Menu.

1. Game Level (First ABC's) Press RETURN for game "pop-up" menu.
 - (Game A)
 - (Game B)
 - (Game C)
2. Program Directions Press RETURN for program directions.
3. Change Owner Press RETURN to change owner screen.
4. Printer Setup (Black Ribbon) Press RETURN for ribbon "pop-up" menu.
5. Print Certificate Press RETURN to print Certificates.
- 6 Sound (on) Press RETURN for sound "pop-up" menu.

- 7. Speech (on) Press RETURN for speech "pop-up" menu.
- 8. Go to Game press RETURN to go to the game selected.

Games

Charlie brown's ABC's contains four games that help children learn the alphabet.

First ABC's: This game is designed to help children associate a letter with its name and a word that begins with that letter.

Directions:

- 1. Type a letter. You will see a letter/word screen and hear Charlie Brown say the letter and a word that begins with that letter.
- 2. Type the letter again and the Peanuts gang will animate and play a tune.
- 3. Press another letter key to go on or use the arrow keys (->) to move to the next letter in alphabetical sequence. (The left arrow (<-) will go to the previous letter in the alphabet sequence.)
- 4. At anytime, press (Open Apple-P) to print a copy of the screen.
- 5. Press ESC to leave the game and return to the title screen to change game level or other options.

Game A: This game is designed to help children visually match letters.

Directions:

- 1. You'll see a letter and word on the screen followed by "Type [the letter]." Charlie Brown will say the letter and word.
- 2. Type the letter and the Peanuts game will put on a show.
- 3. After 6 letters, you will be offered a chance to print out a Charlie Brown's ABC's Certificate.
- 4. At anytime, press (Open Apple-P) to print a copy of the screen.
- 5. Press ESC to leave the game and return to the title screen to change game level or other options.

Game B: This game is designed to help children recalling letter names.

Directions:

- 1. Listen as Charlie Brown says the name of a letter and a word that begins with that letter.
- 2. Type the letter you hear. If you type the correct letter Snoopy and his friends will celebrate with you.
- 3. After 10 matches you'll be offered a chance to print out a Charlie Breown's ABC's Certificate.
- 4. At anytime, press (Open Apple-P) to print a copy of the screen.
- 5. Press ESC to leave the game and return to the title screen to change game level or other options.

Game C: This game is designed to help children listen for beginning sounds.

Directions:

- 1. Listen as Charlie Brown says a word.
- 2. Type the first letter of the word you hear. If you are correct. the Peanuts gang will cheer you on.
- 3. After 10 matches you'll be offered a chance to print out a Charlie Breown's ABC's Certificate.
- 4. At anytime, press (Open Apple-P) to print a copy of the screen.
- 5. Press ESC to leave the game and return to the title screen to change game level or other options.

Apple Tree February 11,1990

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DOCUMENT cal.games
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Epyx presents...

California Games

Documentation by: The Doc

Cracked by: Tom E. Hawk

INTRODUCTION

"Hey, thrasher! Dontcha ever wear knee pads?" "Didja see that? He caught some air on the half pipe! Radical!"

Welcome to California. Home of the most radical sports in the world. Rad, bad and aggro. You're about to hit the beaches, parks and streets of the Golden State to go for trophies in everything from surfing to bike racing. CALIFORNIA GAMES gives you the hottest sports. And the most aggro competition. You even get to pick your own sponsor.

So pull on those knee pads. You're about to get into the most fun you've had since Mom hid your skateboard. CALIFORNIA GAMES is going to take you from the surf to the turf. From the pipe to the parks. Are you gonna love it, or what?

We'll start you off in the heart of Hollywood, with skateboards in hot competition on the radical Half Pipe. Then we'll rocket up to San Francisco for the high-flying Foot Bag and some really wild footwork. After that, it's down to the beach for two of the coolest sports we've got in California. There's an awesome Roller Skating obstacle course, followed by the king of coastal competition. Surfing. You'll be shooting the tube and carving the biggest breakers around.

Over at the dirt track, you'll pump the pedals of a BMX racing bike. And your moves had better be bad. For the grand finale, you'll go to Yosemite where you'll be flinging the fantastic Flying Disk. That's six massive events. You're gonna have your hands full. Not to mention your feet.

You're about to get into the wildest games of them all...CALIFORNIA GAMES. It's only, like, the most totally awesome game in the world.

OBJECTIVES

CALIFORNIA GAMES is a challenge of skills for one to eight players. The object of the games is to win trophies in each individual event. Players can also compete for the top trophy in overall competition.

CALIFORNIA GAMES includes six exciting events: Half Pipe Skateboard, Foot Bag, Surfing, Skating, BMX Bike Racing, and Flying Disk. You can practice or compete in any single event, compete in all the events, or even set up your own competition using events that you choose yourself.

Each player chooses a sponsor for the competition. You are judged on each event and a record is kept of your score. Trophies are awarded to the top scoring competitors.

If you break an event record, CALIFORNIA GAMES will save your name and display it on a special high score screen. Improve your skills in each event, compete with your family and friends and become a California Champion.

GETTING STARTED

Loading Instructions:

- Insert your CALIFORNIA GAMES disk into the disk drive with the label facing up in drive 1.
- Turn the computer on.

STARTING PLAY

When the CALIFORNIA GAMES title screen appears, press the FIRE BUTTON on your joystick to continue to the menu screen. The CALIFORNIA GAMES menu offers a choice of six options. To make a selection, use your joystick to move the cursor to your choice, then press the FIRE BUTTON. You may also select an option by typing the corresponding numbered key.

OPTION 1: Compete in All the Events

Compete in all six events. The number of trophies awarded to each player is tallied as you compete, and a special trophy is awarded to the overall champion at the conclusion of the last event. You'll compete in the events in this order: Half Pipe Skateboard, Foot Bag, Surfing, Skating, BMX Bike Racing and Flying Disk.

- You'll first be asked to enter your name and pick a sponsor.
- Type your name on the keyboard and press the RETURN key.
- Use the joystick to move the cursor to the sponsor of your choice, then press the FIRE BUTTON to pick that sponsor.
- Repeat the name and sponsor selection for each addition player (up to eight). When all players' names and sponsors have been entered, press the RETURN key again.
- A verification screen will appear. If all the names are correct, select YES with the joystick and press the FIRE BUTTON, or type A. If you need to make any changes, select NO or type B.

OPTION 2: Compete in Some Events

Similar to Option 1, but you compete in the events of your choice.

- Choose the event(s) by typing the corresponding numbered key or by moving your joystick and pressing the FIRE BUTTON.
- The events you choose will be displayed in purple.
- When you are finished choosing the events, move the cursor to the word DONE and press the FIRE BUTTON.

OPTION 3: Compete in One Event

Similar to Option 1 and 2, but you compete in any single event of your choice.

- Choose the event by typing the corresponding numbered key or by moving your joystick and pressing the FIRE BUTTON.

OPTION 4: Practice One Event

- Choose the event by typing the corresponding numbered key or by moving your joystick and pressing the FIRE BUTTON. No scores are kept during practice rounds.

OPTION 5: View High Scores

- Displays the highest score recorded in all events, with the name of the player who achieved each record.
- Press the FIRE BUTTON to return to the menu.

OPTION 6: View Title Screen

- Displays the title screen and credits.
- Press the FIRE BUTTON to return to the menu.

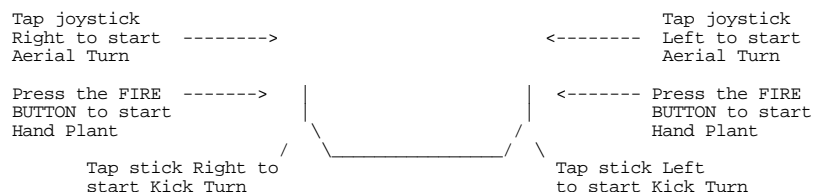
THE GAMES

HALF-PIPE SKATEBOARDING

It's time to get air on the half pipe. Skateboarding is definitely an awesome event, combining strength and coordination--often with amazing results. You'll be riding a skateboard in a specially built half-pipe. You'll have a 1:15 minute time period, or three falls, to build up speed and successfully complete stunts. Points are awarded for each stunt, and the highest score wins the event.

OBJECT: The object of the half-pipe event is to ride the board back and forth on the ramp, performing stunts with proper timing and execution.

- Press the FIRE BUTTON to launch your board and start the event.
- To gain speed, move the joystick UP when the skater is going up the side of the ramp, then move the joystick DOWN when the skater is going down.
- To perform a stunt, move the joystick as shown in the diagram. Pay attention to timing, because you'll fail if you move the stick too soon, too late, or if you hold it too long. After three falls, the event is over.



- To start a kick turn, move the joystick as indicated on the diagram above. Earn maximum points by waiting until the last moment to start the turn, and holding the joystick until the moment before you'd wipe out.
- To start an aerial turn, tap the joystick in the direction indicated above. To perform this move successfully, you must be in the air off the edge of the ramp before tapping the joystick.
- To perform a hand plant, press and hold the FIRE BUTTON just as you reach the top of the ramp. The skater will plant his hands and flip the board over his head. Wait to release the button until the board arcs over and returns to the ramp. Earn maximum points for pressing the button at the last moment, and releasing it at the last moment.

SCORING: You score points for each stunt completed successfully. Your score increases with the amount of risk you take. For example, if you hold a turn until the last moment, you get more points than if you pull out early when it's safer. Some stunts are more difficult and earn higher scores than others.

STUNT	MINIMUM	MAXIMUM
Kick Turns	100	300
Hand Plants	400	700
Aerial Turns	400	999

STRATEGY: It's important to build up the right amount of speed before trying a stunt. You can gain speed by doing a "fakie." To fakie, hold the joystick up or down for the full duration of the ramp (from top to bottom). Remember that you'll wipe out if you go too fast. Above all, be sure to get plenty of practice on the half pipe. This event takes experience to get the timing down just right.

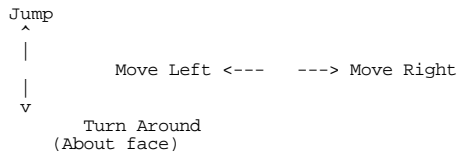
FOOT BAG

This is probably the most laid back event, but don't lose your cool, it isn't easy. The Foot Bag event is like juggling with your feet. In this event, you have to keep a juggling bag in the air for 1:15 minutes, without using your hand. Success is all in the timing. If you time your kicks

correctly, you'll keep the bag bouncing high in the air. Score extra points by performing stunts. The highest score wins the event.

OBJECT: Hacking at the sack with your feet, knees and head, you must try to make as many kicks as you can before time runs out. And remember, you get extra points for every stunt you perform.

- Press the FIRE BUTTON to kick the bag into the air and start the event.
- As the bag falls back toward the ground, press the FIRE BUTTON to kick again just before the bag reaches your foot.
- To perform a head butt, press the FIRE BUTTON just before the bag drops below the level of your head.
- Move the joystick as indicated in the diagram to control other movements.



- Several types of kicks are possible, including inside kicks, outside kicks, jumping reverse kicks, knee kicks and back kicks.
- To perform different types of kicks, move to new positions underneath the bag while it's in the air. For example, move to the right so the bag will drop next to you (but not too far). Now press the FIRE BUTTON when the bag approaches and you'll perform an outside kick.
- Other kicks are performed by positioning yourself in different ways. Discover the ways to perform all the kicks by trying various movements during practice.

SCORING: You earn points for each stunt or kick performed successfully. More difficult stunts, like turning around while the bag is in the air, earn higher scores. You lose time if you drop the bag or kick it off the screen. You also earn points for consecutive kicks completed without allowing the bag to touch the ground. Earn bonus for catching the sack when thrown from offscreen. Here are some stunts to try by combining different kicks and moves:

- Any Kick: (10 pts.)
- Half Axle: (250 pts.) Any two kicks with a half spin in between.
- Full Axle: (500 pts.) Any two kicks with a full spin in between.
- Horseshoe: (500 pts.) Left back kick + Right back kick.
- Jester: (2000 pts.) Left jumping kick or right jumping kick.
- Double arch: (2500 pts.) Left outside kick + right outside kick + left outside kick.
- Doda: (5000 pts.) Left outside kick + head butt + right outside kick.
- Off Screen Catch: (1500 pts.)

STRATEGY: The more complicated kicks and stunts you can complete before time runs out, the higher your score will be. Special bonus points are awarded for variety, so use as many different stunts as you can.

SURFING

Surfing began as the sport of Hawaiian kings; now it rules the California coastline. From Santa Cruz to Rincon Point, surfers and their colorful boards dot the miles of sun-splashed beaches. And you're about to join them. You'll shoot the curl, shred the tube and probably even eat a little sand (when you wipe out). It's going to be hot. You'll be there. And you'll be awesome.

OBJECT: Competition surfing is a game of staying near the curl of the wave and maneuvering your board smoothly at high speeds. Ride the face of the wave, moving back and forth, in and out of the tube. "Use" as much of the

wave as you can before your ride comes to an end.

- Press the FIRE BUTTON to catch a wave and start the event.
- Hold the joystick LEFT to avoid wiping out at the beginning of your ride.
- To steer the board to the surfer's left, move the joystick LEFT.
- To steer the board to the surfer's right, move the joystick RIGHT.
- Hold the FIRE BUTTON down to make sharper turns. Note that sharp turns slow you down.
- If you go too close to the bottom of the wave, you'll either wipe out or end your ride by leaving the wave.
- To end your ride cleanly, go over the top of the wave.
- If you go over the top of the wave and turn your board around in the air, you can catch the wave again (but you'll wipe out if you come back down at a bad angle).
- You get 1:30 minutes for the event or 4 wipeouts. You earn more points for longer rides, so try to ride each wave as long as you possible can.

SCORING: You're scored for the length of your ride, the number of turns you make and your speed each time you turn. You also earn high points from the judges for riding in the tube (underneath the curl of the wave), and riding near the break. "Catching air" scores extra points: ride up to the top of the wave until the end of your board clears the crest, then turn and continue your ride.

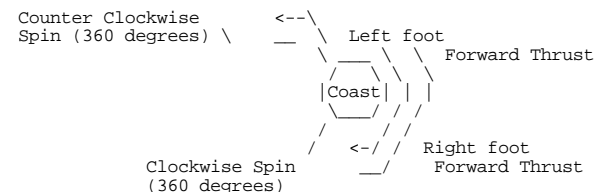
STRATEGY: Your final score is based on how well you "use" the wave. Riding along straight, far out in front of the break counts for very little. Take risks. The more risks you take to do your stunts, the more points you will earn. Making cutbacks (180-degree turns), moving up and down the wave and doing 360's (complete circles) all earn high scores. Earn maximum points for high speed turns, especially if you complete them near the top of the wave or near the break.

ROLLER SKATING

Roller Skating is hot. Anyone can skate and almost everyone does, with a feeling of freedom unlike any other sport. And CALIFORNIA GAMES skating is as radical as you can get. The trick is to skate down a beach boardwalk without falling. You'll have to avoid cracks in the sidewalk, grass, sand, puddles of water, shoes lying in your path and more. You'll have to squat to miss flying beach balls. You'll even have to jump over missing pieces of the sidewalk!

OBJECT: The object in roller skating is to avoid the obstacles and cover the course in the best possible time, with as many stunts as you can perform during the event.

- Press the FIRE BUTTON to start the event.
- To begin skating, roll the joystick to the UP position. Then roll the joystick to the DOWN position. Continue rolling between these two positions to gain speed.
- Move the joystick as shown in the diagram to perform other skating moves.



- To squat, press and hold the FIRE BUTTON.
- To jump, release the FIRE BUTTON.

- Try and avoid all the obstacles. You're allowed three falls. On the third fall you are disqualified and your race is over.

SCORING: Score points for each obstacle you avoid. Earn double points for jumping over obstacles. Earn the highest scores for 360's while jumping obstacles.

Avoiding Obstacles: 10 - 30 points.
Jumping Over Obstacles: 20 - 60 points.
Spinning Jump Over Obstacles: 40 - 120 points.

STRATEGY: You'll score points for each object you successfully avoid or jump over, so be careful-- speed is less important than staying on your feet. Remember that you earn points for spinning jumps over obstacles (jumping and spinning at the same time). Complicated moves lead to high scores. But be careful not to fall more than twice, or you'll be out of the competition.

BMX BIKE RACING

BMX stands for Bicycle Motocross. It also stands for radical action and challenging competition. In this event, riders use strong, lightweight bicycles to race on an action-packed course in the California desert. There are plenty of jumps, bumps and dips. (Rows of low bumps are called "Whoop-ti-dos.") You'll need speed, a good sense of timing and a heavy dose of endurance.

OBJECT: The object is to cover the course in the fastest possible time, performing stunts and avoiding or jumping over obstacles. The fastest daredevil rider will win the event.

- Move the joystick RIGHT to start the event.
- Move the joystick UP to steer left.
- Move the joystick DOWN to steer right.
- Move the joystick RIGHT repeatedly to increase your speed.
- Press the FIRE BUTTON to jump.
- Move the joystick LEFT to do a wheelie.
- To begin a jump, move the joystick LEFT as you ride onto a hill or ramp.
- When you're in the air, use the joystick to perform stunts:
 - Move the stick UP to do a table top. Hold the stick as long as possible then release the joystick to put the bike down.
 - Move the stick DOWN to do a 360-degree turn.
 - Move the stick LEFT to do a backward flip.
 - Move the stick RIGHT to do a forward flip.
- Timing is important to perform stunts and jumps. You must time the start and finish of each move to complete it successfully. If you're not back in a "centered" position by the time you land or complete your stunt, you will crash.
- You're allowed one "serious" fall or three "easy" falls before you're out of the race. If you flip and fall on your head, it's a serious fall.
- At the end of the course, press the FIRE BUTTON to stop. You earn bonus points for stopping on the finishing pad.

SCORING: Try to complete the course within the 2:00 minute time limit. The faster your time, the higher your score will be. You also get points for each stunt, with bonus points for holding stunts as long as possible. Here's a table of the minimum and maximum points awarded for each stunt:

STUNT	MINIMUM	MAXIMUM
Wheelie	100	200
Jump	200	400
Table Top	500	1000
360 Turn	1000	2000
Backward Flip	1500	3000
Forward Flip	3000	6000

STRATEGY: When you complete the course, you get 60 points for each second

left in the time limit. So finishing the course in the fastest possible time is important, but the highest scores go to the riders who perform the most daring stunts. Make a 6000-point forward flip, and you've probably got a lock on the first place trophy.

FLYING DISK

To serious competitors, the plastic saucer invented by two Californians in 1947 is called a "flying disk." Of course, you may know it by another name. Originally spelled Frisbie, the disk's most popular name originated at Yale University, where students first started tossing empty pie plates made by the Frisbie Pie Company one hundred years ago. Now molded from light and flexible plastic, the flying disk is a common sight whirling through the air at beaches and parks everywhere in California, and it's the perfect challenge of skill and timing to wind up the competition in CALIFORNIA GAMES.

OBJECT: The object of the Flying Disk is to throw accurately to the catcher at the other end of the field. Score extra points for difficult catches.

- Press the FIRE BUTTON to start the event.
- You get three attempts to throw and catch the disk.
- Try to throw the disk far enough to reach the catcher standing at the other end of the field.
- Use the bar at the bottom of the screen to make your throw. The bar has three colors: red, yellow and green. Use the green area for the most powerful throw.
- Tap the joystick LEFT to start swinging your arm back. When the needle reaches the green section of the bar, tap the stick RIGHT. When the needle reaches the green section on the right side of the bar, tap the stick LEFT again to release the disk.
- The display at the top of the screen helps you move the catcher to intercept the disk after it has been thrown.
- As the disk flies across the field, move the joystick LEFT or RIGHT to run toward the point where you think the disk will land.
- To catch the disk, you must meet it with your hands. Note that your hands are extended only when you're running or diving.
- To attempt an overhead standing catch, hold the joystick UP to reach up for the disk.
- To dive after the disk, press the FIRE BUTTON.

SCORING: Points are awarded for the throw and the catch. For the throw, score points with the accuracy and height of the toss. The fewer steps the catcher has to run to meet the disk, the more points are awarded for the throw. Points are scored for catching the disk as follows:

- 150 pts. for a catch while running right.
- 250 pts. for a catch while running left.
- 250 pts. for a catch while diving right.
- 350 pts. for a catch while diving left.
- 350 pts. for a catch over your head.

STRATEGY: Throwing accuracy is the key to winning the Flying Disk (of course, it also helps to make a good catch!). To get the best possible score, throw the disk so the catcher doesn't have to move far to reach it, then make a diving catch or an overhead catch.

CALIFORNIA GAMES SCORING

AWARDS CEREMONY

After every event, trophies are awarded with the names and sponsors of the top finishers in the order they placed.

CHAMPION CEREMONY

If the players compete in all six CALIFORNIA GAMES events, a final trophy is awarded to the Champion of the games based on the total number of points

Apple II Computer Info

awarded.

First Place = 5 points
Second Place = 3 points
Third Place = 1 point

The points are totaled after all events have been completed, and the player with the most points is the California Champion.

EVENT RECORDS

If an event record is broken or tied in any event, CALIFORNIA GAMES saves the name of the record-breaking player. The records are displayed on the Event Records screen. If a new record is set for an event, the previous record is erased and the new information appears in its place.

CALIFORNIA SPOKEN HERE

AGGRO (a-gro) adj. if you're a dare-devilly dude you'll go "way aggro", executing aggressive moves on the ramps and waves of California.

AWESOME (ah-sum) adj. awe-inspiring. ie. That's one awesome dude.

BIO (bi-o) adj. short for bionic. You've got to be superhuman with aggro moves to be known as bio.

DUDE (dyud) noun. BUDDY: can be used to express disbelief as in "DUDE!", or surprise, as in "DUDE!" or as a friendly greeting, as in "Hey DUDE!" Say while laughing for an attention-getting effect, ie. Duhuhuhude!

GNARLY (narly) adj. mind and body bendingly difficult. Waves, ramps and aggro moves can be gnarly. Then there are gnarly tests, gnarly prom dates, gnarly curfews, etc...

LIKE (lik) prep. insert anywhere you like, like, in any sentence, in, like, any context. Used most effectively when upset: "it's, like, geez..." Or the coolest way to use "like" is with "all" (for more description) "It's, like- I'm all - Duuude you've got sand in your jams."

RADICAL (raa-di-cul) adj. 1) outrageous: "Radical moves, dude!" 2) cool: "It'd be radical if you could cruise to the ramp around 5 o'clock."

TOTALLY (toh-tul-ly) adv. completely, entirely: something or someone is totally awesome, radical, or aggro. In California everything is totally something. (companion word: see Tubular)

TUBULAR (tyu-byu-lar) adj. an adjective that came from the sea and has evolved into an everyday term. Parties, concerts, etc. can be totally tubular. Its use is endangered by the word "awesome". (companion word: see Totally)

dates,
gnarly curfews, etc...

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Call these apple boards !

[/][\][/][\][/][\][/][\][/][\][/][\][/][\][/][\][/][\][/][\][/][\]
[/] The Castle.....(312).272-1423 [\]
[/] [\]

[/] The Blue Knight.....(312).249-4385 [\]
[/] Courts Of Chaos.....(312).915-0947 [\]
[/] Dark Side.....(312).787-2174 [\]
[/] The Time Center.....(312).377-0359 [\]
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Tell em' Haker sent ya !!

with an 'X'). NOTE: You may exit the Planet Destruction sequence at any point by simply pressing the INST/DELkey.

OORXX Landing Mission

To activate an OORXX landing mission select Button 4 (the one marked with a down arrow) from the Planet Vision Screen. An OORXX will be transported immediately to the planet surface and a vector image of the landscape will appear on your viewing screen.

FLYING THE OORXX

Because your ship is too large to land on a planet, you must view the planet's surface through the eyes of an OORXX- creatures designed for just such missions. You guide the OORXX as it flies across the planet surface.

The two markers on either side of the screen indicate your altitude above the planet surface. The horizontal dotted line along the bottom of the screen indicates your speed- the longer the line, the greater your speed. To decrease speed, hold down the fire button and pull back. To increase speed, hold down the fire button and push forward.

Landing Sites

Each planet has a designated landing site, located at the end of a long narrow valley. As you fly, an onscreen sight indicates your current position. If you are headed in the right direction, the sight will appear as a flashing diamond shape. If you are off target, an arrow on the left or right side of the sight will point you in the direction you should turn. When you reach the landing site, the OORXX will land automatically and the resident alien (if there is one) will appear.

Avoiding Missiles

If enemy missiles are present on the planet surface, they will begin homing in on the OORXX immediately; a continuous beeping noise lets you know that you've been sighted. To avoid the missiles, you must fly as low as possible without crashing.

When a missile locks in on your position, arrows appear on either side of the screen and begin moving toward each other. The closer the arrows get to one another, the closer the missile is to the OORXX; if the arrows meet in the center of the screen, the OORXX will be destroyed and you will be returned to the ship's interior.

THE UPCOM

To communicate with aliens, you must use the UPCOM (Universal Protocol of Communication) icon system. Once you land, the UPCOM Module appears automatically on the screen if an alien is present.

Receiving A Message

As the alien speaks, icons will appear on the left side of the UPCOM Module. To receive a translation of a certain icon, simply point to the icon in question; the translation will appear on the right side of the screen. If the central mouth is still moving, it means the alien has more to say. Point to the 'mouth' and press the fire button to read the rest of the message.

Sending A Message

You may respond to the alien using any of the highlighted icons shown in the UPCOM window. The window shows only a small portion of the available icons. To scroll left or right, simply point to one of the scroll selectors located on either side of the icon window. To scroll more quickly, point to the scroll bar located at the bottom of the window and hold the fire

DOCUMENT capblood

CAPTAIN BLOOD DOX

The Story

Trapped in a universe of your own creation- a world populated by strange creatures in unlikely scenarios, extensions of your own over-active imagination- but it's only a game, right ? Wrong. It's every hacker's worst nightmare..and you're living it!

As the erstwhile programmer who calls himself Captain Blood, you're in one heck of a predicament. The Hyper-space warp that sucked you into the game also fragmented your genetic structure, creating five exact duplicates of yourself that are now hiding somewhere in the galaxy of Hydra. You must find your clones and assimilate them to replenish the vital fluids you so desperately need.

Playing The Game

When the game begins you will see the interior of your spaceship, followed immediately by a view of the nearest planet. The arm you see on the screen is your own - use the joystick to move the arm around the screen. Because you lack necessary vital fluids, you start to shake, making it difficult to select options from the control panel.

An on-board clock keeps track of elapsed time in minutes and seconds. You have approximately 2.5 real-time hours to find a clone and get back some vital fluid before your arm becomes completely uncontrollable. If you do find a clone, you gain another 2.5 hours of playing time.

The first planet that comes into view each time you begin a new game will ALWAYS be inhabited. After that, you're on your own.

NOTE: The program recreates the galaxy each time you begin a game. This means that coordinates of inhabited planets are not valid from one game to the next.

PLANET VISION SCREEN

The Planet Vision Screen is the first screen that appears when you begin a new game. The planet that you see is the one nearest to your present location. Several options are available to you on the Planet Vision Screen: GeoPhoto Vision, Planet Destruction, and OORXX Landing Mission. These options are described below.

The Control Panel

The control panel in front of you contains various buttons, only a few of which are active at any one time. Six control buttons are positioned diagonally on either side of a large central button. These buttons will be referred to (from left to right) as Buttons 1-6. Unless otherwise instructed, select an option by pointing your hand's index finger to it and pressing the fire button.

GeoPhoto Vision

To get a close-up view of the planet surface, activate the GeoPhoto Vision mode by selecting Button 6. Flashing points of light indicate enemy missiles on the planet surface. Select this button again to get an even closer view. Select Button 2 to return to the Planet Vision Screen.

Planet Destruction

To destroy the planet on the Vision Screen, select Button 5 (the one marked

button; then move the joystick left or right to move the icons in that direction.

To select an icon, simply point to it and press the fire button. That icon will then appear on the right side of the UPCOM Module. You may select up to eight icons for each sentence. When your message is complete, point to the 'mouth' and press the fire button to transmit your message to the alien. The left-arrow shaped button on the right side of the UPCOM Module lets you delete an icon, and you may also insert an icon into an existing sentence.

Teleporting

If an alien agrees to be teleported the Teleport icon will appear on the bottom left of the screen. Select this button to teleport the alien onto your ship. To teleport an alien from your ship onto a planet's surface, select the Teleport icon button once you land

Returning To The Ship

Select the triangular-shaped button on the right side of the Module to return to the ship.

THE SHIP'S INTERIOR

To return to the ship's interior from a planet surface, select the triangular-shaped button located on the right side of the screen. From the Galaxy Map or Planet Vision Screen, select any INACTIVE button to return to the ship's interior. The main control panel is shown at the bottom of the screen.

Interior Controls

Button 1 is used to save your game to disk. Complete instructions are given below. To activate the Planet Vision Screen for a view of the nearest planet, select Button 2; select any inactive button to return to the ship's interior. To view the Galaxy Map, select Button 3 (the one marked with a 'nebula' shape); select any inactive button to return to the ship's interior.

The Fridgitorium

If you have teleported an alien (or clone) onto the ship, it will appear in the Fridgitorium on the left side of the screen. While in the Fridgitorium, the alien will not be able to communicate. To disintegrate creatures in the Fridgitorium, select the button directly below the Fridgitorium. When a creature is disintegrated, you recover its vital fluids. However, only the clones' vital fluids are compatible with your system.

OORXX Reactivation

Once you guide an OORXX to a planet's landing site, the OORXX remains there and may be reactivated at any time. If you have already landed on the planet whose coordinates are shown at the top of the screen (i.e. the nearest planet), a question mark will appear on the right side of the screen. Select the question mark to reactivate the OORXX on that planet's surface.

THE GALAXY MAP

To view the Galaxy Map, select Button 3 from the ship's interior. The horizontal and vertical lines superimposed on the Galaxy Map allow you to select a specific planet from among 32,768 possible choices.

Coordinates

The location of each planet in the galaxy is expressed by a set of coordinate numbers, X/Y. The vertical line is the 'X' coordinate and the horizontal line is the 'Y' coordinate line. The nearest planet is the one located

at the intersection of the two lines. The coordinates of this planet are displayed at the top of the screen.

Selecting A Planet

As you move your hand around the MAP, the coordinates of the planet you are pointing to at any given moment are shown in the box at the upper left side of the screen.

To select a destination planet, point to the vertical ('X') coordinate line and press and hold the fire button; then move the joystick left or right to move the coordinate line. As the coordinate line moves, the coordinate will change accordingly in the box on the upper right side of the screen. When the desired 'X' coordinate appears in this box, release the fire button to lock in that coordinate number.

To select a new 'Y' coordinate, point to the horizontal ('Y') coordinate line and press and hold the fire button; then move up or down to move the coordinate line. As the coordinate line moves, the value for the 'Y' coordinate will change accordingly in the box on the upper right side of the screen. When the desired 'Y' coordinate appears in this box, release the fire button to lock in that coordinate number.

Hyperspace

To travel to the new planet you have selected on the Galaxy Map, activate the Hyperspace option by selecting the central control panel button (the one marked with an up-arrow). When the Hyperspace sequence is over, the new planet will appear on the viewing screen. NOTE: You may exit the Hyperspace sequence at any point by simply pressing the INST/DEL key.

SAVING A GAME

You may save your game to disk any time AFTER five minutes of play. To save game, return to the ship's interior and select Button 1 (the disk icon). The saved file will be called BLOOD CPT. If the game was not successfully saved, the disk icon will flash for several seconds; in this case, check your disk and try again. Each time you save to disk, the new saved game will replace the old saved game. Although you cannot pause the game during play, you may save your progress at any point and return to your game at a later time.

Loading A Saved Game

You may load a saved game ONLY DURING THE FIRST FIVE MINUTES OF GAME PLAY. To load a saved game, first begin a new game. When the Planet Vision Screen appears, select any inactive button to proceed to the ship's interior. Then select Button 1 (the disk icon). If the game did not load successfully, the disk icon will flash for several seconds; in this case, check your disk and try again. Should you wish to load a saved game after five minutes have expired, you will have to reboot the program.

THE END

To survive, you must find all five clones and disintegrate them in your ship's Fridgitorium. The last clone should give you the coordinates of the planet where Torka - the beautiful alien Ondoyante - is waiting. Once you go there and teleport her onto your ship (note that she does NOT stay in the Fridgitorium!), you've won. Now all you have to do is figure out how to get yourself out of the game.....


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> Captain Goodnight Dox <
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-- Playing the game --

Joystick Controls:

Note: You will need a 2 button joystick.

Note: On an APPLE IIc, the keyboard switch must be up for the game to function.

Joystick Button 0: To speed briefing. Also to fire all weapons

Joystick Button 1: To enter all of the vehicles while over a door or an entry. Also to start elevators when the joystick is pushed up or down.

Down: To kneel down

Up: To stand up

Right/Left: To run right or left and also to select firing direction for weapons.

Other Controls:

Esc: Freezes all action until another key is pressed.

Ctrl-S: Toggles the sound on/off.

Ctrl-R: Re-starts game.

Survival Skills:

The rule of thumb when dealing with most insects you may find on the Araan Desert is to bite them before they bite you.

Crimson Lunglurker: Identified by it's bright red scales. Catching a glimpse of one of these little beauties scuttling across the sands is enough to tempt any palate. Stir with just a pinch a garlic.

Stomach Slug: Pleasing grey in color and no bigger than your thumb. Can be found under medium sized rocks. Takes just a bit more effort to collect, but is well worth it in the flavor department. Served poached or hardtack and you'll have your companions begging for more.

Bug Verde: Brings a touch of spice to what may be considered a rather bland diet. Delicious when tasted. Caution, only the female is edible. She has one less band on her abdomen.

Brain Borer: If lightly coated with batter before frying it can be quite plesant.

Lip Leaper: High in protein and fiber. While barbecuing avoide fumes identical to P-7X nerve gas.

Navel Leech: The crunchy granola of the insect world. High in polyunsaturated riboflavin, and low in fat. Toxic coating removed by boiling

Mega Rodent: Also known as Torch. Excretes a smegma like odor. Highly toxic, can be found under any wet moldy rock. Or sometimes hanging in a tree.

F.O.E. MILITARY EQUIP. I.D.

RIPOV RIP-14 (COOT) HELICOPTER.

MAX. SPEED: 125 MPH (205 KM/H)
CRUISE SPEED: 85 MPH (140 KM/H)

KLEM K1-9 (WOMBAT) MEDIUM TRUCK.

MAX. SPEED: 65 MPH (107 KM/H)
CRUISE : SAME
RANGE : 250 MILES (413 KM)

KLEM K1-67c (SLOTH) SCOUT CAR.

MAX. SPEED: 65 MPH
CRUISE : SAME
RANGE : SAME AS WOMABT

KLEM 7-43 (HYENA) HEAVY TANK.

MAX SPEED : 6.5 MPH (10.7 KM/H)
CRUISE : SAME
RANGE : 25 MILES (41.3 KM)

KLEM R-457e/k (TOAD) KILLER ROBOT

MAX. SPEED: SAME AS HYENA
CRUISE : SAME
RANGE : SAME

SURVIVAL HINTS:

Your jet can withstand some, but not much, damage from anti-aircraft weapons. Avoid this fire.

Watch out for radar dishes. If not destroyed, they can trigger heat-seeking cruise missiles!

Keep moving! The more slowly you move, the more demonic the enemies DR. MAYBE can mobilize.

Use strategy. It may take several shots and some elaborate footwork to defeat your more devious enemies.

Use any and all equipment you find in your path. Your commando training will come in handy as you commandeer F.O.E. military equipment you find along the way.

And GOOD LUCK, Goodnight. The entire Free World is counting on you!!
CODE DE-SCRAMBLER

	1	2	3	4	5	6	7	8
BLUE	E	G	C	D	L	J	F	M
ORANGE	A	D	M	B	H	G	J	O
GREEN	I	D	E	C	A	B	H	O
PURPLE	F	M	H	G	A	I	J	D
WHITE	I	H	B	A	G	N	O	L
GRAY	C	D	A	F	N	B	H	J
RED	I	D	B	H	M	L	J	G
YELLOW	C	F	N	K	H	G	E	B

DEACTIVATION COMBINATION

A OFF OFF OFF ON
B OFF OFF ON OFF
C OFF OFF ON ON

D OFF ON OFF OFF
E OFF ON OFF ON
F OFF ON ON OFF
G OFF ON ON ON
H ON OFF OFF OFF
I ON OFF OFF ON
J ON OFF ON OFF
K ON OFF ON ON
L ON ON OFF OFF
M ON ON OFF ON
N ON ON ON OFF
O ON ON ON ON

Good Luck Captian.....

ADDITION FROM TC-----HOW TA CHEAT!
TRACK 9 SEC 2 BYTE DA--- FROM 04 TO 09
BYTE DF--- FROM 02 TO ?? (MISSING TEXT)

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-USAlliance-

Presents

Where in Europe is Carmen Sandiego?

Docs By: Codex Warrior

Quick Start

After loading up WECS, press any key to start the game.

o Sign in as prompted by the security scanner. When the Chief contacts you, make sure to note the thief's sex and your deadline for solving the case.

o Use up/down arrow, cursor keys, Spacebar or Joystick to highlight menu items. Use left/right arrow, cursor keys or joystick to cycle through options within menu items.

[INVESTIGATE]

o Select Investigate to uncover clues that let you track the suspect to his or her next destination.

o To decipher the clues, use the Rand McNally Concise atlas of Europe, the Crime Lab Database, the detective guide, and the on-screen descriptions of each city and country.

[GO TO AIRPORT]

Select Go To Airport to check the available connections to other cities and to catch a flight to the suspect's possible destination.

[USE NOTEBOOK]

Select Enter Notebook to record information from the Chief's periodic messages regarding the suspect's sex, hair and eye color, favorite type of movie and favorite type of book. This information will later be needed by the Crime Lab computer in order to get an arrest warrant.

[VISIT CRIME LAB]

o Select Enter Crime Notes when you want to enter information contained in the Notebook into the Crime Lab computer in order to get a warrant.

o Select Use Database to access a Database containing information about each country's flag colors, currency, and main languages. This information will help you decipher clues which involve these elements.

o Select Return to Scene when you're finished at the Crime Lab. Select Save Case if you want to take a break in your investigation and resume it at another time .

[TO WIN GAME]

You need to track the thief to his or her final destination AND have the correct arrest warrant issued by the crime lab computer. You must accomplish both tasks within your given deadline.

Special Keys

Ctrl-L Displays the names and ranks on the Detective Roster
Ctrl-D Lets you delete a name from the Detective Roster

Ctrl-R Ends the game and starts a new one
Ctrl-F Lets you view the Detective Hall of Fame
CTRL-S Sound On/Off
O-Apple Speeds up text at sign in

Playing the Game

[SIGNING IN]

You begin the game outside the office of the Acme Detective Agency. An electronic security device will detect your presence and ask you to sign in. Type your name when the flashing cursor appears and then press RETURN.

[YOUR ASSIGNMENT]

Once you've signed-in, expect a call from the chief about your assignment. You'll be told:

- o what treasure has been stolen
- o where the crime occurred
- o whether the criminal is male or female
- o what your deadline is for arresting the criminal

[OBJECT OF THE GAME]

The thief is heading for a hideout in one of 34 European countries. There are 16 possible suspects for the crime. To win the game and advance your career, you must accomplish two tasks before your deadline:

1. Track the criminal's movements across Europe to his or her final destination. You'll have to use the clues you find in each city to determine where the criminal is going next.
2. Identify the criminal and get a warrant for his or her arrest. You'll get clues to the criminal's identity in messages from the Chief that appear periodically on the screen.

Warrants are issued by the Crime Lab computer based on the information contained in the Note-book. Therefore, as you receive clues to the criminal's identity, be sure to log them in the Notebook.

* You must obtain a warrant for the guilty criminal before you catch up with him or her. Otherwise, the criminal will escape and you may want to reconsider your career as a detective.

Tools of the Trade

[THE MAIN MENU]

The main menu provides the following options to aid you in apprehending the criminal:

- o Investigate
- o Use Notebook
- o Visit Crime Lab
- o Go to Airport

Each of these menu options is outlined below:

-Investigate-

Investigate lets you uncover clues in the city you're currently visiting. You may find two kinds of clues: Destination Clues and Character Clues.

The Investigation Menu lists ways to get clues leading to the villain's next destination. You can choose to:

- o Question Witness

- o Search Scene
- o Call Tipster

The clues you uncover will give you information about the country where the criminal is headed next. If you need more information, you can make a different selection from the Investigate Menu.

-How to Decipher Clues-

You have several resources that can help you unravel the clues you find:

- o On-screen "Snapshot" illustrating a highlight of each city or country.
- o Rand McNally Concise Atlas of Europe with its maps, gazetteer, index, etc. included with the program (*Check your glove compartment for this one, folks.. If not, any atlas should work..*)
- o Crime Lab's Database which contains information about the flag colors, currency and main language of all the European countries.

-Use Notebook-

Messages from your chief will occasionally appear on the screen telling you some thing personal about the criminal you are seeking. These messages are referred to as Character Clues.

Use Notebook lets you keep a record of the character clues you have found. Your notebook lets you keep track of the suspect's sex, hair color, eye color, and favorite type of movie and book.

To record information in the Notebook, do the following:

1. Use the up and down arrow keys to highlight a characteristic.
2. Use the left and right arrow keys to cycle through all the possible choices for each characteristic until you reach the one you want.
3. If you don't know a characteristic, leave the space blank.

* The information contained in the notebook will be needed by the crime lab computer in order to issue a warrant, so keep your Notebook up-to-date.

Selecting Use Notebook will not cost you any playing time so use the Notebook as often as you like.

When you have finished entering all the information you know about a suspect, press RETURN or a Joystick button to Close Notebook. If you wish to close notebook without saving your changes, press ESCape.

-Go To Airport-

Go to Airport lets you get out of town when you think you know the criminals next destination. You can also go to the airport to check your connections and help narrow down your search.

After selecting Go to Airport, you're given two menu options:

- o Depart by Plane
- o Return to Town

A window will also appear listing all the city destinations that are currently available from your location. If you are just checking your connections, you'll want to select Return to Town to continue your investigation.

If you select depart by Plane, a map of Europe will appear with a small square marking your current location of the city whose name is highlighted in the destinations window.

By using up/down arrow keys, you may now highlight any of the available destinations and then select it by pressing RETURN or the lower numbered joystick button

-Visit Crime Lab-

When you want to obtain an arrest warrant for your suspect, you must visit the Crime Lab and enter your crime notes. The Crime Lab also has a special Database of information that can help you unravel the location of clues you encounter as you chase the criminal. Lastly, the Crime Lab has a special feature for saving your case to disk

After selecting Visit Crime Lab from the main menu, you will be given four options as outlined below:

Enter Crime Notes

Selecting Enter Crime Notes will automatically feed the crime lab computer all the information contained in the notebook. If the Notebook contains sufficient information about a suspect's identity, an arrest warrant will be issued for that suspect. otherwise, the computer may give you a list of possible culprits without being able to narrow the suspects down to one individual. You will then have to go back to chasing the suspect and supplying more information to your notebook.

Note: If you modify or add to your crime notes and then re-enter them into the crime lab computer, any existing warrant may be voided even if no new warrant is issued.

Use Database

Selecting use database allows you to access a special database of information regarding the countries of Europe, the colors of their flags, their currency and the primary language spoken there. In conjunction with your Rand McNally Concise Atlas of Europe (*Or whatever the hell you are using*), this database is a great resource for unravelling the Destination Clues you've discovered in your investigations.

For example, if you know the criminal is heading for a country where French is spoken and francs are spent, select Use Database to see if the Crime Lab Computer can identify the country you seek.

The database contains three search categories which are: Flag colors, Currencies, and Languages. Use the up/down arrow keys to highlight the desired category.

Use the left and right arrow keys to cycle through the choices contained in each category until you find the one you want.

Fill in as many categories as you can based on the clues you've discovered.

When you are finished, press RETURN or a joystick button. The Crime Lab computer will then search through its Database and try to identify the country that matches the search criteria.

The information you provided may not be sufficient to identify the destination country, but the computer may still be of help by narrowing down your choices. You may then use other resources to find the criminal's next stop.

Return to Scene

Selecting Return to Scene lets you leave the Crime Lab and go back to the city you left so that you can get on with the case.

Save Case

Selecting Save Case allows you to save the case-in-progress onto disk. After selecting Save Case, simply follow the on-screen prompts. You can have only one case saved under any particular name.

To continue a saved case, start WECS as usual. After you sign in, the computer will recognize that you have saved a case under your sign-in name and will ask you if you want to continue working on that case. Type Y and press RETURN.

If you do not want to continue your saved case, type N and press RETURN. *Your saved case will then be ERASED from the disk.

Tips from the Chief

Work quickly. Keep track of the time and date on your screen. Remember you have a deadline to meet. Don't waste time using the Crime Lab's computer too often, investigating for too long at any location or flying to a city unless you're sure it's the one to which the suspect has fled. Each wrong or unnecessary move will cost you precious hours.

You know you're on the right track when you see a suspicious person or occurrence on your screen.

Beware of deadly missiles - they mean you're closing in on your suspect's hideout. If you know you are ready to nab the criminal and you still don't have a warrant, you may want to skip town fast. Go back to the previous city and try to find some Character clues, get your warrant and then trail the villain again.

A clever detective sometimes goes to the airport to check the plane connections available. It takes an hour of your time, but you'll learn the villain's possible destination and perhaps narrow down your search.

[DECIPHERING CLUES]

The key to your success in tracking Carmen and her gang is to decipher the clues you find accurately and efficiently. Remember that you may be able to decipher clues with information from any one of four sources:

1. On-Screen descriptions of each city and country
2. Crime Lab Database
3. Detective Guide
4. Rand McNally concise Atlas of Europe (* Need I say it? *)

[INVESTIGATION HINTS]

Here are some hints you may want to follow as you investigate:

o Read the on-screen descriptions of each city and country to gain information that will help you in future cases. (Some energetic detectives may even want to take notes.)

o Check the Detective guide (* Comes with the game guys..*) for information on the "snapshot" shown for each location. You might even find the solution to a clue (* Well, I might..*).

o Remember that the Crime Lab Database contains information on each country's flag colors, main languages, and currency.

o You'll find it easier to locate the information you need for you investigation if you become familiar with your Rand McNally Concise Atlas of Europe (*!@#%&!*). The atlas has a number of sections in which to find information. Make sure you check:

- The special section on how to use the atlas
- The maps and any accompanying index, pay special attention to the varied types of maps
- The fact chart
- The maps and info contained in the gazetteer.

Clues have been taken from ALL these sections.

(* It also notes that other Atlases can be helpful...*)

-END-

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Police Dossiers

The following information has been gleaned from Interpol's files and our field agents. While brief, these descriptions may contain valuable clues to be used in tracking down and identifying members of the V.I.L.E. organization.

[Name: Carmen Sandiego]

Occupation: A former spy for the Intelligence Service of Monaco.

Miscellaneous: Carmen Sandiego (known to the inner circle as "Buffy") is reported to be an agent, double agent, triple agent, and quadruple agent for so many countries that even she has forgotten which one she is working for. The auburn-haired founder of the Villains' International Legion of Evil (V.I.L.E.) has recruited the most cunning and resourceful band of thieves in history. During her years as a Monacan secret agent, she generally posed as a tennis pro and always traveled to and from th matches in here 1939 Packard convertible. Carmen has a fondness for tacos and never appears in public without her famous ruby necklace "The Moon of Moldavia."

[Name: Merely LaRoc]

Occupation: Ms. LaRoc is a freelance aerobic dancer

Miscellaneous: For the past five years, this brunette beauty has been traveling around the world with a mobile health spa to conduct exercise classes for the extremely wealthy. Rumor has it that this is merely a cover for her criminal activities. When she isn't pilfering the treasures of the World, Merely can usually be found participating in the good life. A world class mountain climber, she has a mania for fancy jewelry and spicy foods. Her favorite mode of travel is in the back of a fancy limousine where she can relax and plot her next job.

[Name: Dazzle Annie Nonker]

Occupation: Proprietress of the toughest yogurt bar east of Suez.

Miscellaneous: Born sole heir to the fortune of the shoelace king, Baron Franz von Nonker, Annie was quickly disinherited when she ran off with a Croatia tennis pro. Cast adrift when she failed to make the cut for the Davis Cup mixed doubles, she was forced to live only by her wits and the paltry \$3,000,000 she had been able to save out of her allowance. With this modest windfall and her innate grit, the blond bombshell was able to open Chez Acidophilus. Frequented by the dregs of humanity, Chez Acidophilus has become the headquarters for V.I.L.E. Annie is rumored to have a tattoo and craving for shellfish. She is known to drive a Bugatti limousine.

[Name: Lady Agatha Wayland]

Occupation: A colorful character with a predilection for sensible shoes, Lady Agatha is a reader of mystery stories set in upper-class English drawing rooms.

Miscellaneous: Lady Agatha has no ability at solving murder cases but is very interested in amassing great wealth. A compulsive lawbreaker, she loves to exceed the speed limit in her Denny super-chauvinist speedster. Red tresses streaming in the open air, she drives through the countryside looking for great Mexican restaurants. An avid sportswoman, Lady Agatha has been known to pick up a few extra dollars on weekends trouncing unsuspecting locals at the local tennis courts. She is reported to have a diamond ring the size of a small grapefruit stolen from the Royal Treasury of Graustark.

[Name: Len "Red" Bulk]

Occupation: Ex-professional hockey player and compulsive gambler, Len was barred for life from playing when he was caught trying to bribe himself.

Miscellaneous: Bitter and unemployed, Bulk was forced to turn to crime in order to support his gambling habit. He swears he will quit just as soon as he "wins the big one." Because of an unfortunate habit of blocking too many shots with his head, Len will occasionally think he is a Big Horn sheep and begin climbing the nearest peak. Cannot fit into any car that has a top, loves seafood and tries to impress strangers by showing them the tattoo of a mermaid on the thumb of his right hand.

[Name: Scar Graynolt]

Occupation: Scar plays the role of a mild-mannered folk guitarist, while in reality, he is a complete plug-ugly.

Miscellaneous: Graynolt made a fortune selling reflective headbands to Scandinavian basketball teams to allow them to play outdoor games for the first time during the winter months. A super athlete, Scar plays killer croquet for money. One of his prize possessions is a five-carat pinky ring he won from Ihor Ihorovitch in a marathon match that lasted three days. Rarely seen in public, he rides around in a limousine with shaded windows with his trusted man-servant, a 6'8" sherpa, as his only companion. He is said to have red hair.

[Name: Nick Brunch]

Occupation: Hard-boiled ex-private eye, ear, nose and throat.

Miscellaneous: The only things that interest Nick are fast cars and faster women. He'll never turn down a caper that permits him to live in the fast lane. An avid mountain climber, Brunch was last seen roaring through an Alpine village on his Kamikaze-1250 motorcycle. He generally wears a soiled trenchcoat, snap-brimmed fedora and sports a Dick Tracy Crimefighter's ring on his left hand. A close friend of Scar Graynolt, they share a common interest in Mexican food. Brunch has black hair, brown eyes and a seedy mustache.

[Name: Fast Eddie B.]

Occupation: A world class croquet player, he always carries his custom-made set of mallets in the trunk of his convertible.

Miscellaneous: Gentleman thief and society cat burglar, Fast Eddie mixes easily with the jet set and can usually be found at one of PEOPLE Magazine's top 10 playgrounds for the rich. Impeccably groomed at all times, he once fought a duel with a waiter in his favorite Mexican restaurant who spilled a drop of hot sauce on his white linen suit. His most famous crime was the theft of a damask tablecloth. Posing as a waiter, Fast Eddie removed it from the table during a state dinner for the Ambassador without spilling a drop or breaking a plate. In fact, the theft wasn't even noticed until dessert was served. This raven-haired criminal mastermind always leaves a diamond stickpin at the scene of the crime as his trademark.

[Name: Ihor Ihorovitch]

Occupation: Pretender to the Czarist throne and a lot of other things, too, Ihorovitch has an amazing ability to disappear from sight for varying amounts of time.

Miscellaneous: He seems to have a great fascination for very large marsupials. A likeable brute, Ihorovitch provides an additional hand for the mob's nefarious activities. Blond and sporting a strange Ukrainian tattoo, he has been known to eat the contents of an entire lobster tank by himself. Ihorovitch has a color television set installed in his limousine so he doesn't have to miss the Saturday morning cartoon shows.

[Name: Katherine "Boom-Boom" Drib]

Occupation: Three-time winner of the Trans-Siberian Motorcycle race, Drib is the official hostess for V.I.L.E.

Miscellaneous: The brunette beauty - a one-time centerfold for Popular Mechanics magazine - is a fanatic about health and fitness. Although she has never actually attended a meeting, she is a charter member of Mery LaRoc's aerobic class. A gourmet cook specializing in seafood dishes, she is also fascinated with the concept of mountain climbing. She has a tattoo of an eagle on her left bicep.

Written by The Whip 5-1-85

** You're on Your Way **

- Signing In -
To get your assignment, you first need to sign in. Type in your name, and then press RETURN. If you make a mistake or run out of space, use the Delete key (or left arrow) to erase, then re-type. If you're new on the job, you need to indicate when asked (type Y for yes and press RETURN). Once you've signed in, you'll be given an assignment and send on the trail of the thief!

- Tools of the Trade -
The items on the Main Menu at the bottom right-hand corner of the screen help you track down and identify the villain.

- Controls -
To select an item, use either the keyboard or a joystick. Highlight the item you want by pressing the arrow keys or pushing the joystick up and down. Select the item by pressing RETURN or button #0. Press ESC or button #1 if you accidentally select the wrong item or if you want to choose another.

Select items from other menus in the program in the same way.

- Special Keys -
CONTROL-L lists your current rank at the Acme Detective Agency

CONTROL-D permits you to delete a detective's name from the Detective Roster

CONTROL-R ends current game and starts a new one

CONTROL-F permits you to view the Detective Hall of Fame

CONTROL-S turns sound off and on

CONTROL-Y flips y-axis on joystick

- Briefing -
The villain you're after is hiding out in a city in one of the 50 states or the District of Columbia (Washington, D.C.). He or she has left clues along the way, though. These clues point to the city itself or to the state where the city is located.

Carmen's gang has 16 members, including Carmen herself. Any one of them could be the villain, although Carmen is generally more elusive - and smarter - than the rest of the V.I.L.E. gang.

You begin at the bottom of the detective ranks, but as you prove yourself, promotions will come your way. Persevere, catch the crooks, and you'll climb your way through the ranks - 10 in all - to reach Master Detective status. Even then, you'll need your own quick thinking and hard-nosed investigative skills, plus the Crime Computer, the special included Map of the United States, Fodor's USA travel guide, and your own purloined copy of Carmen's secret scrapbook.

[Sidenote: The "special map" is just an ordinary map of the USA which has the] cities in this game printed within the states - just use any map [if you need it. The travel guide is 879 pages and can be bought [at a book store or else you can use an almanac or another travel [guide - the information is rarely needed if ever. The Scrapbook [is in the documentation file titled "SCRAPBOOK" -RL]

You have only a limited amount of time to solve each case before the villain gives you the slip. Watch the clock and note the deadline indicated by the Crime Computer at the beginning of each game.

- Hot on the Trail -
Your starting point is the city where the villain (who has just swiped a valuable state treasure) was last seen.

Refer to your official Map of the United States to check locations by city and

===== DOCUMENT carmen.usa =====

<p>WHERE IN THE USA IS CARMEN SANDIEGO?</p> <p>By: Ken Bull, Gene Portwood and Laureen Elliot</p> <p>MAIN DOCUMENTATION FILE</p>	<p>Transferrable : Ring Lord and Version by : The Talisman</p> <p>Special Thanx : The Hitman</p> <p>Supplied by : Professor Prom The Dark Hold The Shrink Mind Mechanic</p> <p>Documentation : Ring Lord</p> <p>A == TOP GUN == release 10-27-86</p>
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Case number: AD14-2236

Subject: Carmen Sandiego

Compiled by: Acme Detective Agency

Where in the U.S.A. is Carmen Sandiego?

And you were dreaming of palm trees and sunshine...

8 a.m., a miserable, stormy morning. After an hour-long commute in the pouring rain, you slosh into the Acme Detective Agency, grunt hello to your secretary, pour yourself a cup of scalding coffee and slump down at your desk. It's been a tough year. The only good thing about it is that you've earned a vacation and you're scheduled to leave at 5 p.m. today. You take a swig of coffee and grab a travel brochure from your desk. Visions of sandy beaches, swaying palms, and cool blue waters fill your head.

Suddenly, you're snapped back to reality by a newspaper slammed down on your desk. "Read it and weep," a voice growls. Matt Brannigan, a beefy-faced lunk and one of the agency's top men, is looking down at you with a twisted grin.

You scan the headlines and your heart skips a beat. You can't believe your eyes: Carmen Sandiego has escaped from the toughest prison in Europe!

"The Chief has cancelled all vacations and put everyone on 24-hour-a-day alert," your colleague says. "We've got it on good authority that Carmen's headed for the USA with the worst gang of thugs and criminals ever assembled. No one rests until she's behind bars again!"

As you slam dunk your now worthless travel brochure into the metal trash basket beside your desk, you can't help but wonder at Carmen's timing in re-establishing her Villain's International League of Evil (V.I.L.E.) in the USA. Why couldn't she have waited? Just a few hours more and it wouldn't have been your problem. Grimly, you gather your trench coat around you and head for the door.

"Maybe you'll get to see a bit of the country during this caper," your fellow detective offers as you head for the door. "Yeah," he chuckles, "just think of the whole thing as one big vacation - it'll make it easier."

** Ready for Duty **

- Getting Started -
Insert the WHERE IN THE USA IS CARMEN SANDIEGO? disk, label side up (Side A), into the disk drive and close the drive door. Turn on your computer and monitor. The program will load into memory and begin an animated introduction. After you've watched the introduction (or any time after the disk drive light goes off), and you're ready to start the game, press any key or joystick button. During the game you will be prompted to flip the disk when necessary. (Always make sure you wait until the red disk drive light is off.)

state so you'll know where you are and where you're going.

The upper-left portion of the screen always gives your present location, day of the week, and the time.

Be sure to read the descriptions of the city and state that appear on the screen. These contain valuable information that may be useful in solving later cases. Hint: Take the time to jot some of this information down. You'll be glad that you did!

Use the items on the Main Menu to help you track the villain down.

See Connections lists all possible destinations reached by connecting flights from your present location. Check these first to see where the villain might have gone - they change from game to game, so be sure to take a look even if you've been to the city in a previous game. When you've seen the connections, you can clear them from the screen by selecting Hide Connections or leave them on the screen if you prefer.

Depart by Plane lets you depart for the location of your choice once you've investigate and think you know where the villain has gone. An on-screen map of the United States shows your current location (black square) and the location of the connecting city that is currently highlighted (hollow circle). Once you select your destination, your travel route will be displayed.

Investigate lets you unearth clues so you can track the villain to his or her next destination. Clues are found in three locations, which change from city to city. Visit as many clue locations as you want, but remember that the more investigating you do, the more time you use. Use Fodor's USA travel guide to help unravel the clues you turn up.

Crime Computer helps you narrow down your list of suspects and get an arrest warrant for a specific villain. To use the Crime Computer:

Select Crime Computer from the Main Menu. Then select Use Computer from the new menu that appears. In the upper right-hand side of the screen, you'll see a list of characteristics. As you gather clues about the suspect, enter information in the Crime Computer in the following way: Highlight a characteristic - hobby, for example. Then press RETURN or joystick button #0 to cycle through the possible choices until you reach the one you want. If you don't know a characteristic, leave that space blank. When you've finished entering all the information you know about a suspect, select Compute. A list of all suspects who have the characteristics you've specified will be printed out.

When you've narrowed down the list to one suspect, the Crime Computer will issue an arrest warrant. Now you're ready to make an arrest as soon as you catch up with the villain. (If you need to change the warrant because new clues point to a different suspect, simply enter the correct characteristics in the Crime Computer and a new warrant will be issued.)

- Time Out -

Even super sleuths need a break. If you want time out, you can Save a case in progress, and then Continue the same case at a later time.

To save your case, select Crime Computer from the Main Menu, then select Save Case. Follow the on-screen prompts to save your case. (Note that once you have saved the case, you cannot continue to play until you restart the game and tell the computer that you want to continue your case.)

To Continue a saved case, simply start the game as usual. After you sign in, the computer will recognize that you have saved a case and will ask you if you want to continue the case at that time. Type Y (for yes) to continue and press RETURN. You will then be whisked to the city where you left off. If you do not want to continue your saved case, type N (for no) and press RETURN. Your saved case will be erased from the disk. Your rank and the total number of cases solved will remain unchanged. (Note: You can have only one saved case on the disk at a time.)

- Investigative Pointers -

- o You know you're on the right track when you see a suspicious person or occurrence on the screen. That's because the real villain stays in hiding and has a cmony check you out.
- o The closer you get to the villain the more dangerous your situation becomes. Beware of deadly missiles - they mean you're closing in on your suspect and things are getting hot!
- o Don't waste time using the Crime Computer too often or investigating for too long at each location. Use Carmen's secret Scrapbook to pin down the villain's identity and your Fodor's USA travel guide to reveal the villain's route - if you use your head you'll advance faster than fellow detectives who do nothing but play their hunches.
- o Be sure you have an arrest warrant by the time you catch up with the villain. If you don't have a warrant, you can't make an arrest and the thief will slip through your fingers. And make sure your warrant is for the correct suspect - otherwise you could be in hot water with the Chief for risking a charge of false arrest!
- o Every case you're assigned is different. When you begin a new assignment, you'll start a new city, look for a new stolen treasure, and follow a new suspect over a new route with new clues.
- o As you advance through the ranks, you'll get assigned to tougher cases, with more difficult clues to unravel and a longer trail to follow.
- o If you reach the top of the ranks and have earned all the Special Commendations you can before mandatory retirement, you can always get back in action by using an assumed name when you sign in. This is a smart move. After all, your real name may be on Carmen's hit list!

- Carmen's Scrapbook - Your Own Stolen Treasure -

Lucky for you, the Acme Detective Agency has managed to purloin Carmen's own secret Scrapbook. In it, Carmen has collected mementos and information about every member of her gang. You can use this information to identify the V.I.L.E. villain you're looking for in your current case. For example, if Carmen notes that one of her henchman's (or henchwoman's) favorite snacks is tacos, you'll know that the villain's food preference is Tex/Mex (a category in the Crime Computer). Clues about Carmen are found in the Scrapbook, too. But like Carmen herself, these clues are elusive. You'll have to use all your detecting skills as you sift through the Scrapbook trying to identify this arch-villain's interests, hobbies, etc.

- A Final Hint -

Don't hesitate to use other reference books you may have on hand. The biographical and geographical sections of a dictionary may be helpful, as well as an encyclopedia, a map, or an Almanac. Use whatever you can to help you unravel the clues, save time, catch the crooks, and earn those promotions!

Remember
We're counting
on you!
- The Chief!

Written by: Ring Lord 10/27/86
== TOP GUN ==

===== DOCUMENT carmen.usa2 =====

<p>WHERE IN THE USA IS CARMEN SANDIEGO?</p> <p>By: Ken Bull, Gene Portwood and Laureen Elliot</p> <p>SCRAPBOOK</p>	<p>Transferrable : Ring Lord and Version by : The Talisman</p> <p>Special Thanx : The Hitman</p> <p>Supplied by : Professor Prom The Dark Hold The Shrink Mind Mechanic</p> <p>Documentation : Ring Lord</p> <p>A == TOP GUN == release 10-27-86</p>
--	--

NOTE: Getting this cost us two of our best operatives! (Carmen hired both of them!!).

Watch your step

The Chief

Sven Galli: What a find! It's hard to believe we met when Sven was leaving a Stones concert and tried to steal MY purse. Now he's one of the vilest of the V.I.L.E.

Vital Statistics:
Height - 5'10"
Weight - 150 lbs
Hair - Red
Sign - Taurus
Hobby - Hockey

Pancho's Villa Nouvelle Tex-Mex cousine

Souvenir of our first tete-a-tete
(He read my fortune in the refried beans)

Gypsy Rose Lasagna: Here's Gypsy too busy reading palms to eat her favorite food, tacos, so I'm doing it for her. Yum!!

Met Gypsy at her combination tea room/used hub cap shop in East Plainsville. Walls were covered with her priceless collection of stolen rock and roll posters.

Taboo subject: Never mention that blondes have more fun

Favorite gem: Onyx (to match her hair)

76ers

<---- Gypsy sold hubcaps to everyone on her favorite team.

B.B.D. O'Brien: What a gal! Always willing to share her advertising knowledge with a co-worker. When I recruited her she was selling hot copies of Choplifter on a treet corner in San Rafael.

Special talents:

Plays accordian. Moonlight Sonata, her favorite piece. Great sandlot pitcher. Her dream is to explore Sinbad's cave.

Fisherman's Grotto #6 7/8" Restaurant
--

We had lunch here after B.B.D.'s first job for us. She confessed she hated her brown hair and was thinking of dyeing it peacock blue.

Sheriff Paul Drive: Here's Paul entertaining his fellow workers down at the big supply depot. They're sure thrilled.

Met the big Blond hunk on his way to a Crayfish Feed.

P H I L L I E S

A memento from Paul's Collection. His big dream is to see himself on one of these!

Good at truck driving. Can do wheelies with his forklift!

Name: "Sheriff" Paul Drive
Occupation: Drug-store cowboy (unemployed)
Favorite movie: Godzilla at the OK Corral
Last book read: The Joy of Changing Your Oil Filter

Ken Hartley Reed: Ken dining in style on fish sticks on the patio of his favorite restaurant, L'Olister Verde. I've been trying to convince him to put a streak in that moussy brown hair of his, but no luck so far.

Achievements:
1) Stole trophy from star forward after losing in a game of one-on-one.
2) Won fifth-grade spelling bee. Winning word: spelunking.

Talents:
1) Can play Beethoven's Fifth backward on his harmonica!

Titus Canby: We planned the Statue of Liberty heist between the first and second movements. Made Titus promise to wear a wig to hide his red hair.

Name: Titus Canby
Occupation: Lobsterman, safe cracker, thug
Favorite Movie: Plan 9 from Outer Space
Last book read: The Carlsbad Caverns Diet
Favorite drink: Clam juice
Favorite team: San Francisco 49'ers

Mylar Naugahydee: This was taken at the Street Merchant's Institute for Advanced Studies where Myler is on the faculty.

Real name: Mylar Naugahyde
Alias: Kard Shark
Alias: Phantom of the Opera

Favorite sayings:
Blonds have more fun.
Pass the grits.
Wanna bet?

New York

<--- Souvenir from a day at the ballpark with Mylar.

Brenda and Cobina Vanderbilt: Double trouble! Off to the big game and a day of fun, fun, fun for the dynamic duo.

How to tell them apart:
1. Brenda has an extra tooth.

- 2. Cobina stirs her coffee with a teaspoon; Brenda uses a tablespoon.
- 3. Brenda's hair color is Bleeding Heart #5; Cobina's is Fire Engine Gloss.

Special Talents:

- Lip reading
- Karate
- Cave crawling
- Dancing the tango
- Cooking terrific gumbo

NFC 1981 Playoff Game

I lost a bundle on this game, and didn't like the Dolly Parton concert that night either.

Karl La Fong: Mud peddler extraordinaire! Karl's 1,000th sale at Fragrant Pines Marina and Ski Lodge Estates. What a guy. (He looks much better since he dyed his hair black.)

Page from Kar's datebook. Picked this up from the floor of the Tacoteria. Need to warn Karl. Stuff like this could be used for blackmail.

- 8:00 Meet Carmen for breakfast at Casa Blanca for huevos rancheros
- 10:00 Palm reading at Madam Lasagna's
- 12:45 Get V.H. Pencil to change oil in car
- 7:00 Tape the Chicago Bears game!!
- 8:30 Wendy Pauper concert

Polly Esther Fabrique: Taken after the big game and not a brown hair out of place! Final Score: All Stars 4 Drag Nets 3

Oysters R' Us Restaurant

Souvenir of dinner at Polly's favorite restaurant. She sang "The Bell Song" between coffee and dessert. Got a standing ovation.

Hobbies:

- Needlepointing scened of famous disasters
- Playing old Caruso records
- Designing tarot cards

Heidi Gosikh: My favorite blonde. This was taken the day she went to the Waylon Jennings show. She was so excited.

Haven't tried this one yet.

From the Kitchen of Hiedi Gosikh Southern Fried Chicken Mysterioso 1) Steal one medium size chicken for each four guests... 2) Pluck (over)
--

Strengths: Genius with an oil can and wrench. No troubles with your getaway car when tuned by this lady.

Weaknesses: Don't plan a job when a hockey game's on the tube. Better yet, don't even call.

Venus H. Pencil: Taken on her last day on the job. Oh well, word processing's loss is crime's gain. She'll have to take out her aggressions on the sink now. (She's one terrific goalie).

Best used to distract a crowd. Also good playing goalie.

Bio:

- Former word proprocessor.
- Sang lead in "Barber of Seville"
- Co-authored "The Scarlett O'Hara Cookbook"
- Wrote article on why blondes have more fun

Lost to M.Naugahyde (Poker)	\$500	00
Bookstore Purchase	\$15	95
"Repairing your Borgward"		
Tires Chic Beauty Salon	\$35	00

Expenses from the Pencil's last caper. Have to talk to her about these!

Wendy Pauper: Half-time madness! Wendy and the lead guitarist from Reeking Sewage tear things up at the stadium.

Great addition to the team! Recruited her 8/15 from a club on the outskirts of Cleveland. Cooks great chicken creole.

She never misses a Miami Dolphins game! (The team even gave her own helmet.) Tood bad it'll cover her gorgeous red hair . . .

Lost again in the lottery! Next time we pull a job in Vegas, I'm going to show her the ropes.

Alexander Graham Edison: Alexander engaged in his (and my) favorite sport (basketball).

Second Stage's The opera - CARMEN

Souvenir of our first date. I listend to this while he fixed his carburetor. Too bad I don't like opera.

Notes: This blushing brown-haired beauty was a lineman laid off by the local phone company when I met him in a we-never-close fried chicken bar. He was planning to use his training to beacome a freelance gene splicer until I convinced him to sign up with V.I.L.E.

Benjamin Hana: The chef picks his "menu" for tomorrow with a little help from a "friend". (Just horsing around, of course.)

Jet black hair (just like mine!), impish grin, cute little ears, and cooks a terrific shrimp creole. So glad we met when we did.

Employment history:

- Martial arts instructor
- Goalie for Calgary Flames
- Backup guitar man at the Palomino Western Bar

Benjamin's Folly! (betting on horses)
The only good tips he's had lately are on asparagus, not horses.

[Note: The Scrapbook (original) contained pictures of various items which I]
[have done my best to give you an accurate representation of. (this)
[was impossible in the case of pictures of the suspects which aren't]
[really necessary anyways.) -RL]

Total typing time (approx.) for both files: 1 hour 15 minutes

Written 10/27/86 by Ring Lord

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DOCUMENT catsend.202

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CATSEND 202
WRITTEN BY THE WOMBAT & THE GONIF

-DOCUMENTATION BY THE GONIF-
DISTRIBUTED
BY:
THE SAFEHOUSE
[612]724-7066

CATSEND 202 IS A FILE TRANSFER PROGRAM WRITTEN FOR THE APPLE CAT MODEM. WHAT DISTINGUISHES IT FROM OTHER, SIMILAR PROGRAMS IS THAT IT OPERATES AT 1200 BAUD HALF-DUPLEX, COMMONLY KNOWN AS '202'. ALTHOUGH CATSEND WAS DESIGNED WITH EASE-OF-USE IN MIND, SOME DOCUMENTATION IS NECESSARY TO UNDERSTAND FULLY HOW TO USE IT.

WHEN YOU FIRST RUN CATSEND, YOU WILL BE PRESENTED WITH A MENU SIMILAR TO THE ONE BELOW:

CATSEND 202
WRITTEN BY THE WOMBAT & THE GONIF

-MAIN MENU-

[S]END FILES
[R]ECEIVE FILES
[C]ATALOG DISK
[F]ORMAT DISK
[T]OGGLE DRIVE -->1
[P]ICKUP HANDSET
[H]ANGUP HANDSET
[A]DD A FILE
[N]EW SLOT FOR CAT -->2
[Z]ERO ALL FILES
[V]IEW SELECTED FILES

I WILL NOW GO THROUGH EACH OPTION, EXPLAINING WHAT EACH DOES AND HOW TO USE IT PROPERLY.

[S]END FILES: WHEN SELECTED, THIS WILL PROMPT YOU TO 'PRESS A KEY TO CONTINUE...' IF YOU PRESS <ESC>, YOU WILL BE RETURNED TO THE MAIN MENU WITH ALL SELECTED FILES INTACT. OTHERWISE, THE SENDING PROCESS WILL BEGIN. IF NO FILES HAVE BEEN SELECTED, HOWEVER, YOU WILL BE NOTIFIED OF THIS AND WILL BE RETURNED TO THE MAIN MENU. AFTER THE FILE TRANSFER IS COMPLETE, CATSEND WILL SOUND A PAGER 3 TIMES ON BOTH THE SENDING AND RECEIVING SIDE TO ALERT BOTH PARTIES THAT IT IS DONE. THE CARRIER WILL TURN OFF AND THE HANDSET WILL GO OFF-HOOK TO PRESERVE THE LINE, AND YOU WILL BE RETURNED TO THE MAIN MENU.

[R]ECEIVE FILES: WHEN 'R' IS TYPED FROM THE MAIN MENU, YOU WILL BE PROMPTED TO 'PRESS A KEY TO CONTINUE...'. ONCE AGAIN, YOU MAY PRESS <ESC> TO ABORT AND RETURN TO THE MAIN MENU. OTHERWISE, CATSEND WILL GO INTO RECEIVE MODE, AND WILL WAIT UNTIL A HANDSHAKE IS RECEIVED. NEXT, CATSEND WILL RECEIVE THE FILE NAME, NUMBER OF BLOCKS, AND FINALLY THE PROGRAM ITSELF. AFTER ALL THE FILES HAVE BEEN RECEIVED, THE PAGER WILL SOUND, THE CARRIER WILL TURN OFF, THE HANDSET WILL PICK UP, AND YOU WILL BE RETURNED TO THE MAIN MENU JUST AS IN [S]END MODE.

[C]ATALOG DISK: THIS WILL CATALOG WHATEVER DRIVE IS CURRENTLY 'ON'. THE FIRST FEW FILES WILL BE DISPLAYED, THEN IT WILL WAIT FOR A KEYPRESS. PRESSING <RETURN> HERE WILL TERMINATE THE CATALOG, WHILE ANY

OTHER KEY WILL CONTINUE IT.

[F]ORMAT DISK: THIS WILL FORMAT THE DISK IN WHATEVER DRIVE IS CURRENTLY 'ON'. IT WILL FREE UP TRACKS 1-2, AND WILL INSTALL A 'THIS DISK HAS NO DOS' MESSAGE ON TRACK 0, SECTOR 0.

[T]OGGLE DRIVE: THIS DECIDES WHICH DRIVE IS 'ON', AND TOGGLES BETWEEN DRIVES ONE AND TWO. BE CERTAIN THAT YOU DO NOT TRY TO SELECT FILES FROM ONE DISK, AND THEN [T]OGGLE DRIVE AND CHOOSE FILES FROM THE OTHER DISK!!!

[P]ICKUP HANDSET: PICKS UP THE LINE AND ENABLES THE HANDSET FOR VOICE MODE. THE HANDSET WILL AUTOMATICALLY TURN OFF WHEN ENTERING EITHER [S] OR [R] MODES.

[H]ANGUP HANDSET: HANGS UP THE LINE AND TURNS OFF THE HANDSET COMPLETELY.

[A]DD A FILE: THIS IS WHERE YOU CHOOSE THE FILES YOU WISH TO TRANSFER. YOU WILL BE PROMPTED WITH 'FILE ->'. HERE, YOU HAVE SEVERAL OPTIONS. EITHER YOU CAN TYPE IN THE NAME OF THE FILE AND HIT RETURN, IN WHICH CASE IT WILL MAKE SURE THERE REALLY IS A FILE BY THAT NAME, OR YOU CAN PRESS <ESC> TO EXIT [A]DD MODE AND RETURN TO THE MAIN MENU, OR YOU CAN PRESS <RETURN>, WHICH WILL CATALOG THE DISK. AGAIN, <RETURN> TO TERMINATE THE CATALOG OR ANY OTHER KEY TO CONTINUE. AFTER YOU HAVE CHOSEN ALL THE FILES YOU WISH TO SEND, PRESS <ESC> TO GO BACK TO THE MAIN MENU. (YOU CAN GO BACK AND ADD MORE FILES ANYTIME PRIOR TO [S]ENDING THEM.)

[N]EW SLOT FOR CAT: YOU MAY ENTER A NUMBER FROM 1 TO 7.

[Z]ERO ALL FILES: THIS WILL CLEAR A BEEN ADDED SO FAR. THUS, IF YOU ADDED SOME FILES, AND THEN DECIDED THAT YOU WANTED TO SEND SOMETHING ELSE, YOU WOULD [Z]ERO THE FILES AND START OVER.

[V]IEW SELECTED FILES: THIS DISPLAYS THE FILES YOU HAVE CHOSEN ALREADY.

-- -- -- -- --

DOS ERRORS: IF AN ERROR OCCURRS WHILE A DOS COMMAND IS BEING EXECUTED, AN ALERT WILL SOUND AND THE DOS ERROR NUMBER WILL BE DISPLAYED. LOOK AT ANY DOS MANUAL TO FIND OUT WHAT ERROR THE NUMBER REPRESENTS.

-- -- -- -- --

DURING THE TRANSFER: WHILE SENDING OR RECEIVING FILES, YOU MAY LOOK AT EITHER THE [T]EXT OR [G]RAPHICS SCREEN. SIMPLY TYPE 'T' FOR TEXT OR 'G' FOR GRAPHICS, AND AFTER CATSEND HAS FINISHED SENDING/RECEIVING THE CURRENT BLOCK, IT WILL FLIP THE DISPLAY TO THE PROPER SCREEN. AFTER CATSEND READS/Writes ONE PASS, AND GOES ON TO THE NEXT, IT WILL FLIP TO THE TEXT SCREEN TO LET YOU SEE HOW IT'S DOING.

-- -- -- -- --

AND THAT'S IT! WE HOPE YOU ENJOY USING CATSEND 202, AND THAT YOU FIND IT USEFUL. IF YOU HAVE ANY IDEAS CONCERNING LATER REVISIONS OF CATSEND, PLEASE CONTACT EITHER THE WOMBAT OR THE GONIF VIA THE ADVENTURER'S TAVERN: (714) 538-3103. HAVE FUN!!

=====
DOCUMENT caverns.fritag
=====

-/-
CAVERNS OF FREITAG
-/-

THE CONTROLS FOR CAVERNS ARE AS FOLLOWS

ALL KEYS AROUND 'H' MOVE IN THE APPRO- PRIATE DIRECTION, 'Y'=UP, 'N'=-DOWN AND SO FORTH

HOLDING THE CTRL KEY AND HITTING A DIR. KEY ATTACKS IN THAT DIRECTION.

'SPACE BAR' TOGGLES WEAPONS THE ':' CENTERS YOUR CHARACTER ON THE SCREEN. THE 1,2,3 KEYS CHANGE DISPLAY 1=HIRES,2=TEXT,3=BIRDS EYE VIEW

'O' TURNS ON THE MESSAGE WINDOW. WHEN YOU ARE ON THE 'INN' THE P AND A KEYS BUY HIT POINTS AND ARROWS RESPECT- IVLY

'ESC' TURNS YOU INTO A BIRD FOR RETREAT THATS ABOUT IT JUST WATCH OUT FOR THE WIZARD OTHERWISE.....ZAPPO!!!!

the password file. Note that if you have the CPS card, you will not need to worry about setting the date (except for the bulletin date). These will be discussed more below.

MESSAGES -- This is the principal file to which your users will be reading and writing; thus, it is first on the disk in order to make disk access as fast as possible. Understanding the structure of Messages is very important to an understanding of WAPABBS. Messages is a random-access text file with a record length of 452 characters. The file is initialized with 138 "EMPTY " records. When a message is in use, it consists of up to 14 fields, each followed by a return:

- The userid of the sender (6 characters);
- The userid of the recipient (6 characters);
- The date of the message (13 characters in the form YYMMDD.HHMMSS, where YY=year, MM=month, DD=day, HH=hour, MM=minute, SS=second; this is the format for the date that must always be used in the STARTUP file)

- A summary of the message (20 characters); and
- The text of the message in up to 10 lines of up to 39 characters each. If the message is less than 10 lines, the last line of text is followed by a null line, i.e., a line with no characters prior to the return that ends the line.

- USERS -- This text file contains 40-character records with this information:
 - characters 1-4: The numeric portion of the userid, in 4-digit form. Thus user 1 is "0001"; user 2027 is "2027";
 - characters 5-8: The password;
 - characters 9-23: The user's name with last name first;
 - characters 24-33: The last date the user called in, in the form YYMMDD.HHX, where X is 1/10ths of an hour. This is the maximum precision of Applesoft;
 - characters 34-37: The number of times the user has signed on;
 - character 38: The letter "N". This character is available for manipulation; you may, for example, use this character to record whether or not someone has answered the Opinion question;
 - character 39: The "!" character. This is used to make a border on printouts of the file. It is also available for manipulation by your own revisions of WAPABBS; and
 - character 40: A carriage return.

Note that after the return that ends the last user record there must be another return to signify the end of the file. The text editor you use to add or change passwords should be able to show you the length of this file. It must always be 1 greater than a number evenly divisible by 40 (e.g., 41 or 3961) in order for WAPABBS to work. WAPABBS accesses this file as a random-access file in order to check the passwords of users when they sign on, but as a sequential text file when printing out a list of passwords in response to a several command.

USERS.OBJ -- This binary file allows the USERS file to contain non-sequential userid numbers. Each location contains 255 (\$FF) if the user is allowed on the system and 0 if the user is not allowed on the system. Thus where the USERS file begins with user numbers 0001, 0002, 0004, 0006 and 0008, USERS.OBJ would begin \$FF \$FF \$00 \$FF \$00 \$FF \$00 \$FF. USERS.OBJ is loaded into memory at \$8400 and is \$1000 (4096 decimal) bytes long; the first userid, 0001, is stored at \$8401 and thus WAPABBS can have userid numbers up to 4095. An Applesoft program on disk 2, BUILD USERS.OBJ, allows you to update this file after you change the USERS file.

BULLETIN -- This text file is your way of communicating to all users any new information about the system, yourself, your club, or anything else. Everyone who signs on will be asked whether they want to read the bulletin before proceeding further. The bulletin is a sequential text file, and -- as with virtually all such files used by WAPABBS -- the last line entered must be a null line in order for the program to work properly. To keep your users' interest, you should change the bulletin at least weekly.

BBS -- This sequential text file gives phone numbers and other information of other CBBS systems in your area. Asterisks have been added as a border for esthetic purposes. This file also ends with a null line.

MEETINGS -- This sequential text file gives the dates, times and places of meetings of potential interest to your users. As this file comes to you, it gives the meeting information for Washington Apple Pi. This file also ends with a null line.

CLUB STORE -- This sequential text file provides information about any quasi-commercial ventures you, your organization, or anybody else may have. If you don't have any such activity, you may want to use this file as a "Shopper's Guide" to products, services and stores in your area. This file also ends with a null line.

In drive 2 should be the disk with these files:

=====

DOCUMENT cbbs.sysop

=====

.cjl
SYSOP NOTES
.ljl

Congratulations! You are now about to become a Computer Bulletin Board System (CBBS) Operator. As System Operator (SYSOP), you will be responsible for maintaining a useful and informative service for your club, your organization, your friends, or the general public.

This program is called an Apple Bulletin Board System (ABBS), since it is a CBBS that runs on an Apple][. As to hardware, you will need:

An Apple][+ computer (or an Apple][with Applesoft on a ROMCARD or on a 16K Card);

Two standard Apple (or compatible) 5 1/4" disk drives running under DOS 3.3; A D.C. Hayes Micromodem II in slot 3 (you may move it to slot 2 after making certain changes in the program);

The two disks containing this file, the WAPABBS program and sample files ready for your own adaptation;

A viewing device such as a monitor, CRT, or TV set that will allow you to see what the ABBS is doing;

A text editor for the addition, deletion and maintenance of the text files that the ABBS uses. The DOS Tool Kit, sold by Apple Computer, is adequate for your needs; a word processing program that uses text files will probably also work. Many Apple users' groups have excellent text editors in their program libraries;

A Mountain Hardware CPS Multifunction Card in slot 4 (this is optional -- the ABBS will work without the clock card, but you must change the date manually);

A printer to print out listings and preserve a record of messages (this is optional also). In order for the printer to record what the ABBS is doing while in operation, you must have a printer that uses an Apple parallel interface card in slot 1 or is otherwise able to print out a character POKEd to \$C090; and

Additionally, you will want to give serious consideration to giving the ABBS its own private telephone line. No matter what times you tell your users that your system is up, they will call in at all hours of the day or night.

This is not a "turnkey" system. In order to run an ABBS effectively, you will need to know BASIC reasonably well. It would not hurt to know some assembly language. You should either know or expect to acquire by experience some knowledge of modems. You should have the Apple and Micromodem II manuals; try also to obtain a copy of manuals for the Novation Apple Cat II and the D.C. Hayes Smartmodem because people with these popular modems will probably ask you how to use the ABBS with them.

This program is copyright (1982) by Thomas S. Warrick. Sale of these programs for any price more than a nominal amount in excess of the value of the media is prohibited without express permission of the copyright holders. (In other words, you can't sell a copy of anything on these disks for a profit.)

THE FILES ON THESE DISKS:

The files on these disks are designed to run in specific disk drives. In drive 1 should be the disk with these files:

WAPABBS -- This is the ABBS program. Disk 1 will run this program on boot-up so that if your system suffers a temporary power outage the system will restart itself. This program will be described in great detail below.

ABBS1.OBJ0 -- This binary file contains the input/output routines and the "&" routines, which handle the message summary strings. To run the ABBS with your Micromodem in slot 2, change one of the first line numbers in the program's source code (on disk 2) and re-assemble it. (You will also have to change line 10 of WAPABBS to set SL = 2.)

ABBS3.OBJ0 -- This binary file loads several machine language routines into page 3. Most important is the line input routine, which begins at 768 (\$300). The source file, ABBS3, is on disk 2.

STARTUP -- This text file contains 5 entries: today's date (in a special form discussed below in connection with field 3 of the MESSAGES file), the date of the last bulletin, the password for uploading files to the ABBS, the userid (pronounced YOU-zer-eye-dee, this string is used to identify a person, such as WAP001 or WP2027) for a person other than the SYSOP who is allowed to change the date, and the userid for a person other than the SYSOP who is allowed to change the date and to look at

INSTRUCTIONS -- This sequential text file gives instructions in the use of the ABBS to your new users. You should read these carefully. This file also ends with a null line. Insert your name in the file where appropriate.

BUILD USERS.OBJ -- This Applesoft program should be run every time you add or delete an entry to or from the USERS file. It looks at each record in the file and builds the USERS.OBJ file according to whether a particular userid is listed in the USERS file. BUILD USERS.OBJ then runs WAPABBS to restart the system.

TO SYSOP -- This sequential text file stores messages left to you by up to 9 people who do not have passwords. The first entry in the file is a one-digit number of the number of messages in the file. The text of the messages follows. This file may be retrieved only by you.

UPLOAD1 -- This sequential text file gives the instructions for uploading and downloading files from the ABBS. "Uploading" means sending files from other computers to the ABBS; "downloading" means sending files from the ABBS to other computers.

UPLOAD2 -- This sequential text file contains a list of files available for uploading. A null line terminates the listing; this is necessary so that uploads will adjust this file properly.

OPINION -- This sequential text file has as its first record a question to which everyone can respond. Answers are stored right after the question. Only you can see the answers, however. No check is made to see whether someone has answered more than once.

REMEMBER II -- This text file is available for downloading. You should EXEC it with MON I in effect, and BSAVE it as it says. This is, if I may say, an excellent terminal program for the Micromodem II. Non-commercial distribution is permitted, and this program may not be sold without express permission of Washington Apple Pi.

REM II INSTRUCTIONS -- This text file contains the instructions for REMEMBER II. You should EXEC it in the same manner to create a file called REM II.OBJ1, which REMEMBER II will access when you request instructions in its use.

ABBS1 and ABBS3 are source code for the binary files discussed above.

AN ANALYSIS OF THE PROGRAMS:

I. THE INPUT/OUTPUT ROUTINES

ABBS1.OBJ0 handles I/O for WAPABBS. The I/O routines are activated by a "CALL 37888" in line 32 of WAPABBS. This routine changes the CSW/KSW vectors (\$36-\$39) to the ABBS's I/O routines, sets the "&" vector (\$3F5-\$3F7), and jumps to the DOS routine that reconnects DOS's I/O hooks.

The Output routine, which begins at \$9420, first does a test to see if the character being output is lowercase. If so, the character is EOR'ed against LOCSE. If lowercase-to-uppercase conversion is on, LOCSE is set to \$20; if off, it is \$00. Following this, the accumulator (hereafter referred to as "A") and the X and Y registers are saved on the stack.

Next, the keyboard is checked for an interrupt character such as ctrl-C. Since only the SYSOP can enter a key from the ABBS's Apple, this is given priority. If a key was not pressed, the Receiver Register Full bit is checked to see if an interrupt character has arrived through the modem. If not, the character in the accumulator is sent out through the modem, the A, X, and Y registers are restored, and the character is printed on the ABBS's computer's monitor in uppercase form.

If a character was entered at the keyboard or from the modem while output was in process, several tests are made. If the character was a ctrl-S, the program waits for another character to be received or entered before resuming output. Next, CKMASK is checked to see if a ctrl-C or ctrl-K is allowed. If either is allowed (i.e., if CKMASK = 0) and if the character received is indeed a ctrl-C or ctrl-K, the program clears the stack and jumps to Applesoft line 2000. If the character received was neither a ctrl-C nor a ctrl-K, it is ignored and the character is sent out anyway.

The input routine, which begins at \$9488, first saves the X register, which is the offset from \$200 (the start of the input buffer), into CLL, "Current Line Length." X is also saved on the stack and tested against LINEMAX. This prevents the user from entering a line longer than WAPABBS is expecting. If the line is too long, the user is sent a bell (ctrl-G).

After saving Y on the stack, WAPABBS checks ACTIVE (\$E3). If ACTIVE >= 128, the ABBS hangs up the phone, clears the stack, and jumps to Applesoft line 1000. Next, the timer is reset to 0 unless WAPABBS is awaiting a call (ACTIVE=0). The timer is discussed in detail below.

If the ABBS is awaiting a call, the standard Micromodem input routine is used. This routine returns only when a call is answered. If carrier is detected -- which

would not be the case if a human had dialled the ABBS by mistake -- ACTIVE is set to 2, the X and Y registers are restored, and the input routine is concluded. If carrier is not detected, ACTIVE is unchanged, and the next request for input will continue to await a call.

The next sequence of code hangs up the phone, using the Micromodem routine at \$CAB5. ACTIVE is reset to 0, LOCSE is set to \$20 so that lowercase characters will be translated to uppercase for the next caller, the stack is cleared, and control falls into the GOTO routine.

The GOTO routine, at \$94D0, immediately outputs a return to clear any active input lines and outputs a ctrl-D followed by a return to terminate any active DOS commands. The line number passed to GOTO in the A,Y registers is used to set Applesoft's TXTPTR vector (\$B8-\$B9), the stack is cleared, and execution of the appropriate Applesoft line number begins.

The HANG routine, at \$94FB, forces the ABBS's Apple to freeze up if program execution terminates for any reason. This prevents anyone from getting "inside" your computer. You will see a flashing "\$33" if this routine has been triggered. Ctrl-C will return you to BASIC.

The regular input routine resumes at \$951B. The timer is incremented by one. This timer will automatically hang up the phone if no one has entered a character for 7 minutes, 8 seconds. This prevents someone from tying up the ABBS by leaving their computer connected inadvertently.

If bit 6 of ACTIVE is set, the ABBS will ignore the modem. This is so that when you want to use the ABBS yourself, WAPABBS will not answer the phone. Thus if ACTIVE=64, no modem input is recognized.

If modem input is allowed, the modem is checked to see if the user's modem's carrier tone has been lost. If it has, WAPABBS hangs up the phone. If not, the modem is polled for data. If a character has arrived, the most significant bit is set and processing begins. If no data has arrived from the modem, the keyboard is checked. If a ctrl-A has been pressed by the SYSOP, WAPABBS responds:

MM II:

You may now enter these characters with these results:

```
ctrl-Z   Hangs up on the user
ctrl-B   Begins Chat mode by doing a jump to 4300
ctrl-I   Flashes an "I" on the screen, meaning that the SYSOP is now "in"
ctrl-O   Flashes an "O" on the screen, meaning that the SYSOP is now "out"
ctrl-R   Sends a ctrl-R out over the modem
ctrl-T   Sends a ctrl-T out over the modem
ctrl-U (right-arrow) Prints the userid of the current user (or the most recent user if no one is on the ABBS at the moment)
Otherwise, the character is ignored and input resumes. Note that anything sent by the user during the interval between the ctrl-A and the next character is neither received nor echoed.
```

If a character has been received, the ABBS's screen is set to non-flashing, which is Apple convention to let you know that a character has been received.

If a rubout has been received (ASCII \$7F), the user is sent a bell and the character is ignored. If carrier has been lost, WAPABBS hangs up the phone. If a parity error, receiver overrun error, or framing error is detected, the character is ignored. The user will notice that his character was not echoed.

At this point, FLAGS is checked to ensure that DISPO, TRAN and KBDE are always set. (See the Micromodem manual.) Unpleasant results would ensue if one of these bits was cleared by static electricity or a cosmic ray.

If the character is lowercase and lowercase is not allowed by the ABBS, it is converted to uppercase. The most significant bit of a lowercase character must be cleared in order to fool the Apple's System Monitor.

Finally, the character that was received is checked to see if it is a control character. If not, LINEMAX is checked, and if the character would make the line too long, the character is ignored with a beep. If line length is acceptable, the X and Y registers are restored and the character is loaded into the accumulator, printed out through \$C010, and the input routine is concluded.

If the character is a control character, special handling may be required. A carriage return is treated normally. A backspace is ignored with a beep if you backspace before you have entered anything that could be backspaced-over. A backspace is sent out over the modem as a backspace, a blank space, and another backspace. This erases the character from the user's screen, but not from the screen of the ABBS.

A ctrl-U (the right-arrow) picks up the current character from the ABBS's screen and treats that as the input character. This allows users to retrieve previously-erased characters.

The ABBS next checks to see if a ctrl-C or a ctrl-K is permitted. If so, and if the character is a ctrl-C or a ctrl-K, it is treated in the same manner as ctrl-C or ctrl-K were by the output routine.

A linefeed (ctrl-J) turns on LFI (see the Micromodem manual) which will send linefeeds after each carriage return. This affects modem output, not screen output.

A ctrl-X acts exactly as ctrl-X does on regular Apple input: it cancels the input line and asks for another one. X and CLL are returned to the left margin, i.e., zero.

Ctrl-L toggles LOCSE, which allows lowercase input. Ctrl-L has the function of a shift-lock key.

The short routines that follow handle the ignore-this-character routine and the cursor.

The next group of routines handle the ampersand ("&"). These routines manipulate the message summary strings, which begin at \$6B00. These strings would require more than 1K of overhead if handled as traditional Applesoft strings.

1. Assign a string to the message summary array:

```
& A J,K,A$
```

where A means "assign", J is the message number, K is which part of the message summary the string is to be stored (0=the user the message is from, 1=the user the message is to, 2=the date, and 3=the summary of the text of the message), and A\$ is the string to move into the message summary array.

2. Print a string:

```
& P J,K
```

where P means "print", and J and K have the same meaning as above.

3. Assign one of the elements of the array to B\$:

```
& B J,K
```

where B means "LET B\$ = ", and J and K have the same meaning as in string assignment. Note that only the variable B\$ can be used in this manner. Furthermore, B\$ must already have been set equal to something by an earlier program line or direct command such as: B\$ = "HELLO"

4. Test an element of the message summary array:

```
& T J,K,A$,L
```

where T means "test", J and K have their usual meaning, A\$ refers to the string being tested against the message summary item, and L is the variable used to store the result. The result will be:

```
1 if message summary item > A$
0 if message summary item = A$
-1 if message summary item < A$
```

II. THE PAGE 3 ROUTINES

ABBS3.OBJ0 has three routines. The first, called INLIN, is a revision of the well-known "Input Anything" routine. This modification, however, uses this syntax:

```
CALL INLIN [,X]
```

where INLIN=768 and X is the maximum allowable line length (LINEMAX). If X is not specified, the previous maximum line length is used. X must be between 0 and 255; note that if X>248, both you and the user will hear beeps after the entry of the 249th through 255th character. In order for INLIN to work, the first variable in the main Applesoft program must be a character string; WAPABBS uses A\$. The routine accepts commas, colons, and quotation marks; only a return will terminate input. The routine ends by setting A\$ equal to what was just entered, but A\$ is still in the input buffer and will be written over by the next input request or by the next DOS command. To save the string, you must use the command:

```
A$ = MID$(A$,1)
```

Note that a simple assignment statement such as B\$ = A\$ will not work.

The next routine does an index function:

```
CALL 804,A$,B$,J
```

This looks for the first character of A\$ in the string B\$, and returns with J equal to the relative position of the first occurrence of the character. So if A\$="HELLO" and B\$="ABCDEFGHIGHHH", J would become 8. If "H" did not occur in B\$, J would be set to 0.

The third routine looks up the userid number and calculates the record number in the USERS sequential text file. Its syntax is:

```
CALL 892,J
```

where J is the userid number. J is returned as the record number. For example, if user WAP538 calls in, J would be set by a WAPABBS routine to 538. This routine would go through the USERS.OBJ file in memory and would calculate how many userid numbers between 1 and 538 were "active." The result would be the record number of user 538's

password entry in the USERS file. If user 538 were not on the system, J would become 0. Note that this routine is used in the signon process and in the W and Y commands.

III. VARIABLES USED IN WAPABBS

A\$ must be the first variable used in the program in order for the machine language routine at \$300 to work. A\$ is the workhorse string variable; all string input passes through A\$. Note that if A\$ has been set by the routine at \$300, for so long as A\$ is not assigned to another variable, A\$ will not take up regular memory space and will not create "garbage."

ACTIVE is a flag used to tell the I/O routines whether the SYSOP, a user, or no one is currently using the ABBS. See above for a further description of the values ACTIVE can have.

AC\$ [Allowable Commands] is a list of the letters of allowable commands. CALL 804 uses this to compute the index value of the response to the "COMMAND?" prompt for use by the ON J GOTO in line 2011. The CALL 804 routine requires that AC\$ be a variable.

AL\$ is "ALL ", and is used by the message handling routines to prevent errors that would occur if a user entered "ALL", which is only 3 characters long, instead of the 6-character response that the ABBS expected.

B\$ is the secondary string variable. It is used by the "&" message summary routines and for other general purposes.

BD\$ [Bulletin Date] is a 4-character string that tells users when the bulletin was most recently updated.

B(6) is an array used by the sorting routine that organizes the messages into date order.

C80 is 1 if the user has selected 80-column mode with the "+" command, 0 otherwise.

CH [CHat] is 1 if you have indicated your availability for a chat, 0 otherwise. See the description of the ABBS1 routines and program lines 1010 and 1020.

CK [CKmask] is 0 if the user is permitted to interrupt program execution and return to the "COMMAND?" prompt; 1 means interruption is not permitted.

CM\$ is a comma (","). This must be a variable so that the CALL 804 routine can tell whether what should have been a file name has a comma.

CRDLY is the delay (in 0.1 seconds) sent after each carriage return if the user has specified linefeed insertion. This is the standard Micromodem delay. Note that setting this to 0 is equivalent to specifying a delay of 2.56 seconds.

D\$ is ctrl-D.

D1\$ [Date1] is "> " and is used to create a date value higher than any valid date. In this way, WAPABBS will sort the messages in proper date order.

DA\$ [DATE] is the current date as specified in the STARTUP file or by the clock.

DA(MS) [DATE order; see below for meaning of MS] is used to store the messages in date order. DA(1) is equal to the message number of the oldest message, DA(2) is the number of the second oldest, etc.

DR [DRive] is a location within DOS 3.3 that, when poked with 1 or 2, will access that disk drive for the next DOS command without requiring "D1" or "D2".

E\$ contains "E" and is used by CALL 804 to check that a number entered was not in exponential notation.

EM\$ [Empty] contains "EMPTY ", and is used to erase the "From" value in message summaries and on disk.

ER [ERror] is used to store error codes. Certain errors are ignored, some are processed, and some stop program execution. See the description of the lines of WAPABBS beginning with 40000.

F [File number] is used to store the number of the file being accessed.

FC\$ contains ctrl-D + "CLOSE". When printed, this will close all disk files.

FG [FlaGging messages] is 1 if, when reviewing message summaries, the user has chosen to flag those messages he wishes to read in full. It is 0 if the user has chosen not to be asked whether he will read the full text of certain messages.

FG(MS) [FlaGged messages; see below for MS] contains a 1 in an element if that message has been flagged for a reading of its complete text, and a 0 if the message has not been flagged.

FLAGS is the location of the Micromodem's FLAGS byte. See the Micromodem manual for complete details.

FO\$ contains ctrl-D + "OPEN".

FP\$ contains ctrl-D + "POSITION".

FR\$ contains ctrl-D + "READ".

FW\$ contains ctrl-D + "WRITE".

F\$(12) contains the 12 file names used by WAPABBS.

INLIN is 768. This is the address of the line input routine beginning at \$300.

J is the workhorse numeric variable. It is often the message number being printed or processed or an index in a FOR-NEXT loop.

JJ is a secondary general-purpose numeric variable.

K is the second most-commonly used numeric variable. It is often a line counter, used to make sure that message lengths are no more than 10 lines long.

KK is another secondary general-purpose numeric variable.

KU [Knowledgeable User] is 1 if the user claims to be familiar with the operations of the ABBS, 0 otherwise. If KU = 1, many prompts are shortened or eliminated.

L [Logical variable] is usually used as the result of a logical test of a message summary string using the &T function. It is usually -1, 0, or +1.

LC [Last Call] holds the date and time (to the nearest 0.1 hour) that the user last called in to the ABBS.

MC [Message Count] is the number of messages currently in use. Given the way DA(MS) works, DA(MC) is the message number of the most-recently entered message and DA(MC+1) is the message number of the most recently-deleted message and will become the message number assigned to the next-entered message. Think about this for a while.

MI\$ is ctrl-D + "MON I". All files are printed out with MON I in effect because this is fast and causes no unnecessary interruptions between lines.

MO(12) contains the number of days in each month. Change this during leap years!

MS is the total number of messages that the system will allow. The two constraints to increasing this are disk space and space in the message summary area. Many arrays are dimensioned by MS.

M\$(13) is used to enter and edit messages. M\$(0) has the userid of the sender of the message, M\$(1) has the userid of the recipient, M\$(2) has the date the message was entered, M\$(3) has the message summary, and M\$(4)-M\$(13) store the lines of the text of the message.

NM\$ is ctrl-D + "NOMON C,I,O". See MI\$ for an explanation of why this is necessary.

R [Record number] is used by the random-access file routines to select the message number to be read or written.

S1\$ [Sysopl] has the SYSOP's userid in 4-digit numeric form. If the SYSOP's number were WAP001, for example, S1\$ should be set to "0001". This is necessary to keep the "Y" routine from printing the SYSOP's password.

SL [SLot] contains the Micromodem's slot number.

SO [SignOns] contains the number of users who have successfully signed on. If someone signs on more than once, they are counted more than once.

SY\$ [SYSOP] contains the userid of the SYSOP. Observe when going through the program listing that the SYSOP can do many things forbidden to others.

T1\$ [T user 1] is the userid of a person who is able to change the date if you are unable to do so.

T2\$ [T user 2] is the userid of the person who can change the date and print the password file. If you have no one to whom you want to allow access to the date or password file, set these to your own userid to prevent anyone from having this much access.

U\$ [Userid] is the userid of the user currently on the ABBS. In case you have not guessed, a userid is a 6-character string with a 2 or 3 letter prefix and a numeric suffix in the range 1-4095.

UL\$ [UpLoad] contains the letters of the four commands allowed during uploads.

UP\$ [UPload] is the password necessary to begin uploading a file into the ABBS.

Z is a general-purpose numeric variable.

ble.

=====
DOCUMENT cc
=====

5 1 0 8
3 4 0 2 4 1 6
1 4 3 Docs for 6 1 6
6 1 4 3 THE 2 9 7
/ 1 ! 3 ! ! 0 ! 1! 3 9
! 8 ! ! ! 2 ! ! ! 7
2 ! 6 ! ! ! 4 ! ! 0 8
2 \ 8 \ \ \ 1! \ \ \ ! \ \ \
! ! ! ! ! \ -- \ ! ! ! ! \ \ \
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
9 7 3 1
2 7 written by AUTOMAN 9 0
8 4 7 0 1 4
3 2 7 0 7

The Code Crusher is very similar to the Prefix Prowler in operation. If you haven't read the doc file on the Prowler, press [ESC] and do it now.

The wad of boring configuration questions is basically the same as in the Prowler, with the addition of "NUMBER OF DIGITS IN CODE", "STARTING CODE", "ENDING CODE", and "ENTER A NUMBER KNOWN TO EMIT A CARRIER". The first 3 are just...just...just so incredibly obvious that they should be on street signs. The final question requests a test number to call to check a code's validity. Enter a number (including area code) of a BBS or other computer system which is seldom busy.

Notice that there is no Random Dialing option on the Code Crusher. It was omitted for various dull reasons.

The runtime commands are the same as those in the Prowler, but here they are again anyway, since I happen to have them in the word processor.

RUNTIME COMMANDS:

Anywhere during dialing at the ? prompt you can enter one of the following commands, followed by [RETURN]. Notice that they must be entered ALONE after the ? input prompt.

- N: Skip to the next code.
R: Redial current code (useful if your modem lacks automatic busy signal redialing)
Q: Quit and save datafile (if one is used)
G: Pop up Graphics Page 2. Useful if mommy walks in to see if you are learning anything on your expensive toy.
T: Text screen (use to get back to the text display after the 'G' command)
1: Signal the Crusher that the current code has worked and flag it as a successful connect.

Keep your nose peeled for phigs.

Phreak out, phreak out and touch someone.
automatically,
AUTOMAN
-|----- ~~~~~

=====
DOCUMENT certif.maker1
=====

%-()-%-()-%-()-%-()-%-()-%-
%
% CERTIFICATE %
%
% MAKER %
%
% DOX %
%
%-()-%-()-%-()-%-()-%-()-%-()-%-()-%-()-%-()-%-()-%-()-%-
%
% BY TEAM XEROX %
%
%-()-%-()-%-()-%-()-%-()-%-()-%-()-%-()-%-()-%-()-%-()-%-
THANKS SIMITAR!

INTRODUCTION

Certificate Maker provides more than 200 professionally designed, partially-completed certificates, called templates for you to use in making certificates for any occasion. Some templates are intended for specific occasions such as academic achievement, sporting triumphs and so on; these include a title and appropriate artwork. Other templates are multi-purpose; they haveno artwork and only a partial title like: CERTIFICATE OF....

To make a certificate, all you have to do is select the template you want, (a complete list of the template numbers and what they contain will be found later on in these dox) choose a border and type style, and fill in the blanks with the recipient's name and achievement.

For those occasions when you want to present personalized certificates to several peopl, Certificate Maker has a feature called the *NAME* WILDCARD that lets you insert names into otherwise identical certificates.

The information you enter is added to a template when you print the certificate. The templates themselves remain intact and can be used over and over.

THE ELEMENTS OF A CERTIFICATE

Basically there are 4 parts to a certificate:

- > TITLE: Some templates include a complete title such as MATHEMATICS AWARD or MOST VALUABLE MEMBER, while other templates provide a partial title like CERTIFICATE OF...., or a completely blank title area.
> GRAPHICS: Many templates include an illustration to spice up the certificate and add the professional, or humorous, touch.
> BORDER: There are 24 designs to choose from. Samples of each border appear on a special Border menu in the program.
> TEXT: Every template provides space where you can type in specific information about an award. Most templates also include a line for the

date and your signature. Certificate Maker has five font styles and two font sizes from which you may choose.

Entering the special code *NAME* in your text instructs CM to print the same certificate several times, with a different name on each copy.

A separate procedure allows you to create "name" files containing the names of the people in your office, classroom, or organization. Just before you print a certificate that has the *NAME* wildcard in it, the program asks you to choose the names you want to use.

USING THE KEYBOARD

The following table shows the keys used in Certificate Maker.

Function	Key	Description
[return]		Use [return] to select an item from a menu or a list of options.
[esc]		Use [esc] to cancel your work on one screen and return to the previous screen. When entering text, use [esc] to delete the text on the current line and move the cursor back to the previous line.
[control-R]		Use [control-R] (hold down [control] and press R simultaneously) at any time to cancel your work and return to the Main Menu. From there, you can start over or exit from Certificate Maker.
---><--- / \ \		Apple IIe/c: Use the up and down arrow keys to move from one item to another in a menu or a list of options. Apple II+: Use for up and for down.
[backarrow]		Use the backarrow or delete key to erase
[delete]		characters to the left of the cursor.

SETTING UP AND RUNNING C.M.

BEFORE YOU START:

If you plan to use the *NAME* wildcard feature, initialize a floppy disk for *NAME* file storage. Use ProDOS to initialize your disk.

NAME files must be stored on a separate floppy disk. They cannot be kept on the Certificate Maker Master Program disk or the Certificate Catalog disks. A single floppy disk can hold all your *NAME* files.

TO START CERTIFICATE MAKER:

Insert the Master Program disk in drive 1 and turn on your computer. If you have two disk drives, insert the Certificate Catalog disk in drive 2.

TO EXIT FROM CERTIFICATE MAKER:

1. Return to the Main Menu by pressing [Ctrl-R].
2. Select the Exit Program option (if you want to run another software

application), or turn off your computer.

HOW TO MAKE A CERTIFICATE:

Listed below are the 12 steps necessary for making a certificate. Each step is described in detail after this list.

1. Select MAKE CERTIFICATE from the Main Menu
2. Enter the template number.
3. Select the border of your choice.
4. If the certificate is blank, then select the Title Font Style. (If the certificate is not blank, but is partial, then it will skip this step)
5. If the certificate is partial, then enter the Title Text.
6. Select the Body Font Style.
7. Enter the Body Text.
8. Enter the Date Line.
9. Enter the Signature Line.
10. Select *NAME* file to use. (This step is taken only if you used a wildcard *NAME* in step #7)
11. Select names to print from the *NAME* file you selected in step #10.
12. PRINT MENU - Print the certificate.

MAIN MENU

Select MAKE CERTIFICATE if you want to create a certificate.

Select *NAME* FILE if you want to create or edit a list of names. A *NAME* file list can be merged into a certificate to produce several personalized copies of the same certificate. The program goes to Screen A, Select *NAME* file option (described in more detail later).

NOTE: This option is used to add or delete names from a *NAME* file, not to select the names to be printed on any given certificate. Actual name selection is done in the Make Certificate procedure.

Select EXIT PROGRAM to leave CM and return to ProDOS.

No matter where you are in CM, you can press [Ctrl-R] to Return to this menu.

ENTER TEMPLATE NUMBER

Enter the number of the certificate template you want to create.

Templates 1 - 39 are on Disk 1, Side B.

Templates 40 - 127 are on Disk 2, Side A.

Templates 128 - 220 are on Disk 2, Side B.

Illustrations of the certificates appear in the back of the original manual. There is no way to see the certificates before you print them

unless you have the original docs that come with the program when you buy it. So I would hope that some bright, young, "hacker" out there in the pirate community would make a small program that could read in and display the different certificate graphics contained on these disks to the apple hi-res screen.

SELECT THE BORDER

You should be able to figure this out for yourself! Just move the cursor to the border of your choice. The NEW DISK option is reserved for future additions to CM.

SELECT THE FONT STYLE

Select the font style you want for the certificate title.

This screen only appears if the certificate has space for you to enter a title AND if that area is completely blank. (Examples: Certificate 218 and 219)

If there is space for you to enter a title, but the title area already has some text, such as CERTIFICATE OF... or THE WORLDS BEST..., then the title font style is chosen by the program to match the text already in place.

As you scroll through the list of five font names, you can see a sample of each font at the bottom of the screen. The fonts are:

SERIF
SAN SERIF
SCRIPT
GOTHIC
ART DECO

The font style appears only on the printed certificate, not on the screen while you are entering the title.

The NEW DISK option is reserved for future CM additions.

ENTER THE TITLE TEXT

Enter a title for your certificate.

This screen only appears for those certificates that have space set aside for you to enter a title.

You may press [Ctrl-S] to toggle the FONT SIZE between small and medium. The cursor will change size to show the selected size. If you enter some text on a line and then press [Ctrl-S], the size of the text on that line will change. All the text on any given line must be the same size, but you can change the size from one line to the next.

The NUMBER OF LINES ON THE SCREEN indicates how many lines of text you may enter for the title. The number may change depending on the font size you select. These lines do not appear on the printed certificate.

As you type, the TITLE IS CENTERED on each line.

Note for MULTIPLE-LINE TITLES: While word wrap does work, you may also press [return] to move the cursor from one line to the next.

Pressing [return] on the last line ENDS THE TITLE ENTRY.

SELECT THE BODY FONT STYLE

Select the font style you want for the body of the certificate. You can see the samples of the different styles at the bottom of the screen. The fonts are:

SERIF
SAN SERIF
SCRIPT
GOTHIC
ART DECO

The font you choose for the body of the text will also be used for the date text.

You may choose any of the 5 fonts, regardless of the font used for the certificate title. Usually, a certificate looks best when you use the same font for both the title and the body text.

Once again, the NEW DISK option is for future CM additions.

ENTER THE BODY TEXT

This is basically the same as entering the text for the title except that you are entering it for the body of the certificate.

The text is centered on each line.

To make typing corrections, use the [backarrow] and [delete] keys. To delete an entire line of text, press [esc].

Pressing [return] on the last line ends the text entry.

TO PERSONALIZE SEVERAL COPIES OF THE CERTIFICATE:

Type *NAME* all by itself on the line where you want each name to appear. Don't put any other text on the line that has the *NAME* wildcard. Just before you print the certificate, the program will ask you what *NAME* file and which names from that file that you want to use. (Creating name files will be explained later in these docs)

ENTER THE DATE LINE

Enter the date text you want to appear on the certificate.

Entering a date is optional. You may decide to leave the date area blank, or you may enter some text other than a date. The line and the word "date" that you see on the template, do not appear on the printed certificate.

Because of the amount of space available, not all certificates have enough room to spell out an entire date such as "September 23, 1987." The amount of space allowed for the date is indicated by the length of the line on the screen.

The font style for the date text is the same as what you chose for the certificate text. The font size is small and cannot be changed.

The format of each certificate (horizontal, vertical, or small) cannot be changed.

If your text has a *NAME* wildcard, the program will print one cert. for each name you specified in the SELECT NAMES section. If the *NAME* cert. are horizontal or vertical, the program will advance the printer to the top-of-form after each cert. is printed. If the *NAME* certificates are the small format, the program will print them two to a page.

NOTE: The program will print about one-third of the certificate at a time, then pause for a few moments before continuing. DON'T worry when your printer stops before printing the entire certificate!

When the printing is done, the program returns to the Print Menu. This gives you a chance to print the certificate again. If you want to print the cert. again but accidentally select Main Menu, you can get back to the Print Menu by pressing [esc] from the Main Menu.

Select PRINT TEST if you want to find out where on the paper the certificate will print. The program will print a four-corner test pattern of the certificate; this saves you from printing the entire certificate when you are not sure if the paper is aligned properly. This option is particularly recommended the very first time you use CM and on all occasions where you are printing several *NAME* certificates.

Print Test is also helpful when you want to make sure that you have selected the right printer in the Change Setup procedure.

Select MAIN MENU if you want to start over or quit CM. From there, you can press [esc] to return to the Print Menu if you decide to print the certificate after all. If you make any other selection from the Main Menu, the information you have entered in Steps 2-11 will be lost.

Select CHANGE SETUP if the printer setup displayed does not describe your printer. The program will display an alphabetical list of all the printers that can be used with CM.

Scroll through the list until you find your printer, then select it. The program may have you respond to one or more questions regarding the specific configuration of your printer.

You will have to do the Change Setup procedure only the first time you print a certificate (and again if you ever use CM with a different printer). Once you have specified your type of printer, the program remembers it.

PRINTER TIPS

Colored ribbons and colored paper, available from your favorite computer store, can add flair to your certificates.

The graphics resolution of your printer will have an effect on the appearance of your certificates. A graphics resolution of 120 by 72 dots per inch provides the best quality.

If the printer skips lines while printing a cert., turn off the automatic linefeed setting on your printer. See your printer manual for instructions. (Note: Some of the Change Setup procedures allow you to turn off linefeeds without physically adjusting your printer.)

If the printer doesn't work, turn it off and back on again, then go through the Change Setup procedure. If that doesn't help, compare your DIP switch settings to those recommended in your printer manual.

NAME FILE

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DOCUMENT certif.maker2

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ENTER THE SIGNATURE LINE

Enter the signature text you want to appear on the certificate.

All certificates include a pre-drawn line on which you can sign your name; the length of the line cannot be changed. The word "signature" beneath the signature line is replaced on the printed certificate by what you enter on this screen.

Signature text is centered beneath the signature line. If you want to move the text to the left, use the [Spacebar] to enter some spaces at the end of your name.

There is only one font for signature text. It is a special font that appears only in the signature area.

SELECT THE *NAME* FILE

This screen appears only if the body text you entered has the *NAME* wildcard.

Select the *NAME* file from which you wish to draw names to be printed on several copies of the certificate.

If you have not done so already, the program will ask you to insert a *NAME* file disk into the appropriate disk drive.

Insert a new disk, then select NEW DISK if the *NAME* file you want is on a different disk.

SELECT THE NAMES

Select SELECT ALL NAMES if you want to print a certificate for every name in the file. An asterisk will appear to the left of each name.

Select this option also if you want to select most but not all names from the list. Then move the cursor to the names you DON'T want and press [return] to delete those names.

Select the INDIVIDUAL NAMES if you want to print certificates for only a few of the names in the file. An asterisk will appear next to each name you select.

To remove a name accidentally selected, move the cursor to the name and press [return].

Select PROCEED TO PRINT when you are done selecting names.

PRINT THE CERTIFICATE

Select PRINT CERTIFICATE if the printer name displayed is the name of your printer, and if you are sure that the paper is adjusted properly in the printer.

Until you become familiar with how to align the paper for the various certificate formats, it is a good idea to select the Print Test option (described in the next section of these dox) before printing a certificate.

This section explains how to create a new *NAME* file and how to edit an existing *NAME* file. At the top of each page, the entry screen is lettered in the order in which you will use it. Follow these steps for quick reference.

1. Select NAME FILE from the Main Menu.
2. Select CREATE NEW *NAME* FILE from the Select Option... screen.
3. Then ENTER NAME # 1 and keep entering as many names as you want in the file. Then when you have entered the number of names you want, just hit [return] on a blank line.
4. Then enter the name that you want to SAVE the *NAME* LIST AS.

To edit an existing *NAME* file, just select NAME FILE from the Main Menu again and then select EDIT EXISTING *NAME* FILE from the Select Option... menu. Then select the name file you want to use and then you should be able to walk through the menu's from there and figure it out.

I will now describe in more detail how these steps are performed:

SELECT *NAME* FILE OPTION

This is the first screen you see when you select the *NAME* File option from the Main Menu.

Select CREATE NEW *NAME* FILE if you want to make a new list of names. The program then goes to the ENTER NAMES screen.

Select EDIT EXISTING *NAME* FILE if you want to make additions, corrections, or deletions to an existing file. The program goes to the SELECT *NAME* FILE screen.

Select the *name* file you want to edit.

If you have not done so already, the program will ask you to insert a *name* file disk into the appropriate disk drive.

The program then goes to the EDIT *NAME* FILE screen.

Change the disk in the disk drive, then select NEW DISK if the *name* file you want is on a different disk.

ENTER NAMES

Enter each name that you want to appear in the file. Each file may contain up to 75 names. As you enter names, the number at the top of the screen indicates how many names are in the file.

Each name in the list can be up to 25 characters long. Within that limit, each name may contain as many words as you like. Enter each name as you want it to appear on the certificate (example, MARY SMITH not SMITH, MARY).

Make sure the name is correct before you press [return]! Once you press [return], the only way to correct a name is through the EDIT EXISTING *NAME* FILE procedure. To make corrections use the [backarrow] or [delete] key as described in the Introduction.

The order in which you enter names is not important. When you save a *NAME* file, the program automatically alphabetizes the list by the last word you enter.

When you are done entering names, press [return] when the entry line is blank.

SAVE *NAME* FILE

Enter a name for the *name* file. Choose a name that will help you remember the contents of the file.

NAME FILES HAVE FILENAME PREFIXES, BUT THE PREFIXES ARE ASSIGNED BY THE PROGRAM AUTOMATICALLY. YOU CANNOT INCLUDE A FILENAME PREFIX WHEN NAMING A *NAME* FILE. The prefix assigned by the program is CMN (CMN.FILENAME). The only time you will need to use the filename prefix is when you are copying or deleting a file in ProDOS.

Name files must be saved on a data disk. Never save a *name* file on the Certificate Maker Master Program (Disk 1 - Side A) or Certificate disk. If you have more than one disk drive, the program displays a message reminding you which drive to use .

If you are saving an edited file, you can keep both the original and edited versions of the file by assigning a new name to the file, or you can get rid of the original version by assigning its name to the edited version.

For more info on disks, filenames, and filename prefixes, see your ProDOS manual.

When the file has been saved, the program returns to the MAIN MENU.

EDIT *NAME* FILE

Select ADD NEW NAME if you want to add one or more names to the file. The program goes to the screen that says, ENTER NAME TO BE ADDED.

Select A PREVIOUSLY ENTERED NAME if you want to delete that name from the list. As you scroll through the list of names, each name is highlighted, and the word DELETE appears next to it. When the name you want to delete is highlighted, press [return].

You cannot edit a previously entered name. Thus, in order to change MRAY MSITH to MARY SMITH, you must first delete the incorrect name, then select Add new name and enter the correct name.

Select SAVE EDITED FILE when you are done editing the file. The program goes to the screen called, SAVE *NAME* FILE.

ENTER NAME TO BE ADDED

Enter each name you want to add to the file. Remember, each name can be up to 25 characters long, and there is a maximum of 75 names per file.

To make corrections, press [backarrow] or [delete] before pressing [return]. Once you have entered a name, you can correct it only from the EDIT *NAME* FILE screen.

When you are done entering names, press [return] when the entry line is blank. The program will then go to the EDIT *NAME* FILE screen. From there, you can save the file.

On the EDIT *NAME* FILE screen, the names you added will appear at the end of the list. Then, when you save the file, the names will be arranged in alphabetical order.

The End!

See CERT.MAKER DOX2 for a full listing of the templates!

===== DOCUMENT certif.maker3 =====

Below is a list of all the template numbers and what they contain. These templates are also grouped into categories which I have also listed below

S P E C I A L K E Y S

* A template number with one asterisk before the number means that the certificate has no title on it at all. In other words it probably just has a picture in the upper right hand corner with blank lines on it for you to fill in with whatever info you want to. Template # 92 is an example of this.

! A template number with an exclamation point in front of it means it is in the SMALL FORMAT.

\$ A template with a dollar sign in front of it means the template is in the HORIZONTAL FORMAT.

All other templates are in the VERTICAL FORMAT!

Do not use these special keys in the program itself when it asks you to ENTER THE TEMPLATE NUMBER! Just use the number itself. The special keys are just for your own reference.

UNIQUE TEMPLATES - These are humorous awards with humorous graphics.

- 1.....Most Valuable Member
- 2.....Bad Haircut Award
- 3.....Award For Quitting Smoking
- 4.....Rude Awakening Award
- 5.....Couch Potato Award
- 6.....Back Seat Driver Award
- 7.....Can of Worms Award
- 8.....Award for Painting Yourself Into a Corner
- 9.....Computer Operator's License
- 10.....Computer Whiz-Kid Award
- 11.....Procrastinator's Award
- 12.....Troubleshooter's Certificate
- 13.....Coolness Under Pressure Award
- 14.....Sticking To Your Guns Award
- 15.....Lemon Award
- 16.....Wanted - this is a picture of man behind bars that has a blank spot over his face where you can paste a photo of your favorite person.
- 17.....Team Work Award

18.....Worst Joke Award
 19.....Globetrotter's Certificate
 20.....Ms Know-It-All Award
 21.....Mr Know-It-All Award
 22.....Best Kisses Award
 23.....Sweet Tooth Certificate
 24.....Beer Connoisseur's License
 25.....Wine Taster's Certificate
 26.....Wine Connoisseur's Certificate
 27.....Pigsty Award
 28.....Out On A Limb Award
 29.....Best Vacation Pictures Award
 30.....Photographer's Award
 31.....Cheerfulness Award
 32.....What Will I Be When I Grow Up? Award
 33.....Driver's License
 34.....Infesting Co-Workers Award
 35.....Quack License
 36.....Outstanding in Your Field Award
 37.....Most Valuable Player
 38.....Least Valuable Player
 \$39.....Horrible Mention Award
 \$40.....Thanks for Nothing Award
 \$41.....Certified Idiot Certificate
 42.....Foot In Mouth Award
 \$43.....Big Mouth Award
 \$44.....Murphy's Law Degree
 \$45.....Community Service Award
 \$46.....Outstanding Attitude Award
 47.....The Widest, Thinnest, Tallest, Smallest, Award
 !48.....Nicest Smile Award
 49.....Dead Carp Award
 \$50.....Hardest Worker Award
 !51.....Clock Watching Award

52.....Happy Birthday Certificate
 53.....Party Animal
 54.....Master Certificate Maker
 55.....Company Clown
 56.....Best Boss Award (Female Boss)
 57.....Best Boss Award (Male Boss)
 58.....Best Secretary Award (Female)
 59.....Best Secretary Award (Male)
 60.....Most Coffee Breaks Award

OFFICE TEMPLATES - These are serious awards

\$61.....Certificate of Promotion
 \$62.....Employee of the Week Award
 \$63.....Employee of the Month Award
 \$64.....Employee of the Year Award

ACADEMIC TEMPLATES - These are serious awards

65.....Reading Award
 !66.....Certificate of Reading Proficiency
 67.....Writing Award
 !68.....Certificate of Writing Proficiency
 69.....Mathematics Award
 !70.....Certificate of Mathematics Skills
 !71.....Certificate of Art Proficiency
 !72.....Certificate of Music Proficiency
 !73.....Certificate of Geography Skills
 !74.....Certificate of Science Proficiency
 !75.....Certificate of Spelling Profishunsky (HA-HA)
 !76.....Certificate of History Proficiency
 !77.....Certificate of Social Studies Proficiency
 !78.....Certificate of Physical Education Proficiency
 \$79.....Class Clown
 \$80.....Certificate of Scholastic Achievement
 \$81.....Certificate of Graduation
 \$82.....DIPLOMA 1

!83.....DIPLOMA 2

!84.....DIPLOMA 3

SPORTS TEMPLATES - Templates 85-90 are humorous; and 91-127 are serious.

85.....World's Greatest Athlete

86.....World's Worst Athlete

87.....Poor Sportsmanship Award

88.....Skiing Award

89.....Marksmanship Award

90.....Fishing Award

91.....Basketball Award - (can be used for either sex)

\$*92.....Basketball Cert. (this has a picture of a female player)

\$*93.....Basketball Cert. (male player picture)

94.....Football Award

\$*95.....Football Cert. (shows male player running)

\$*96.....Football Cert. (shows male quarterback passing)

97.....Baseball Award

\$*98.....Baseball Cert. (female)

\$*99.....Baseball Cert. (male)

100.....Gymnastics Award (female)

\$*101.....Gymnastics Cert. (female)

102.....Gymnastics Award (male)

\$*103.....Gymnastics Cert. (male)

104.....Hockey Award (both sexes)

\$*105.....Hockey Cert. (female)

\$*106.....Hockey Cert. (male)

107.....Tennis Award (female)

\$*108.....Tennis Cert. (female)

\$*109.....Tennis Cert. (male)

110.....Track & Field Award (both sexes)

\$*111.....Track & Field Cert. (female)

\$*112.....Track & Field Cert. (male)

113.....Golfing Award (both sexes)

\$*114.....Golfing Cert. (female)

\$*115.....Golfing Cert. (male)

116.....Soccer Award (both sexes)

\$*117.....Soccer Cert. (female)

\$*118.....Soccer Cert. (male)

119.....Bowling Award (both sexes)

\$*120.....Bowling Cert. (female)

\$*121.....Bowling Cert. (male)

122.....Racquetball Award (both sexes)

\$*123.....Racquetball Cert. (female)

\$*124.....Racquetball Cert. (male)

125.....Swimming Award (both sexes)

\$*126.....Swimming Cert. (female)

\$*127.....Swimming Cert. (male)

FAMILY TEMPLATES

128.....Greatest Backyard Chef Award

129.....Clean Room Award

130.....Award for Eating All Of Your Yucky Vegetables

131.....Certificate of Wedded Bliss

\$132.....Anniversary Award

133.....Newborn Baby Award

134.....Clean Teeth Award

135.....Gourmet Chef Award

!136.....Certificate of Love

!137.....Sweetheart Award

\$138.....Adoption Certificate

139.....In The Doghouse Award

\$140.....Dog Owners License

\$141.....Cat Owners License

\$142.....Bird Owners License

\$143.....Best Friends Certificate (Two females)

\$144.....Best Friends Certificate (Two males)

\$145.....Best Friends Certificate (Male/Female)

\$146.....Best Friends Certificate (Black female/White female)

\$147.....Best Friends Certificate (Oriental female/White female)

\$148.....Best Friends Certificate (Black male/White male)
 CHILDREN'S TEMPLATES

 \$*149.....Flying Bees Certificate
 \$*150.....Teddy Bear Certificate
 \$*151.....Rhinoceros Certificate
 \$*152.....Mama Kangaroo w/Baby Certificate
 \$*153.....Camel Certificate (No...not the cigarettes dummy!)
 \$*154.....Butterfly Certificate
 !155.....Good Girl Award
 !156.....Good Boy Award
 !157.....Bad Girl Award
 !158.....Bad Boy Award
 !159.....Best Mom Award
 !160.....Best Dad Award
 !*161.....??? (picture of a dog chopping wood....Strange!)
 !*162.....Night Owl Certificate
 !*163.....Rabbit Cert.
 !*164.....Honey Bee Cert.
 !*165.....Seal Cert. (picture of a seal on it...Official Seal,get it!)
 RELIGIOUS TEMPLATES

 !*166.....Catholic Cross Cert.
 !*167.....Three Crosses on Mount Calvary Cert.
 !*168.....Holy Spirit Dove Cert.
 !*169.....Symbol of the Trinity Cert.
 !*170.....Fish symbol Cert.
 !*171.....Double Cross Cert.
 !*172.....Chanuka Cert. (has a picture of the Menorah on it)
 !*173.....Jewish Scrolls of the Talmud Cert.
 !*174.....Jewish Star of David Cert.
 !*175.....Crescent & Star Cert.(this is a Muslim symbol, I think?)
 !*176.....Chinese Shrine Cert.
 !*177.....Japanese symbol Cert.(I'm not sure what it is)
 !*178.....Yin & Yang symbol Cert.

!*179.....??? (Im not sure what this symbol is, it looks oriental)
 !*180.....Flowering Lilypad Cert.
 !*181.....Spoked Wheel? Cert.
 GENERAL AWARDS

 \$182.....Certificate of Merit
 \$183.....Certificate of Achievement
 \$184.....Certificate of Excellence
 \$185.....Certificate of Appreciation
 \$186.....Certificate of Recognition
 \$187.....Certificate of Attendance
 \$188.....Certificate of Membership
 \$189.....Certificate of Participation
 \$190.....Certificate of Completion
 \$191.....Certificate of Improvement
 \$192.....Certificate of Proficiency
 \$193.....Certificate of Performance
 \$194.....Certificate of (large letters)
 !195.....Certificate of (small letters)
 !196.....Certificate of (small letters/different layout)
 \$197.....Award for First Place
 \$198.....Award for Second Place
 \$199.....Award for Third Place
 \$200.....Honorable Mention
 !201.....Award for Best Idea
 \$202.....Efficiency Award
 \$203.....Citizenship Award
 !204.....Award I
 !205.....Award II
 \$206.....Award III
 !207.....Award for...I
 !208.....Award for...II
 !209.....Job Well Done Award
 \$210.....License I
 !211.....License II

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!212.....License III
$213.....Thank You Certificate
!214.....Congratulations Certificate
!215.....Most Likely To...Certificate
!216.....Best Suggestion Certificate
!*217....(this is just a blank cert. with a picture of a rose in the
          lower right hand corner.)
!*218....blank cert. with picture of two pears in lower right corner
$*219....totally blank certificate.(Horizontal Format)
!*220....totally blank certificate.(Small format)
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DOCUMENT certmaker
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CERTIFICATE MAKER

Operation of the Certificate Maker is basically obvious from within the program. Choices of borders are shown on screen, type styles are easy to select...the only value of dox is in choice of the over 200 certificate templates. While these are graphically printed in the original documentation, this listing should at least make the program usable.

Disk 2

- 1 most valuable member
- 2 bad haircut award
- 3 quitting smoking
- 4 rude awakening
- 5 couch potato
- 6 back seat driver
- 7 can of worms
- 8 painting yourself into a corner
- 9 computer operator's license
- 10 computer whiz kid
- 11 procrastinator's award
- 12 trouble shooter's certificate
- 13 coolness under pressure
- 14 sticking to your guns
- 15 lemon award
- 16 wanted
- 17 team work
- 18 worst joke
- 19 globetrotter's certificate
- 20 Ms. know-it-all
- 21 Mr. know-it-all
- 22 best kisser
- 23 sweet tooth
- 24 beer connoisseur's license
- 25 wine taster's certificate
- 26 wine connoisseur's certificate
- 27 pigsty
- 28 out on a limb
- 29 best vacation pictures
- 30 photographer
- 31 cheerfulness
- 32 what will I be when I grow up?
- 33 driver's license
- 34 infecting co-workers
- 35 quack license
- 36 outstanding in your field
- 37 most valuable player
- 38 least valuable player
- 39 horrible mention
- 40 thanks for nothing

Disk 3

- 41 certified idiot
- 42 foot in mouth
- 43 big mouth
- 44 murphy's law degree
- 45 community service
- 46 outstanding attitude
- 47 widest, thinnest, tallest, smallest
- 48 nicest smile

49 dead carp
 50 hardest worker
 51 clock watching
 52 happy birthday
 53 party animal
 54 master certificate maker
 55 company clown
 56 best boss (female)
 57 best boss (male)
 58 best secretary (female)
 59 best secretary (male)
 60 most coffee breaks
 61 certificate of promotion
 62 employee of the week
 63 employee of the month
 64 employee of the year
 65 reading award
 66 reading proficiency
 67 writing award
 68 writing proficiency
 69 mathematics
 70 mathematics skills
 71 art proficiency
 72 music proficiency
 73 geography skill
 74 science proficiency
 75 spelling proficiency
 76 history proficiency
 77 social studies proficiency
 78 physical education proficiency
 79 class clown
 80 scholastic achievement
 81 graduation
 82 diploma (big)
 83 diploma (2 text blocks)
 84 diploma (1 text block)
 85 world's greatest athlete
 86 world's worst athlete
 87 poor sportsman
 88 skiing
 89 marksmanship
 90 fishing
 91 basketball
 92 basketball (female)
 93 basketball (male)
 94 football
 95 football (running)
 96 football (passing)
 97 baseball
 98 baseball (pitcher)
 99 baseball (batter)
 100 gymnastics (female)
 101 gymnastics (female)
 102 gymnastics (male)
 103 gymnastics (male)
 104 hockey
 105 hockey
 106 hockey
 107 tennis
 108 tennis
 109 tennis
 110 track & field
 111 runner (female)
 112 hurdler (male)
 113 golfing
 114 golfer (female)
 115 golfer (male)
 116 soccer

117 soccer (female)
 118 soccer (male)
 119 bowling
 120 bowling (female)
 121 bowling (male)
 122 raquetball
 123 raquetball (female)
 124 raquetball (male)
 125 swimming
 126 diving (female)
 127 diving (male)

Disk 4

128 greatest backyard chef
 129 clean room award
 130 eating all your yucky vegetables
 131 wedded bliss
 132 anniversary award
 133 newborn baby
 134 clean teeth
 135 gourmet chef
 136 certificate of love
 137 sweetheart
 138 in the doghouse
 139 adoption
 140 dog owner's license
 141 cat owner's license
 142 bird owner's license
 143 best friends (female/female)
 144 best friends (male/male)
 145 best friends (male/female)
 146 best friends (kids - male/female)
 147 best friends (kids - female/female)
 148 best friends (kids - male/male)
 149 untitled - bees illustration
 150 untitled - teddy bear
 151 untitled - hippo
 152 untitled - kangaroo
 153 untitled - camel
 154 untitled - butterfly
 155 good girl award
 156 good boy award
 157 bad girl
 158 bad boy
 159 best mom
 160 best dad
 161 untitled ?
 162 untitled ?
 163 untitled - rabbit
 164 untitled - bee
 165 untitled - dog
 166 religious
 167 3 crosses
 168 dove
 169 trinity
 170 ichthus
 171 cross
 172 minorah
 173 scroll
 174 star of David
 175 crescent & star
 176 asian pagoda
 177 asian writing
 178 yin & yang
 179 Arabic character
 180 flower
 181 wheel

- 182 certificate of merit
- 183 certificate of achievement
- 184 certificate of excellence
- 185 certificate of appreciation
- 186 certificate of recognition
- 187 certificate of attendance
- 188 certificate of membership
- 189 certificate of participation
- 190 certificate of completion
- 191 certificate of improvement
- 192 certificate of proficiency
- 193 certificate of performance
- 194 certificate of _____ (large)
- 195 certificate of _____ (small)
- 196 certificate of _____ (small)
- 197 award for first place
- 198 award for second place
- 199 award for third place
- 200 honorable mention
- 201 best idea
- 202 efficiency award
- 203 citizenship
- 204 award (with seal)
- 205 award (small)
- 206 award (large)
- 207 award for (small)
- 208 award for (small)
- 209 job well done
- 210 license (large)
- 211 license (small with seal)
- 212 license (small)
- 213 thankyou
- 214 congratulations
- 215 most likely to
- 216 best suggestion
- 217 untitled - rose
- 218 untitled - pears
- 219 blank (large)
- 220 blank (small)

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DOCUMENT chahelp.eng

=====

(here it is, pally! vorsicht! da vielleicht es moeglich ist, dass ich hier und da deinen Sinn isverstanden habe!!! and uebrigens und auf jeden Fall, bleib in verbindung, ok? ---ciao, herr chaos! sis. :-))))))

C H A M A S

The Chaos Mailbox System

The Chaos Mailbox System has existed now since May, 1988. The name is derived from the Chaos Duo (Waldi and Terra), who got it at a Relay Party in Nijmegen.

This Help file refers to Version 4.0 of the Chamas, which was fully re-programmed in November to avoid ever-increasing chaos in the Chamas 3.2.

In general:

The German Press Law applies (as for all german Mailbox systems) to the Chamas, and, as managers, we're responsible for the contents of the message boards, as long as we're unable to say who the sender is. Therefore it's necessary to register with the Chamas using NICK <nickname>. Also, any racist, terrorist, war-promoting or personal attacks mistaken for news in the mailbox will be erased and the sender will be banned from the Chamas. You can log into the Chamas with help from CHECKIN, whereas CHECKIN N prevents the issue picture from coming. After the log-in, it is announced which boards contain new messages since your last log-in.

Shell of Chamas

Version 4.0 of the Chamas uses a so-called Geoshell. This was introduced for the first time by the Geol Mailbox X.25 and is today a widespread standard for Mailboxes. After certain technical problems were able to be ironed out, we decided to install this in the Chamas as well. You can receive the Chamas's command set with ?.

The Chamas Daemon

Within the Chamas, there's a daemon, which oversees the Chamas; it is also responsible for timeouts. If the user says nothing for a period of 5 minutes while on the Chamas Relay If the user sends nothing to the Chamas for a period of 15 minutes

Commands for the Chamas:

HELP
You can check out online help for the various commands using this command. e.g. HELP WRITE , HELP BOARD , etc.

BOARD
This command is pretty important. This With BOARD * (or, B *) you can be shown the boards available. Behind the board names stand the symbols:

for writing-protected. Only users in Level 2 or lower can write to such boards. (e.g. CCC, CCO, etc.)
 reading-protected. Only users registered on a privileged user-list can retrieve from such boards. Direct inquiries to Terra (151133@DOLUNITL). you are subscribed to this board. This is to say, you are immediately sent new messages in this board.
 subscribed. - not

Also with this command, you can 'enter' a board. This is necessary in order to see the contents of a board, etc. You'll receive a listing of those boards which contain the available new messages. You'll receive a listing of those boards containing new news at hand.

INVENTORY
 With this command it's possible to ascertain the contents of the boards. To do that, it's necessary, through BOARD <boardname>, to be put yourself in a board.

INVENTORY * (I *) will list all the messages in a board.

INVENTORY (I) will list all new messages in a board.

READ/SEND
 can, using these commands, read messages, or otherwise have them sent to you. e.g.: RE 1403 or SE 1411 1412. Should a file be longer than 50 lines, it can only be sent to you.

WRITE
 This command enables you to receive short instructions regarding how to write into the Chamas Boards or else the News Net.

SUBSCRIBE
 This command lets you register with the Netnews and the Chamas Boards. The domain is always required. So, for example, SUB chamas.general oder SUB sub.market.

UNSUBSCRIBE
 Exactly.....just for unsubscribing.

NET
 With this command it's possible to check out what network groups are available and whether you're subscribed.

NET shows which network groups there are. At present these are SUB and DNET. These are also the domains for the SUBSCRIBE, WRITE, etc. commands.

Using NET <net group>, you can determine with which groups you are registered. e.g.: NET SUB.

ADDRESS
 ADDRESS gives you personal data about yourself. With ADDRESS <nickname>, you can determine the UserId and NodeId of another user.

CALL
 Should problems arise, you can use this command to get in touch with one of the operators.

ACTIVE
 With this command you can determine who is still logged into the Chamas.

RELAY
 The Chamas Interchat System
 - /SIGNON Log in
 - /BYE Log out
 - /WHO Who's on the Chamas Relay
 - /SU <nick> Summons an active user to the Chamas
 - /ACTIVE Who's on the Chamas System

EXIT
 To exit a board and return to the main menu, type EXIT. With
 EXIT * you leave the Chamas entirely. In the main menu, however, EXIT is
 sufficient to get you out of the System.

Translate by Susi

```
=====
DOCUMENT chemLab
=====
```

- ChemLab Quick Reference -

Written by Cyborg
(A CatPack presentation!)

ChemLab: Main Menu

At this menu:
Use the SPACE BAR to page thru the all the experiments.
Press RETURN to enter the name of the one you want.

Chemlab: Controls in the Lab

Key	Function
[O].....	Switches which arm is in use
[Arrow keys].....	Move in the direction indicated
[E].....	Gives you a list of your equipment
[S].....	Gives you a list of solids available
[L].....	Gives you a list of liquids available
[G].....	Gives you a list of gases available
[H].....	Superheat the lab (hit S again to restore)
[P].....	Pressurize the lab (hit P again to restore)
[R].....	Review text (CLEARS LAB!)
[C].....	Clear the Lab; start over
[Space bar].....	Switch hand on left arm
[Escape].....	Returns to main selection menu
[Return].....	Action key
[V].....	Controls gas valves
[B].....	Controls burners
[M].....	Read message (if indicated on screen)

Chemlab: How to obtain chemicals (using the left arm)

To get solids:

Use the left arm, with the spoon as a hand. Move under the dispenser, and press RETURN. Now input the name of the solid you want. To drop the solid from the spoon, hit RETURN again.

To get liquids:

Use the left arm, with the nozzle as a hand. Move over whatever you want the liquid in, and hit RETURN. Now type in the name of the liquid you want.

To get gases:

Use the left arm with the gas cap as a hand. Move under one of the connectors under the gas tanks. Press RETURN. It should connect with the cap. Now, move the cap over a flask, and press RETURN to connect them. Now you control the valves to get the correct gas. Open the valve of the tank, and the valve of the connector you connected to, to get that gas. You can mix and match gases by controlling the valves.

ChemLab: Moving equipment (using the right arm)

To get equipment, move the right arm down until it is just above the platform at the lower right of the screen. Now hit RETURN, and enter the

name of the piece of equipment you want. It will pop up.. now, move the hand beside the equipment, and hit RETURN. It should latch on to it. Now move it as you would the arm (Suggestion: always place your first equipment to the far right to make room for other equipment.), and hit RETURN to drop it there. You CANNOT move equipment once you have connected or placed something in it If it didn't work, you'll probably have to clear the lab and start from scratch.

=====

DOCUMENT chipwits

=====

CHIPWITS DOCS

WRITTEN BY: THE HELIX
THANK TO: THE I.C.

Chipwits is a game very much like Robot War. You program your robot to collect the good stuff like pies, cups, oil cans, and disks; and you also program the robot to destroy the bad stuff like those bugs that shock your robot, the weird looking face. And the bomb which can not be destroyed has to be avoided.

1. First you drag down the warehouse menu and you select an unused slot, or if you want to write over a previous robot select an already occupied slot.

2. Goto the workshop menu and select "ENTER". From here is where you will be programming your robot.

Programming your robot:

The program always starts out at the stoplight. The little pointer attached to the lower right hand box of the stoplight is the direction flow of the program. Goto to the box to the right of the stoplight and press the button (This is how you move the cursor around). You then have to select an operator, which is a command to the robot. But some commands require an argument, like the eye for example.

OPERATORS:

Starting from upper right working down as how you would read a book.

Eye:

Allows the robot to see in front of himself. The robot can cover all the spaces in front of him. (requires an argument)

Hand:

Allows the robot to touch the floor in front of him. This command covers only the space directly in front of him. (requires an argument)

Nose:

Allows the robot to "sniff" out what is in the room. This covers the entire room. (requires an argument)

????:

I have no idea what this waffle-like shape does.

Linker:

This looks like a railroad track. This is like a connector it performs no specific command. It just connects from one box to another in case you run out of space. (requires no argument)

Train?:

I don't know what this icon looks like but I know what it does. It is the movement command for the robot. (requires an argument)

Musical note:

This makes a noise, but I don't see the useful purpose in this command (Requires an argument)

"+" :

I don't know what this does. (Requires no argument)

"-" :

Me don't know this one either. (Requires no argument)

An arrow pointing to a train:

This assigns a variable to the movement memory of the train. This command is used if you want the robot to do something over that it previously done. The robot only has enough room to store 3 variables. If you assign new ones, the last one is cleared and everything is shifted down one. (Requires an argument)

An arrow pointing to a question mark:

This is like the earlier one except it does not deal with direction of movement. It deals with the objects in the game. i.e. pies, disks, etc (Requires an argument)

An arrow pointing to a cup:

This assigns a variable to the memory of the robot also. But it is a value in a sense. For example, in Applesoft you may use the command "X=4" then later say "If X=4 then ..so on.." You can do that in Chipwits. This command is the assigning function in this process. The "If.. then.." part of the function will be mentioned later. (Requires an argument)

An arrow pointing away from "X":

This is a command to throw out the most recent entered variable, entered by the top three command. When the upper-most variable is thrown the variables are all shifted up one. (Requires an argument)

Electric Generator:

This is the defense mechanism in the robot. When this command is called upon, a bolt of electricity is fired. The electricity goes the way the robot is facing. This command is used to kill the dangerous objects in the game. i.e. those bugs and the funny faces. (Requires no argument)

The train with an "=" sign under it: This is used in conjunction with the command that has an arrow pointing to a train. When an variable is assigned with that command, this command acts like the "If...then" part of the function. (Requires an argument)

The "?" with a "=" under it: This command is like the previous one. This command checks to see if the most recent variable equals the one you asked for. If it does the value is (T)true and if it does not the value is (F)alse. (Requires an argument)

The cup with a "=" under it: Same as above, except it works with a value. (Or in this case an amount) (Requires an amount)

The cup with a "<" under it: Same as above, except it is not equal that is being asked, it is less than. (Requires an amount) A grabber: This is the hand of the robot. This is how the robot picks things up to be eaten. The robot gets points for things eaten. (Requires no argument)

A boomer-rang shaped object:

This serves as the command "RETURN" It performs the same function as in Applesoft. It returns the program from a sub-routine. (Requires no argument) A looped arrow: This command restarts the program. In a sense it means "start over from the stoplight" (Requires no argument)

An interface card:

This command allows you to expand the length of the program. It branches the main program into sub-routines. For example, you can have a different sub-routine handle one task, like moving, grabbing things, and so on. And to return from the sub-routine you use the boomer-rang shaped thing. The program continues with the box that follows the departure point of the main program. (Requires an argument)

A "T" connected to a "F": This is a randomizer. For example, if you don't want your robot following one set of commands all the time (One set of commands often leads to a loop) you can use this command at the beginning of your program. There is a 50% chance for (T)true and 50% for

(F)alse.

Arguments for EYE, HAND, NOSE, ARROW ABOVE "?", ARROW UNDER "?":

Pie:
a prize that is worth a certain amount of points.

Cup:
A prize, to my knowledge has no point value.

Disk:
A prize worth points.

Oil can:
Worth points

Floor:
The ground

"?":
The most recent variable assigned to the "?" memory.

Bomb:
a destructive object that can not be electrified. It must be avoided.

Funny face:
This destructive object can be electrified with the electric generator.

Bug:
This bug shocks your robot, and this is not good for your robot. This bug can also be destroyed by electricity.

Wall:
This is the wall.

Door:
This is a door.

Arguments for Train, Arrow above train, arrow under train:

The arrows indicate which direction of movement.

Up arrow:
Move forward

Down arrow:
move backward

Left:
Turn left

Right:
Turn right

Arguments for Interface Card: The letters A, B, C, D, E, F. These are the amount of room you have to work with on your program. You have 6 pages of programming room not counting the main page.

Arguments for Arrow above "X":
The three variable stacks:Train, "?", and cup. This removes the most recent variable.

Arguments for the commands to do with the "cup":
There are cups filled to a different amount. This is used for the numbers. The least filled cup means 1 and as it gets filled more the numbers increases. Or the numbering can go the opposite way. It is just a matter of interpretation.

After you have made a robot, save it if you like. Then to enter your robot to his mission, goto the Missions menu and select "start mission", and watch your robot work.

If you need to de-bug your robot. Select "step" from the OPTION menu. This will make your robot perform step by step. The number in the bottom right corner is the box the program is on.

[1985 (5):]

YOU ARE THE POSTMAN. AVOID THE CARS AND ROVER AND GATHER THE MAIL. ONCE YOU HAVE PICKED UP ENOUGH MAIL, THE TIME MACHINE WILL BE COMPLETED AT THE LOWER LEFT OF THE SCREEN. JUST TO THE RIGHT IS A SMALL PORTAL. ENTER THAT AND YOU ARE DONE!!!

[HAVE FUN!@!!]

=====
DOCUMENT chno.warrior
=====

! CHRONO-WARRIOR !
! WRITTEN BY PROFESSOR X !
! MUCH THANKS TO ELECTRIC EYE !
! 4/22/85 !
=====

CHRONO WARRIOR IS AN ARCADE GAME WHERE YOU PLAY THE ROLE OF A TIME TRAVELER. YOU MUST PASS 5 LEVELS IN TIME AND REACH THE PRESENT.

WHEN THE GAME BOOTS, YOU SHOULD SEE THE TITLE PAGE. PRESS THE KEY A FEW TIMES UNTIL YOU SEE THE OPTION TO PLAY A GAME OR PRACTICE A LEVEL. CHOOSE ACCORDINGLY.

DECIDE YOUR DIFFICULTY LEVEL AND YOU'RE OFF!

P[THE CONTROLS:]

JOYSTICK : MOVES CHRONO WARRIOR IN DIRECTION.

Level
BUTTON 0 : [1] FIRES STONE
[2] DOES NOTHING
[3] FIRES ARROWS
[4] DROPS BOMBS
[5] DROPS JUNK MAIL

KEYBOARD : A
<- ->
Z

SPACEBAR : SAME AS BUTTON0 ON JOYSTICK

[SYNOPSIS OF LEVELS:]

[STONE AGE (1):]

GATHER ALL THE PIECES OF YOUR TIME PORTAL AND ENTER IT. NOT TOO HARD, BUT BEWARE OF THE DINOSAURS. YOU CAN TEMPORARILY STUN THEM WITH THE STONE, BUT THEY RECOVER QUICKLY, AND CAN CLIMB LADDERS AFTER YOU!

[ROMAN EMPIRE (2):]

YOU PLAY A CHARIOTEER IN THE CIRCUS BILLIUS AND MUST GATHER 5 GOLD COINS FROM THE ARENA. AVOID WATER SLICKS AND WHEN OTHER CHARIOTS GET IN YOUR WAY, YOU CAN MAKE THEM WIPE OUT BY BUMPING THEM IN THE BACK. WHEN 5 COINS ARE GATHERED A RED CARPET WILL ROLL OUT. STEP IONTO IT AND WARP TO THE NEXT LVL.

[MEDIEVAL TIME (3):]

YOU ARE ROBIN HOOD, AND MUST ROB FROM THE RICH AND GIVE TO THE POOR. ONCE YOU HAVE DONE THIS THREE TIMES, YOU ADVANCE TO THE NEXT LVL. BEWARE OF SOLDIERS! THTO FINISH THE LEVEL MOVE IN THE CDRAWBRIDGE OF THE CASTLE.

[CIVIL WAR (4):]

GET ALL THE ENERGY PACKS AND AVOID THE CANNONS. THIS IS VERY TRICKY MANUEVERI YOUR BALLOON.

<1-58/Last-31> <?/Q/A/+/-/P> #:

=====

DOCUMENT cia.intro

=====

31

#31 : 012 CIA/INTRO

-----*

THE CIA (CONFIDENTIAL INFORMATION ADVISORS)

HARD DOCS CONTRIBUTED BY DIAMOND JIM

APPLE MANOR (716)654-7663 * 24

TRICKY DICK is a disk editor that can be used on both normal and most protected disks. It will read in a sector directly from disk and list the sector's contents to screen or printer in Integer, Applesoft, assembler, hex and ASCII. Tricky Dick can patch and customize your disk, protect your software, and read and alter normal and most protected disks.

THE LINGUIST dumps a track of raw nibbles directly from any disk - protected or not. It also decodes address data on the disk and translates raw disk nibbles into hex. The translated nibbles then can be listed by TRICKY DICK in BASIC, assembler and ASCII. This makes it possible to list the programs and textfiles from any disk, normal, damaged or locked. It can be used to look closer at a program, examine disk formatting and recover lost programs no matter how badly the disk is damaged.

THE TRACER automatically searches normal and most protected disks sector by sector for any 1-6 strings you specify in ASCII or hex. It will also find the VTOC, catalog sectors, and track/sector lists on normal and protected disks. You can choose any or all of its 9 search options, and they will be carried out simultaneously, scanning an entire disk in 19-135 seconds. When it finds something that you're looking for it jumps back into TRICKY DICK and places a cursor on the item it's found.

THE CODE BREAKER makes use of a special table in DOS 3.3 and 3.2 to decrypt the most popular "secret code" used to hide commercial programs from prying eyes.

THE TRACKER shadows the disk arm, reporting its every move as DOS LOADS, SAVES, RENAMES, or does anything else to a disk. It leaves a list of every track and sector visited, and every read or write operation carried out during any disk access. THE TRACKER can be used to find out exactly where a disk is crashing, make a permanent record of your files, and learn more about how DOS works.

THE CIA MODULES

TRICKY DICK controls the operations of the other CIA utilities. First, BRUN TRICKY DICK. Then when you need to call upon one of the other utilities, you BLOAD it. A single keystroke transfers control to the utility you BLOAD and enables it to carry out its work. During certain operations, the module will pass data to TRICKY DICK for special processing. For example, when the TRACER finds a string it's looking for, it jumps back to TRICKY DICK, displays the string, and places TRICKY DICK'S cursor on the first character. TRICKY DICK is in charge and you can edit the string and/or other data in the sector where it resides.

The only exception to this system is THE TRACKER which works alone.

[-2] #36 Library #8

=====

DOCUMENT cia.linguist

=====

32

#32 : 081 CIA/THE LINQUIST

```
<==*-----*==>
|   The C.I.A Files   |
<==*-----*==>
|   The Linguist     |
<==*-----*==>
|   Instructions     |
<==*-----*==>
|   Part A           |
<==*-----*==>
```

```
<==*-----*==>
Written by
  The Camel Jockey
  Wareforce..
<==*-----*==>
```

```
Hard Copy from
  The Arson
<==*-----*==>
```

This file was written for

Gremlin's Lair
3 Rana Elite 3's
[201] 536-7794

Dragon Quest
10 Megs.
[503] 292-6560

Abdul's Oasis
10 Megs.
[619] 341-2984

Thieves Guild
2 Dr.
[904] 683-0247

Pirate's Chip
10 Megs.
[206] 734-7468

```
<==*-----*==>
All sysops may use these docs
for their own BBS but they may not
change any of the credits in any way
or add to them....
<==*-----*==>
```

Overview

```
<==*-----*==>
The Linguist allows you to do a
raw nibble dump of an entire track,
examine the data at your leisure,
and then carry out a sector by
sector translation of the raw disk
nibbles into code in the form that
your machine normally deals wih. In
```

```
other words, the Linguist will
transform all 3 of the encoding
formats used on Apple disks (6&2,
5&3, and 4&4) into a recognizable
and executable form.
```

The immediate importance of all this is that after this is, that after dumping a track of raw nibbles and translating them into ordinary hex, you can immediatly jump back to Tricky Dick and display this code as an Applesoft, Integer, or assembly listing. Of course, Tricky Dick is also no slouch at translating. But where a disk has too badly clobbered, too heavily protected, made sectorless, encoded in 4&4 - or simply requires a raw nibble examinaton to establish the formatting - old Tricky is just not up to the job. That's when the Linguist springs into action at the touch of a CTRL E to help out.

```
<==*-----*==>
How to Instuct The Linguist
```

```
<==*-----*==>
The Linguist Needs Tricky Dick
<==*-----*==>
```

Tricky Dick and The Linguist have what you might call a permanent intimate relationship. That is, The Linguist will not work properly unless Tricky dick is also present in memory. This is because the program uses some of Trick Dick's internal routines in orger to both conserve RAM and to maintain an efficient interface with the user. So if you try to run The Linguist alone, you'll get some rather strange effects.

Once Tricky Dick is in memory, hit CTRL C to BLOAD The Linguist. It loads in at \$8000 in memory and can be accessed at any time from Tricky Dick.

```
<==*-----*==>
Getting From One to the Other
  [^C ^E]
<==*-----*==>
```

```
<==*-----*==>
When the Linguist is in memory,
you can jump to it at any time from
Tricky Dick by pressing CTRL E.
When you first enter The Linguist,
the disk arm recalibrates and emits
that grating machine-gun rattle we
have all come to knw and hate. The
sound effects notwithstanding, you
can always get back to Tricky Dick
by typing CTRL C.
<==*-----*==>
```

The Help Screen
[/ or ?]

If you happen to need a brief reminder about any of The Linguist's commands, just hit the '/' key to display the help screen. This brings up a list of instructions, together with their accompanying keystrokes. A '^' before a letter indicates a CTRL key must be pressed at the same ime as the letter. You can call up the help screens at any time.

The Linguist's Data Display

Hitting the space bar gets you from The Linguist's introductory or help screen to the to the data display; several of the Linguist's commands also automatically do the same. This screen shows you one memory page (256 bytes) of code in the data buffer, which starts at \$4000 and ends at \$7FFF in RAM. The 4-digit hex addresses on the far left of the screen correspond exactly to memory locations in te buffer. This allow you to calculate the buffer locations of any block of code by simply counting up. For example, the positions of th tenth byte in row \$4000 would be \$400A.

Entering Commands

The "ALL COMMANDS" message at the botton of the screen promptsyou enter the instructions you want the Linguist to carry out. Each command is echoed on te right of the '?'. An incorrect entry is signalled by a brief "ping".

Track Selector
[< ; >]

You can decrement or increment the track number (which appears after 'T=') a half track at a time by hitting the '<' and '>' keys respectively. The track numbers progress up to \$7f, at which point wraparound takes place. This is to allow the use of The Linguist with drives capable of reading 80-track diskettes. To clock the track number forward or backward rapidly, hold down one of the two keys and the REPT key simultaneously. An

often quicker way to input a track number is to type ';', followed by the number of number. This only works for whole tracks, but the next adjacent half track can always be specified by hitting the '<' or '>' keys.

Seeting the Disk Arm to Track \$00
[^S]

Hitting CTRL S recalibrates the disk arm, pulling it back to track \$00. It cmes in handy for clocking back the track number rapidly, and also to give your drive a reference point to find the selected track (during a rew nibble read your machine makes no check of the track numbers on te disk to find the current track).

Reading a Track
[^B]

Hit CTRL B to read the desired track into The Linguist's buffer. Be sure to select the correct drive while still in Tricky Dick before jumping to the Linguist. One buffer page of data will appear in te data display area immediately after a read. If the introductory or help screens were up at the time of this command, a switch to the data display will automatically take place.

Paging through the Buffer
[<- ->]

Pressing the right arrow changes the data display to the next page in the buffer. So if the data from, say, location \$4000 to \$40F0 are displayed, hitting the right arrow once flips to the data located from \$4100 to \$41F0. This can be continued until you reach the end of the buffer at \$7FFF. In the same manner, the left arrow pages backward a page at a time until you get to the beginning of te buffer. Extremely fast scrolling can be accomplished by holding down one of the arrows and REPT at the same time. The controls are "locked" so that you never accidentally stary lower than the beginning or higher than the end of the buffer.

```

<==*-----*==>
Jumping to the Beginning or the End
of the Buffer
[ ^B ^N ]
<==*-----*==>

```

You can instantly get back to the beginning of the buffer at \$4000 by hitting CTRL B; CTRL N takes you right to the end. (page \$7F)

```

<==*-----*==>
Cursor Movements
[ I, J, K, M AND ^I, ^J, ^K, ^M ]
<==*-----*==>

```

I, J, K, and M move the cursor around the data display just like they do when used for Applesoft editing. When these commands take the cursor beyond the edge of the screen, scrolling or wrapping occurs. For example, pressing 'K' when the cursor is at the end of a row causes it to jump to the beginning of the next row; pressing 'M' when the cursor is on the bottom line of the display causes the screen to scroll up one line. Holding down CTRL and hitting any of the 4 keys increases the distance covered, causing the cursor to jump to the edge of th screen.

A continuous scroll can be obtained by moving the cursor to the top or botton of te screen and pressing REPT together with 'I' and 'M' keys respectively. This can be continued untill the first or last of the buffer data appears on the screen.

```

<==*-----*==>
Decoding the Address Field
Information
[ Cursor controls ]
<==*-----*==>

```

At the botton left of your screen you will find a separate line of data consisting of a 4-digit address followed by 4 2-digit numbers. It displays a translation from 4&4 into normal hex of 8 consecutive disk nibbles starting with the byte under the cursor. This enables you to decode the address field information by placing the cursor on the first byte to the right of 'D5 AA 96' address field header of any sector. The data line will display the results in the following order: the buffer address of the byte under the cursor, the disk's volume number, the current track number, the numbr of the

sector whose address field you examining, and the address field checksum. The buffer address is always a 4-digit number and the other items are each 2-digits long. All are in hexadecimal and the sector number represents the physical sector on he disk. the meaning and interpretation of this data will be fully explained in the tutorial which follows the instruction section.

Since most disks use 4&4 nibbles in the address field only, the 4&4 translation will usually be meaningless if the cursor is placed elsewhere among the sector data. One important exception, however, occurs when entire files have been deliberately encoded in the 4&4 mode (as can be found in many current games). If you are working with such a disk, you can decode a string of 8 4&4 nibbles by positioning the cursor over the first byte of any 4&4 byte-pair.

```

<==*-----*==>
Changing the Decoding Mode
[ ^D ]
<==*-----*==>

```

To switch between the 6&2, 5&3, and 4&4 decoding modes, hit CTRL D, followed by the number after the '&'. For example, if you are presently in 6&2, you will see a '<62>' just under the '<-->' at the upper right of the screen. To change to, say 5&3, type in a CTRL D, causing the cursor to leap up and cover the '6'. This is your cue to press the '5' key which automatically changes the display mode to '5&3'. If you previously changed Tricky Dick's D.O.S. version to 3.2, the display will already show '5&3'.

```

<==*-----*==>
Translating a Sector
[ ^T ]
<==*-----*==>

```

After having selected the encoding mode, place the cursor over the first byte after the 'D5 AA AD' (on a normal disk) data field header of the sector you want to translate. Then press CTRL T (which evokes a high pitched squeek), and jumps back into Tricky Dick with a CTRL C. The sector's raw nibbles will have to be translated into normal hex bytes. The translation will be in Tricky Dick's buffer and can be displayed on the screen in the usual manner by

pressing any key. You can also use the procedure described in Trick Dick's instructions (Chapter 3) to get an Applesoft, Integer, or assembly listing from this code.

If you are jumping back and forth between Trick Dick and The Linguist to translate a series of sectors in the above manner, you may be hampered somewhat by the recalibrating each time you press CTRL E. A patch to the Linguist which eliminates this is 8026: 2C from the monitor. However, if you change track number you must let The Linguist recalibrate to get its bearings. Do this with CTRL S as described previously. To patch back the CTRL E recalibration, type 8026: 20 from the monitor.

Remember that if you are translating 4&4, the disk is likely to be sectorless. What you get when using this encoding mode is a translation of 512 consecutive disk nibbles into 256 bytes of normal hex.

<==*-----*==>
 Changing the Drive Number
 <==*-----*==>

You probably won't need to do this often while using The Linguist. If you do, however, you will have to go back to Tricky Dick with a CTRL C, change the drive number from there, and then jump to The Linguist with CTRL E.

The other Tricky Dick parms such as the sector number, D.O.S. version, and sector marks are not relevant to the operation of The Linguist. This is because The Linguist reads in an entire track at a time and completely ignores the disk's formatting.

<==*-----*==>
 Getting Hard Copy from The Linguist
 <==*-----*==>

Although no printer dump subroutine has been included in The Linguist, it's easy to get hard copy of a given section of the buffer. First make a note of the beginning and ending addresses on The Linguist's hex display of the block of data you want to print. Then get into BASIC by hitting RESET once or CTRL C twice and turn on your printer card. Finally enter the monitor with CALL-151, type <first address>.<second address>

(e.g., 4000.4010), and your printer will start churning out the copy.

<==*-----*==>

This a Wareforce docfile...
 Look for the next chapter in the C.I.A. series...

The Linguist (Part B)

Well that is it I hope you enjoy it...

The Camel Jockey

(> Wareforce <:)

<==*-----*==>

<==*-----*==>

Call these BBS's

Gremlin's Lair	[201]	536-7794
Pirates of P.S.	[206]	783-9798
I.C's Socket	[213]	541-5607
Golden Key	[214]	263-9017
The South Pole	[312]	677-7140
The Outpost	[312]	441-6957
Tamerlane's Keep	[408]	688-9629
Relm of the Rogues	[415]	941-1990
Dragon Quest	[503]	292-6560
Dune	[503]	297-7413
Rome	[503]	636-6718
Thieves Den	[512]	441-9429
The Curse	[612]	920-3576
The Safehouse	[612]	724-7066
Abdul's Oasis	[619]	341-2984
The Cove	[619]	920-3576
Apple Manor	[716]	654-7663
Temple of Doom	[805]	682-5148

<==*-----*==>

[15] #36 Library #8
 <-1-58/Last-32> <?/Q/A/+/-/P> #:

```
=====
DOCUMENT cia.tricks
=====
```

33

#33 : 063 CIA/TRICKS

<==*-----*==>

The C.I.A Files
Intermediate Level Tricks with
Tricky Dick

Typed by The Camel Jockey
Revised by Bets C.

Apple Manor (716) 654-POOF!

<==*-----*==>

Avoiding D.O.S Lang. Card Clobber

D.O.S. 3.3 has particularly pesky subroutine which stores a \$00 in the first byte of the language card whenever we do a PR#6. This in turn makes D.O.S. think that the language card is empty. So if you happen to have INTERGER BASIC (or some other program) there, and then boot up from the keyboard, you always have to reboot your System Master and hang around while it reloads INTEGER. Most of the time, however, a perfectly good image of INTEGER is still in the language card in spite of the LANGUAGE NOT AVAILABLE message you get when you try to call it.

Fixing this is a piece of cake. Just read in track \$00, sector \$09, and write 3 'EA' over the '8D 00 E0' in line \$D0, leaving it looking like this.

D0: C0 A9 00 EA EA EA 4C 44

Then write it back to the disk. Any disk with this patch in its D.O.S. will leave INTEGER in peace when booting.

Important Note

I know it seems obvious, but don't forget to reboot the D.O.S. you've just altered with the following patches if you want to see them in action.

Switching the HELLO file

To make this simple alteration, read in track \$01, sector \$09. Starting with byte \$75 in line \$70, you will see the name of the HELLO program. If you want another file on the disk to run automatically on boot-up, put the cursor over the first byte of the HELLO file's name (a 'C8' for 'H' on most disks), and hey in SHIFT 2 (the " character). Now type in the new file's name and press down the CTRL, SHIFT and @ keys together, returning to normal operation. If the name of the new file is shorter than that of the old one, there will be some unwanted characters tacked on at the end. Be sure to type 'A0's' (ASCII for spaces) over these before writing the sector back to the disk.

Using a Binary or EXEC HELLO file

Normally, when D.O.S. finishes booting into RAM, it issues a RUN command to start the HELLO program. However, if you used the foregoing method to switch HELLO to a machine language or EXEC file, you will obviously want D.O.S. to issue the correct BRUN or EXEC command on boot up. To do this read in track \$00, sector \$0D and change byte \$42 from a '06' to:

(1) a '34' to BRUN a binary hello program;

(2) a '14' to EXEC and EXEC file.

Now write the sector back to the disk. You may wish to make this and the foregoing patch on a COPY of your CIA disk so that it's BRUN's Tricky Dick immediately on boot-up. If you do, you should leave line \$40 looking like the example below.

40: 03 A9 34 05 AD 62 2A
Binary HELLO flag

Loading a Program between D.O.S
and its Buffers

Having carried out the preceding two operations, you might decide that it would also be useful to place your program in some secure spot in memory where subsequent loading and running of other files cannot overwrite it. The best way of doing this is to move D.O.S. buffers down and load your program on top of them. A simple D.O.S. patch will insure their complete safety even if D.O.S. is coldstarted.

To set things up, read track \$00, sector \$0C

00: D3 1C 81 1E 75 2A
^^ ^^

The next step is to subtract the length of your program in bytes from \$1CD3, the number shown in reverse at the beginning of line \$00. So if your file was, say, \$200 (decimal 512) bytes long, you'd have to work out that \$1CD3 - \$200 = \$1AD3. You should now reverse the high and low bytes of this result in the classical 6502 manner, type them over the 'D3 1C', and write the whole works to the disk.

00: D3 1A 81 1E BD 1E 75 2A

What happens is, the '1A D3' gets changed to '9A D3' on boot up, moving the buffers down the required amount. This allows you to fix your program to run \$9D00 - \$200 = 9B00 in RAM.

Eliminating the Pause during a
CATALOG

If you manage to accumulate a large number of files on a single disk, you may find it useful to have continuous scrolling during a CATALOG. If so, read in track \$01, sector \$0D of the disk whose D.O.S. you wish to provide this service. Then simply change byte \$34 from a 'CE' to a '60' as shown below.

30: 8D 20 ED FD 60 9D 33 D0

Changed byte

Write this block to the disk and you will find, after rebooting, that the patched version of D.O.S. will not stop after each screenful of file names during a CATALOG, but will scroll rapidly through to the end of the list. If you have an autostart monitor, you can use CTRL S to stop/start the listing.

Changing the "DISK VOLUME" Catalog Message

In order to personalize your disk, you might like to have some message other than "DISK VOLUME 254" appear when a CATALOG is executed. If so, read track \$02, sector \$02 and change the "DISK VOLUME" message (written backwards!) that begins at byte \$B0. If you write over the space (\$A0) at byte \$AF, you can squeeze in up to 12 characters by hitting SHIFT 2 (the " sign) and typing them in backwards. So if your new heading is to be say "Sammy's Disk", lines \$A8 - \$B8 would look like the illustration below.

```

      First byte of entry
      !
A8:C9 C1 C2 D3 D2 C1 C2 CB:IABSRABK:
B0:D3 C9 C4 A0 D3 A7 D9 CD:SID S'YM:
B8:CD C1 D3 04 11 0F 04 00:MASDQOD@:
      !
      Last byte of entry
  
```

If you carried out the preceding instructions, and rebooted, you should get the following heading on each CATALOG.

```
SAMMY'S DISK254
```

This looks a bit messy, so to get rid of the '254', read in track \$01, sector \$0C and type 3 'EA's' over bytes \$C0-\$C2, ending up with:

```
C0: EA EA EA 20 2F AE 20 2F
```

After writing this back to the disk and rebooting, your catalog message will blaze forth in its most pristine form.

Putting Headings on the Catalog Track

There are few more frustrating experiences than searching through dozens of disks for a program you urgently need, realizing that you have overlooked it, and then having to start the whole tedious business from scratch once again. Some order can be brought to disk chaos by inserting heading on the catalog track and making sure the type of files that they apply to are placed underneath. For example, it might be useful to get the following display upon CATALOG a disk.

```

T 000 GAMES
T 000 -----
*B 062 PIRATE'S SWAG
*B 071 ROBIN HOOD'S LOOT
  
```

With a newly initialized disk in the drive, type in the following sequence: SAVE XXXXX SAVE YYYYY DELETE XXXXX DELETE YYYYY. Then examine track \$11, sector \$0F and you will see the 'X' and 'Y' strings just beneath the HELLO entry. The 'X's' will most likely be in line \$30. So start by placing the cursor on the 'FF' in the line above (byte \$2E) and type in '24 00 00'. This should leave your cursor on the first of the 5 'D8's' (ASCII for 'X') in line 30.

Now you can press SHIFT 2 and type in the letters G A M E S, leaving the string 'C7 C1 CD C5 D3' in place of the 'D8's'. Be sure to finish this sequence by pressing CTRL SHIFT P (CTRL @) to get back into normal mode. Lines \$28 and \$30 should look like this.

```

28:A0 A0 A0 A0 02 00 24 00: B@$@:
30:00 C7 C1 CD C5 D3 A0 A0:@GAMES :
  
```

The next step is to press 'M' 3 times to bring your cursor over the '13' at the end of the string of 'A0's in line \$48. Type in 'A0 00'. This should bring your to the beginning of the deleted entry for the 'Y' program.

Now you have only to repeat the above process. In other words, just type '24 00 00' over the 'FF 0F 02' in line \$50. Then follow this with a SHIFT 2 and hit the '-' key 5 times, leaving a trail of 'AD's' over the 'D9's'. After CTRL @, move straight down to the '14 02' and replace this with an 'A0 00'. Finally check everything and write the sector back to the disk. Reboot and do a CATALOG to make sure the heading got set up O.K.

If you want a flashing instead of a normal heading, press SHIFT 7 (the ' character) before typing in the heading's letters. Inverse characters can be obtained by changing the normalscreen ASCII numbers as follows:

Numbers beginning with a 'C'....

change the 'C' to a 'O'

Numbers beginning with a 'D'....

change the 'D' to a '1'

'A0' (a space)....

change the 'A' to a '2'

If you change the ASCII for "GAMES" in this manner, you would end up with:

```
30: 00 07 01 05 13 A0 A0 :@GAMES :
```

You can now transfer your favorite games to the disk and they will automatically appear beneath the heading. If after doing this you still have some space left over, you can easily use the same procedure to shove another heading underneath the games on the catalog. Further files can be added below this, and so on.

By the way, when you SAVEed the 'X' and 'Y' files, 4 sectors were set aside by D.O.S. to store their nonexistent data. Subsequently DELETEing them readjusted the bit maps to reclaim this wasted space.

Another point to take note of was the '24' we put in the dummy files' track pointer byte. This was done to prevent the catalog heading from being accidentally DELETED. If you now try to access "GAMES" with any D.O.S. command you will get an I/O ERROR, since track \$24 cannot be reached on the Apple drives (the '-'s are safe in any case because they are illegal catalog

characters).

Hiding the HELLO File on the Catalog

If you used the foregoing method to create headings and want to get the word "HELLO" out of the way-or you simply want to conceal the existence of your HELLO program during a CATALOG - you can make it do a disappearing act as follows. First, read in track \$11, sector \$0F and put the cursor over the first 'A0' after the HELLO file's name. Then type in 19 '88's' and check your work by counting up the inverse 'H's' which will have appeared in the ASCII value for CTRL H.

Having done this, you now need to let D.O.S. in on your little secret so that it can recognize HELLO on boot-up. So what you now have to do is change the D.O.S. record of the HELLO file's as described a couple of sections back under "Switching the HELLO file". Follow those instructions to

read in track \$01, sector \$09 and add 19 '88's' after the HELLO program's name. The program will run automatically when you boot the disk, but of course, D.O.S. will ignore any direct commands referring to HELLO, since HELLO now contains 19 extra control characters.

A couple of points are worth noting here. First of all, it seems that 19 '88's' is always the correct formula, regardless of the file name's length (but you can't hide files whose names are longer than 11 letters due to the 30 character maximum permitted by D.O.S.). Secondly, the reason this method works is that CTRL H's output backspaces to the monitor. So what happens is that the HELLO file's name gets printed for a tiny fraction of a second, too quick for anyone to spot it. Then along comes the next filename to completely overwrite it.

Changing D.O.S. Error Messages

If you feel capable of a more elegant turn of phrase than the author of Apple D.O.S., you might like to change the wording of some of the D.O.S. error messages. These begin on track \$01, sector \$08, byte \$75, and end on the next sector (\$09), byte \$3D. So let's assume, for example, that you want to change I/O ERROR message to CRASH OUT (clearly a far more descriptive choice). Start by reading in track \$01, sector \$08. The message starts in line \$C8.

```
C8:41 54 43 C8 49 2F 4F 20:ATCHI/O :  
  ^^
```

Position the cursor over the '49', press SHIFT 7 (the ' sign) to go into normal ASCII mode, and type "CRASH OU". Now press CTRL @, followed by SHIFT 2 (the " sign) to switch to high ASCII (the last character is in high ASCII to flag the end of the message). Type in the final 'T' and write the sector back. Boot the disk, leave the drive door open, and type "LOAD HELLO". Your altered message should quickly appear.

This can be done with any of the error messages. Just remember to end up with high ASCII character, and make sure your own message's does not exceed the one you are replacing.

Some Ideas for Advanced Programmers

Here are a few Tricky Dick tidbits that you assembly language programmer may find useful. And even if you don't know your way around an assembler too well yet, some of these may prove helpful.

When you have one of the C.I.A. modules in memory, hitting CTRL E causes Tricky Dick to jump to it and begin execution. This feature makes it possible for you to install your own programs and access it with the same instructions. Furthermore, you can easily interface your code with Tricky Dick to call Tricky's internal routines.

The first thing Tricky Dick does on CTRL E is attempt to distinguish a C.I.A. module from left-over garbage in RAM. In order to do this, it EOR's the byte at \$8000 with the one at \$8001, then CMP's this with the byte at \$8002. If a match is found, it JSR's to \$8003 where the modules' code begins. If a match does not occur, a tone is sounded and normal operation is resumed. To use the CTRL E hook, you need to assemble your programs to run at this address and set up the first 3 bytes accordingly.

Tricky Dick contains both a 3.3 and a 3.2 RWTS. The 3.3 version begins at \$3800, and the 3.2 at \$3000. They both use the same IOB which starts at \$815, and share the device characteristics table which starts at \$826. The information on these two lists is in exactly the same order you would normally expect. A JSR to \$121f invokes a subroutine which looks at \$82A to

determine which D.O.S. version has been selected, then calls the appropriate RWTS. Reading or writing with the RWTS will be done using the D.O.S. marks shown in Tricky Dick's display. Tricky Dick stores its sector data into a buffer starting at \$2E00.

If you want to BSAVE Tricky Dick any patches or changes to it, use A\$803, L\$3800.

You can call each of the 3 versions of RWTS in the machine independently. Thus, you could, for example, use the D.O.S. RWTS at \$B800 to read a disk, and one of the Tricky Dick RWTS's to write it out again or vice versa. With Tricky Dick and a module in memory, there is still free core from \$4000 to \$7FFF for use as a buffer or anything else. After your program has done its thing, it can return control to Tricky Dick at any time with an RTS.

Moving Closer to the Disk

Well, that just about loses this file on Tricky Dick for now, though I'll be returning to some of this utility's more sophisticated capabilities when I show you how to work on copy protected disks. However, without a little help from the other members of the C.I.A., there are just some jobs that Tricky can't do. You'll find that for some of the work you'll be wanting to carry out, you're going to need to delve into the most inaccessible parts both of normal and abnormal disks - and make complete sense of all the information they contain. That's why you need to meet The Linguist.

-----* APPLE MANOR (716) 654-POOF!

[5] #36 Library #8

<1-58/Last-33> <?/Q/A

```
=====
DOCUMENT cia.tricky.dick
=====
```

```
#: 34
```

```
#34 : 052 CIA/TRICKY DICK
```

```
226 LINES - 51 SECTORS
```

```
DOCS CONTRIBUTED BY DIAMOND JIM
```

```
-----
TRICKY DICK INSTRUCTIONS
```

THE DISPLAY:

Press any key to get out of the display that appears when TRICKY DICK is run. This will bring up the data viewing area, but will leave intact the three lines of parameters at the top of the screen and the command line at the bottom. "ALL COMMANDS" at the lower right of the screen prompts you to enter the instruction you wish TRICKY DICK to execute. Each command is echoed on the right of the ':' to serve of a reminder of your last input.

HELP SCREEN (/ or ?):

The help screen lists each command. A ^ before a letter means that the CTRL key must be pressed at the same time as the letter. Hit any key to go back to the data display.

SELECT DOS VERSION (CTRL D):

Toggles between DOS 3.2/3.3 The current version is shown under the word DOS at the top of the display.

SLOT, DRIVE AND DEVICE SELECT (CTRL O):

Brings the cursor up next to 'SL-'. If your disk controller is in SLOT 6, hit RETURN, if not type the slot #. If a card with P5 and P6 PROMS is present, DOS 3.2 will automatically be brought into play. The cursor will move to 'DR=' -type in the # of the drive which has the disk you wish to work on. After that, press RETURN to go to 'PR='. The default (PR=0) means that printer output is disabled. Enter your printer card's slot # when you are ready to print out some data from Tricky Dick.

TRACK AND SECTOR SELECT (; < >):

';' puts the cursor next to 'T='. Select the track # and hit RETURN. The cursor will then go to 'S='. Select the sector # and hit RETURN. A RETURN alone for T or S accepts the value shown. You can increment or decrement the track # shown by hitting < or > (with or without pressing the shift key). Track #'s wrap around after track \$22. You can also < and > the sector # and in DOS 3.2 sectors wrap at \$0C, with 3.3, they wrap at \$0F. However, the ':' command allows you to designate track #s greater than \$22 or sector #s greater than \$0F/\$0C.

READING A SECTOR (CTRL R):

Press CTRL R to read the sector you've selected into TRICKY DICK'S buffer. The sector data will be displayed in the data viewing area.

VOLUME NUMBER:

The volume # of the disk you just read will appear under the letters 'VOL'

CURSOR MOVEMENT (I,J,K,M AND ^I,^J^K^M):

I, J, K, and M move the cursor around the data display. When the cursor goes beyond the edge of the screen, scrolling or wrap-around occurs. Scrolling can be continued until the first or last line of sector data appears on the screen. Holding down CTRL and hitting any of these 4 keys increases the distance covered, causing the cursor to jump to the edge of the display.

EDITING SINGLE BYTES IN THE DISPLAY:

Place the cursor over the byte you want to change, and type in the new hex value. Single-digit hex numbers must be entered with a leading 0 i.e. enter

5 as 05. If you type the first digit and change your mind, hit 'J' or 'K' to move the cursor away and cancel the entry. If you want to change the digit, hit the SPACEBAR and start again.

DATA ENTRY MODES (CTRL @) (") (')::

Just after loading TRICKY DICK, the words "NORMAL HEX" will appear at the lower left of the screen next to the word "DATA". That means that you can enter hex digits and these digits will appear in the data display under the cursor. This allows you to edit the screen display before writing it to disk. Typing " (SHIFT 2) puts you in "high ASCII" mode and causes an inverse "HIGH ASCII" message to appear in the lower left corner of the screen. In this mode, each time you press ANY key, its corresponding ASCII code # with the high bit set will appear under the cursor, and the cursor will advance to the next space. This lets you type alphanumeric characters into the data display without looking up their corresponding high ASCII codes. Before you can issue any other command, you'll need to hit the CTRL SHIFT P (CTRL @). This puts you back into the "NORMAL HEX" mode and allows TRICKY DICK to accept your keyboard commands again. Typing ' (SHIFT 7) will place you in standard, or "low" ASCII mode. Each keypress will leave its normal ASCII under the cursor. To return to normal TRICKY DICK functions, hit CTRL SHIFT P (CTRL @).

THE DATA DISPLAY:

When you read a sector, the data viewing area shows the first half (the first 128 bytes) of the sector data. On the far right of the screen you will also see an 8 column alphanumeric symbol display. This part of the screen gives an ASCII translation or the hex data. CTRL characters are in inverse and all flashing symbols get changed to normal.

To view the second half of the sector, hit either CTRL M or RETURN, bringing the cursor to the bottom of the screen. To scroll through the remaining data, hold down the M and REPT keys. You can scroll back to the beginning by hitting CTRL I, followed by pressing I and REPT. Alternatively, hold down the CTRL key and press F, M, and F, in that order. The column of hex #s on the far left which are followed by a ':' tell you what portion of the sector data you're viewing. They are offsets in TRICY DICK'S data buffer and range from \$00 to \$FF in 8 byte increments.

FLIPPING DATA DISPLAYS (CTRL F):

When in the viewing mode CTRL F will erase the alphanumeric symbols on the right of the screen and display all the data in the last sector read. The cursor will remain over the same byte during the flip. The leftmost column of numbers indicates the buffer offsets, but with the trailing zero omitted to retain clear screen formatting. Press CTRL F again to get back to the partial screen with ASCII and the next 128 bytes of data, starting with the row in the full display where you left your cursor.

SECTOR FILLING (CTRL Z, CTRL X):

In either of the above 2 displays, CTRL Z replaces the sector data with zeros beginning with the byte over which the cursor is placed, and extending to the right to the end of the sector. CTRL X fills the sector from the cursor to the end with the byte value under the cursor. These commands don't write anything to the disk itself.

DISASSEMBLING SECTOR DATA (L):

Hitting L disassembles the sector code beginning with the byte under the cursor and continuing until the screen is filled. The middle column of the display gives the ASCII translation of the hex data to its left. Repeatedly pressing the L carries on the disassembly until the end of the sector is reached. After disassembling a screenful of hex, you can return to the previous hex display by hitting the SPACEBAR or some other noncommand key. The cursor will be positioned next to the last byte that was disassembled.

LISTING APPLESOFT AND INTEGER CODE (CTRL L) (L):

If the sector data contains Applesoft or Integer BASIC code, a listing can also be displayed. Select the language that you want to list by pressing CTRL L then typing an A for Applesoft, an I for Integer or a * for assembler. Finally hit L for a listing which begins with the byte under the cursor. Keep typing L's until you have listed all the code in the sector

buffer.

WRITING TO THE DISK (CTRL W AND Y):

CTRL W followed by 'Y' writes the contents of the sector buffer to the sector whose address shown at the top of the screen. WARNING: Be sure that all the information shown on the screen is correct before you write it, if you make a mistake you'll clobber the disk, maybe irreparably. Check to be certain you've selected the correct drive, track and sector #'s and that the data displayed on the screen is the data you want written on the disk. When you press CTRL W you'll hear 6 short tones. Keying in a 'Y' during this sequence writes to the disk and stops the tones. If you press CTRL W by mistake, you can simply elect not to do anything and when the 6 tones cease, the write instruction is automatically cancelled.

ERROR MESSAGES:

When an error occurs during the operation of TRICKY DICK, a tone is sounded and a flashing error message occurs inside the '<-->' mark in the upper right corner of the screen. Just above, Tricky Dick displays the accompanying DOS error code inside the '<00>'. a subsequent normal read or write operation clears both the error message and its code from the screen. The chart below shows the type of error, its flashing designator, and its DOS code.

Type of Error	'<-->' designation	DOS code
Write Protect Error	<WP>	10
Drive Error (Read or Write)	<IO>	40

DEALING WITH NON-STANDARD SECTOR MARKS (CTRL S):

These are the features that let you read and write to disks whose formatting has been altered. To do this with the least amount of work, use THE LINGUIST to determine the nature and extent of the alterations.

Hit CTRL S and the cursor will jump up to first byte of the sector marks. You can move the cursor along this data with the left and right arrows. To replace any digit, position the cursor over it and type in the new digit. The change will appear and the cursor will move to the next symbol. A RETURN gets the cursor back to the data display.

In the top line, "D5AA96" is the standard DOS 3.3 address field header and "DEAA" is the address field trailer. If you've changed the DOS version to 3.2 the top line will read "D5AAB5" which is the 3.2 header. The next line "D5AAAD" refers to the data field header and "DEAA" is that field's trailer. IMPORTANT: By replacing one or more of the header or trailer bytes with a '00', you can tell TRICKY DICK to accept any value in that position. For example, 'DE00' in the first line causes the second byte of all address field trailers to be ignored during reading or writing.

The third line shows the data field header and trailer (the latter with an added 'EB') once again. The header and trailer you select here will appear in the data field of the next sector you WRITE to the disk. This line is used only for writing and allows you to alter the values in the data field header and trailer of any sector you write to the disk.

Finally, by changing the 'Y's' in the DOS mark section to 'N's', you can tell TRICKY DICK to ignore the address field checksum (the first Y) and/or the data field checksum (the second Y). The 'O' just below the 2 'Y's' indicates that TRICKY DICK will always write a sector of data to the disk with a data field checksum of \$00.

PRINTING HARD COPY FROM TRICKY DICK (CTRL P) (P):

Typing CTRL P allows you to select the form in which you wish the sector data in TRICKY DICK'S display to be printed. The cursor will jump to the print select parameter, prompting you to type in one of the following instructions:

- 'H' for a hex dump with ASCII translations
- 'A' for an Applesoft listing of the sector code
- 'I' for an Integer listing
- '*' for a disassembly

The next step is to type CTRL O, followed by 2 RETURNS. This brings the

cursor in position next to the 'PR=' for you to key enter the slot # of your printer interface. After making sure that your printer is turned on, type 'P' for the action to begin. If you select the wrong slot, you may find that TRICKY DICK hangs, or that other strange things happen.

If you are in the *, A or I modes you'll get a listing from the last cursor position to the end of the sector data. In the 'H' mode, you get a full sector dump irrespective of the cursor position.

MODULE CHECK-OUT (SHIFT M):

Typing a SHIFT M displays a list of the TRICKY DICK coresident modules, their names and a brief description of their functions. If one of the modules is already in memory, its name will be displayed at the top of the screen just to the right of the inverse 'TRICKY DICK'. If no module is in memory, TRICY DICK'S version # will be displayed.

EXITING TRICKY DICK (RESET) (CTRL C):

You can restart TRICKY DICK by typing '&' (or CALL 2051). CTRL Y (or 803G) from the monitor also gets things going again.

JUMPING TO A MODULE (CTRL E):

To load a module while running TRICKY DICK, type CTRL C followed by BLOAD (name of module). When the drive stops, type '&' and you're ready. When you get back to TRICKY DICK you'll notice the name of the module presently in memory replaces the version # in the banner at the top of the screen. To go into a module you have loaded into memory, type CTRL E and the module's introductory display will appear on the screen. Hit any key and you're ready.

If you hit CTRL E with no module in memory, TRICKY DICK will let you know by sounding a rather pleasant tone. When you jump to one of the modules, the words "TRICKY DICK" at the top of the screen get changed from inverse to normal. At the same instant, the module's name switches from normal to inverse. This lets you know at a glance which program you're "in" - it's always the one whose name is in inverse.

Apple Manor - (716) 654-7663

I'm going to be posting docs on the modules as I get them done, this is turning out to be quite an undertaking and I'd appreciate it if you'd leave Apple Manor's name on if you give these docs to another board.
Bets C.

[-3] #36 Library #8

<1-58/Last-34> <?/Q/A/+/-/P> #:

So I have included a complete list of commands in the order they appear in the main menu except for the B and P commands which are last.

U = Update default dialing string: Used to change the dialing string which appears in the top line on the left. See dialing string above for more information.

W = Write current setup to disk: This saves the current setup under the the name specified on the second line to the left. All information will be saved including: prefix, area code, phone numbers, etc.

E = Enter phone numbers: Allows you to enter as many LD ports and targets as you want. Be careful entering the information as there is little error checking in this routine. Just follow the prompts and you should have no trouble. Be sure to use the W command to write the setup to disk and avoid having to retype the numbers with each run. When entering the targets if you enter a number that is exactly 7 digits long, the default area code will be added to the beginning of it. If you do not want the area code added on you have several options: alter the program, use a Word processor to alter the setup file, or add a 0 onto the end of the number (It shouldn't effect anything). I think the second choice is by far the easiest.

V = View Instructions: Simply tells you to read this file. Some time I may add some quick instructions, which is why I put it in, in the first place.

L = Load setup: Loads the setup from disk. Loads the filename specified on the second line to the left.

C = Catalog prefix: Catalogs the current prefix. Use Ctrl-S to stop/start the scrolling.

F = File names: Used to change the filenames for the codes and setup. Has minimal error checking: The first letter must be an alphabetic capital letter (therefore returns and spaces will not be excepted), allowing ASCII values 65 (A) through 90 (Z).

I = Display codes: Uses the filename on the second line to the right. And displays this files contents. Normally this file would contain codes, but it can contain anything. Use Ctrl-S to stop/start the scrolling and be able to see the information.

A = Area code: Lets you change the default area code (See the E command). This routine will only except a 3 digit numerical entry whose first digit is not a 0 (all part of the error checking).

S = Set prefix: This will be the prodos pathname used to save or load anything. The current prefix will be displayed on the first line to the right.

D = Dos command: Allows you to enter any dos command and executes it. You can use it to delete code files once you have copied down the information to paper. If you don't delete the file each time the program finds another code it will append it on to the end of the file. Type: D Delete <Code file-name>.

Q = Quit: This exits the program, clears the screen, and returns the borders to normal. You will be in ProDOS Applesoft basic with this program in memory.

P = Preferences for modem: A sub menu that allows you to change certain modem parameters.

M = Modem delay: The amount of time the modem should wait to detect a carrier before hanging up.

S = Speaker (on/off): Allows you to turn the modems speaker on or off.

D = Direct command to modem: This allows you to enter one command that will be issued to the modem when you begin dialing.

B = Begin Dialing: You will be asked one question before the modem starts

=====

DOCUMENT code.crunch

=====

Code Cruncher (V1.0) Docs
by Castellán (4/22/88)

.....

This program allows you to get codes for Long distance services like MCI and Sprint. I tried to keep the working of the program the free and loose to allow compatability with almost any service. The program can also be used as a War Dialer which searches the local area for modems. Simply leave the +, # and . 's out of the dialing string. Example: ATDT 775-xxxx. With slight modifications the program can be used for many other applications along the same lines.

First I'll give a basic rundown of the options from the main and modem menus, then I'll go into detail about the structure of the code and modifying it. There are a few general notes I'd like to mention before I get to the menu options:

[Dialing String]

The dialing string uses 4 symbols to represent different things. They are:

- + - This is the long distance port (or extender).
- # - This is the target (or number to be called).
- . - This is used for a delay and automatically converted to a (,). I did this because of Applesoft's inability to except (,) in input statements.
- x - (Or X) This is replaced by a random number from 0 to 9 when dialing.

Sample dialing string: ATDT+...lxxxx.# In the actual dialing string, this might produce something like:

```
ATDT7430631,,,13825,2037979075
-----
LD port Code Target
```

The + is replaced by a port from the list you entered with the E command. The # is replaced by a target randomly chosen from another list. All (.)'s are replaced with (,) and a random number (0 to 9) is chosen for each x.

[Defaults]

Most of the defaults for the program are located around lines 100 to 200. The one that everyone should change is the default for the filename of the setup file. The original program has it set to CC.SETUP. I would suggest using CC.<LD company name>. Find the line that contains: <line number> FSETUP\$ = "<filename>" and change the name in quotes ("") to the name you wish to use. If you do not do this you will have to enter it every time you use the program or leave it as the current default. All other defaults can be changed in the same way, but it should not be necessary because you can load in your own setup with the L command.

[Status & Ctrl-C]

The status indicator located on the fourth or fifth line to the right changeswhenever you enter a command from the main menu. If you are not sure where you are look at the status line. To return to the main menu from anywhere you can enter Ctrl-C (sometimes it may be necessary to enter a return after Ctrl-C), but I would not suggest using this command if you don't have to. The only place it is really necessary is from the B command to stop dialing.

[Main Menu Options]

Most of the commands are self explanatory, but others need further explanation.

dialing - How many codes to try? Enter a number and press return. Press return all by itself to cancel. After this command the screen will display several stats: Codes Tried, Codes to try, Codes Found, Dialing status, and dialing string.

Dialing status can be one of four things: Organizing (appears once when commands are sent to modem before each dialing session), Dialing (Sending the dialing string to the modem), Waiting (waiting for a connect), or Saving (The program has found a code and is saving it). Dialing string is the actual string sent to the modem.

Ok, with those explanations you should have no problem using the program. Happy code hunting.

[Modifying the program]

I started using lots of REMs to make it easier to modify, but got tired of that quickly.

After credits and basic screen setup in lines 5 to 100, there is a section for variable declarations lines 106 to 189. Add any new variables here, and alter any defaults that appear. Don't mess with the variables that you're not familiar with like the flags.

Then we have some introductory notes at 200 to 280. If you make any changes to the program you can note them here to supplement these docs. Next comes the main menu (300-355) and statements to get your input. Line 360 sends the input to a subroutine that uppercases it. So if you add something that gets a single letter command assign it to I\$ and gosub 5500 to uppercase it.

Lines 380 to 899 are for a list of If statements that gosub some where for each command entered. Look here to see where a particular command from the main menu will take you.

Lines 1000 to 5000 are used to update the top of screen stats. There is a gosub 1000 at the end of any subroutine that might change these stats.

At 10000 to 29900 is the core of the program. This does the dialing and will be the biggest cause of compatibility problems between modems. The original program was written on an Apple //c with 2400 baud Mercury modem. Theoretically it should be compatible with any modem that uses the Hayes command set, but all modems have their slight differences, incompatibilities, and bugs. I'll get back to this later.

The preferences menu and routines are at 48000 through 49980.

At 50000 we have the hit a key routine that simply prints "Hit a key" on the bottom line and waits for you to comply, then erases the message and homes the screen.

55000 is branched to from the onerr in line 5, also note that line 7's poke cancels the onerr and was used for debugging. When I was finished with it I placed a rem in front of the poke. In line 55100 A = peek (222) returns a code for the error that occurred, the lines after that check this code and act accordingly. The last statement of this routine returns you to the main menu (goto 300).

The program ends at line 60000.

Unless I missed any, all the peeks and pokes are followed by a Rem statement explaining its purpose. Peeks 78 and 79 are used in generating a random number.

There are many variables used in the program, and I'm going to list all the ones I can remember that are important and not obvious.

CT = Codes tried

CF = Code Found

DS\$ = Dialing status

ST\$ = Program status

DE = Modem delay

SP\$ = Speaker status (on/off)

DC\$ = Direct command? (Yes or no)

If yes, DC\$(2) = the command

DI\$ = Dialing string (the one displayed on the top line)

NP = Number of LD ports

NT = Number of targets

DI\$(2) = Backup dialing string (DI\$), used in the update dialing string routine

SC\$ = Backup Prefix (PX\$), used in the Set prefix routine

Array [NP\$(1..NP)] = The phone number for each port

Array [NT\$(1..NT)] = The phone number for each target

NC = Number of codes to try

RT = Random number used to randomly select a target

PO\$ = The port that will be used in the next dialing

TA\$ = The target that will be used in the next dialing

DI\$(3) = The dialing string that will be sent to the modem

V = Used to produce about a 1 second delay allowing the phone line enough time to hang up. You may want to increase or decrease the number used in this loop depending on your system. Lines 10267, and 29175-29189.

CN = Connect (1=yes,0=no)

Z = Also used to produce a 1 second delay. Lines 12010 and 12015

DI = Length of DI\$

Array [A\$(1 to DI)] = Each character in the dialing string (DI\$)

CN\$ = Input from the modem

A = The error code used in the Onerr routine

That's most of them. Next a breakdown of the different steps of the dialing procedure.

The dialing procedure lives at lines 10000 - 29900. There are several flags in the procedure that control when certain things are done (some sections of the program are only executed once and the flags make sure this happens). The flags are numbered 1 through 10 [Flag(1) to Flag(10)], but not all the flags exist (for example there is no Flag(7) but there is a Flag(4)). I'm not going to list the different flag functions because I don't remember what they're all used for and some are not be used at all (Yes, I know, very sloppy programming).

You are given one prompt, "Enter the number of codes to try: ". The number you enter is assigned to NC. Then we gosub to 29000 which sets up the screen and sends a few commands to the modem.

In this procedure we print some information to the screen, and send the following to the modem:

ATE0 Tells the modem not to echo commands. This is needed by my modem, other modems may dial without it. This command can sometimes mess up the first dialing of that session.

ATM0 Turns the modem's speaker off if SP\$ = "OFF". If you want to change the speakers status after you have begun dialing once, you will have to quit (the Q command), turn off the modem and restart the program (RUN).

ATS7=DE DE is a variable that holds the modems delay. This command sets that delay.

DC\$(2) This is the direct command if there is one.

Next we return from the subroutine and begin a loop (this controls everything else in this routine). The loop increments CT (See the variable list), finds PO\$ and TA\$, and resets DI\$(3) to "". Next we have a delay to allow the program to hang up from the last dialing, then we gosub 21000 which does the dialing using PO\$ and TA\$. This routine gets CN\$ (usually CONNECT or NO CARRIER) and sets CN to 1 if CN\$ = CONNECT, then it returns CN to the loop. After that the program checks two things: is CT > = NC (meaning the routine has reached the Number of codes to try and should stop), and is CN = 1 (a CONNECT). If CN does = 1 the program gosubs to 12000.

At 12000, the save code routine we start off by hanging up. The program enters a PR#2, then waits about 1 second and sends +++, another 1 second delay and ATH is sent. That should hang up the phone and a PR#0 is executed switching back to 80 columns. Now the program writes the dialing string (DI\$(3)) to a text file and increments CF by 1. CN is reset to 0.

After returning from the Save routine (if CN = 1) we gosub to 29000 which updates the screen's stats. A NEXT I is executed in line 10320, this for loop (with the for in line 10210) is used to select a LD port from the list you supplied with the E command. When the loop is completed it goes to line 10325 which restarts the loop with a goto 10210. This continues until CT > = NC. After CT reaches NC we return to the main menu, but ask for a key press before returning... allowing you to examine the final stats on screen.

The next lines are subprocedures that were called from within the main dialing procedure above, and they were all explained up there also. However The Update Code stats routine might need further explanation.

Lines 29100 - 29170 are executed every time the B command is used. They set up the screen with the starting stats and information. Lines 29175 - 29190 are executed only the first time the B command is executed for that session with the program. If you stop and rerun the program these lines will be executed again. If you turn off the modem, these commands will have to be sent again... so use the Q command to quit, then type RUN to start it up again. Lines 29200 - 29250 are executed after each dialing and they update CT, CF, NC, and DS\$.

The dialing procedure ends here at line 29900.

[Trouble Shooting]

If the program doesn't work when you first try it, there are several things you can check. This isn't like the trouble shooting sections you see in some manuals... ("Be sure the computer is turned on.")

1. Check all of the commands that appear in the program that are sent to the modem. Just to make sure your modem uses them for the same purpose. The commands are:

+++ Line 12010 - Escape characters, gets the modem ready receive a command.

ATH Line 12015 - Hang up

ATE0, ATS7, ATM0 - Explained above

2. Check the two delays in the program, and adjust them if necessary. When in doubt make them longer... especially if you have a speed card, zip chip, or GS.

Look in the variable list (V and Z) for more information. Both delay's are approximately 1 second long. You can use the following program to figure out the delay, and use a watch or clock to time from the first set of beeps to the second:

```
10 HOME:?:?:?
20 ? "Begin Timing now.":chr$(7);chr$(7)
30 FOR V = 1 to 24000 : NEXT V
40 ? ch$(7);chr$(7);"Stop Timing now."
50 Input "Enter the time: ";A
60 A = 24000/A
70 ? "Your system makes approximately ";A;" loops in one second."
80 END
```

3. Try running the program without ATE0 (in line 29180). Also try other commands: If you use ProTERM, write down the Init string it uses and replace the ATE0 with that. If it works then... you can get rid of one part of that init string at a time untill you narrow it down to the ones that are really needed.

4. If you have only 40 columns, you're going to have many a problem. And I'm not going to try and anticipate the effects... so you're on your own.

5. Check the slot of your modem if it's not slot 2, change all PR#2's to PR#(whatever slot it is). Speaking of PR# commands... I use a PR#0,A\$C307, which changes PR#0 to the address for PR#3 but skips over some initializing commands which would clear the screen.

6. Finally, the most important one: Dip Switches. Get into ProDOS applesoft. Enter PR#2 (or whatever slot your modem's in). Then enter CTRL-A I (this lets you see what you are typing). Now press Return and watch the lights on the modem, when you hit return the RD (Read data) and SD (Send Data) lights should flash. If they do not flash you can be pretty sure it has something to do with Dip Switches. Turn the modem off and play with the switches, turn it on again and hit return again... watching the lights. You'll have to continue to play with these switches like this until you find a combination that works. I know this can be difficult if you have a lot of switches, so use your manual to try and decide which switches might have an effect on it.

Ok, that's about it. If you make any substantial changes, I'd like to see what other people did with my program, you can reach me at USHA or TPH among other boards you might see me on.

-END-

=====
DOCUMENT commando
=====

The Digital Gang Presents:

Data East Commando

Cracked By: The Sheik

Thanks To: The Triton & High Voltage

Special Thanks: Sir Mangar

- o Primary button shoots gun ("button 0", usually at lower left).
- o Secondary button throws grenade ("button 1", usually at upper left).

Game control keys are:

- o S = Toggles Sound
- o ESC = Pauses Game

-END-

I. System Requirements:

For playing on an Apple IIe, IIC or 100% compatible, Commando requires:

- o 128k RAM
- o Disk Drive
- o Color Graphics adapter
- o Monitor (or TV with RF modulator)
- o Joystick (optional)

II. Getting Started

If you are using an Apple IIe, or IIC or 100% compatible:

- o Turn on your monitor or TV.
- o Insert the Commando disk in drive A and boot machine.
- o The title screen will appear, followed by a computer controlled demonstration game.
- o Press "Fire" button on joystick or keyboard to begin.

III. Objective

As the crack shot Commando, your mission is to move forward into enemy territor You must destroy the enemy and their base by passing through the Iron Walls.

IV. Game Play

- o Use the joystick or keyboard to maneuver your soldier.
- o Press the "Fire" button to shoot or the "Grenade" button to throw grenades.
- o Dodge all bullets and grenades.
- o Trees and other obstacles can be used for cover.
- o Do not fall into rivers or ponds. Beware of trucks and jeeps.
- o Pick up enemy grenades in boxes and use them against the enemy.
- o Each box contains 1 grenade.
- o Win bonus points by rescuing prisoners, destroying enemy leaders, and destroying the enemy headquarters.

Keyboard assignments are as follows:

I = UP J = Left K = Down L = Right
Z = Shoots Gun
Z = Throws Grenade

Joystick assignments are as follows:

- o Joystick controls movement

=====

DOCUMENT compet.karate

=====

COMPETITION KARATE SOFT-DOCS

> QUICK REFERENCE CHART <

	ACTION	PADDLE	TARGET AREA
	-----	-----	-----
ARMS	< PUNCH	1	HEAD / BODY
	< BACKFIST	2	HEAD
	< LUNGE	3	MOSTLY BODY
DEFEND REST	< WATCH ARMS	4	DEFENSE-ARM STRIKES
	< RETREAT	5	RETREAT
	< WATCH LEGS	6	DEFENSE-LEG STRIKES
LEGS	< FRONT KICK	7	MOSTLY BODY
	< SIDE KICK	8	HEAD / BODY
	< SPIN KICK	9	MOSTLY HEAD

> FIGHTER STAMINA STATUS <

BEST -> TIRING -> SHAKY -> FADING -----> DAZED

LEFT TEAM	RIGHT TEAM	
PADDLE 0	PADDLE 1	----> DIAL TO SELECT MARTIAL ART COMBAT ACTION...
BUTTON 0	BUTTON 1	----> PLAYER WITH ADVANTAGE INITIATES ACTION BY PRESSING...
" Z " KEY	" / " KEY	----> PRESS TO GAIN INSTANT ADVANTAGE AND GO INTO DESPERATION ATTACK...
<- KEY	-> KEY	----> APPEARS BY FIGHTER'S NAME TO INDICATE ADVANTAGE...

> COMPETITION KARATE SEQUEL <

Once your student achieve the rank of red belt, one of two rates immediately await them: either they become instructors, or are permanetly retired, and can no longer participate in the game. Even students who are instructors eventually retire when a (MISSING TEXT)

To provide further action and adventure for these retired martial arts experts, a sequel program to Competition Karate is in the works at Motivated Software. Retired" red belts" are the only characters eligible to participate in the sequel, which will p (MISSING TEXT)

Your characters will traverse treacherous country in search of a personal quest.

Along the way they will encounter temples of learning, where they can gain more martial arts knowledge as well as mystical, and even magical, training.

> IMPORTANT <

DO NOT AFFIX A WRITE PROTECT TAB TO THE GAME DISK OR ANY COMPETITION KARATE DATA DISKS.

NEVER PRESS [CTRL-C] OR THE [RESET] KEY WHILE THE GAME IS IN PROGRESS - CERTAIN GAME FUNCTIONS MAY BE PERMANENTLY DAMAGED.

=====

DOCUMENT compressor

=====

Compressor:

Compressor is a machine language program which reads an ASCII text or Appleworks AWP source file, and converts it into a new file which is about 30% smaller than the original. This compressed file can then be displayed or printed by Dogpaw, and will appear the same as the source file. This will be useful for situations where Dogpaw is being used to display large amounts of text, and disk space is getting short. Compressor can also decompress its compressed files, converting them back to ASCII text files.

Using Compressor:

Compressor is a ProDOS-based program. It requires 80 column display and lower case capability. To use Compressor, simply BRUN it and enter the pathname of your source file and the name you want to give the object file at the prompts. If the source file is ASCII text or an AppleWorks AWP (word processor) file, the object file that Compressor creates will be compressed. To decompress a file, just enter the name of the compressed file as your source file. Compressor will detect that it is a compressed file, and the new object file will be decompressed standard ASCII text. If the name you enter for the object file is the name of an existing file, you will be asked if you want this file to be overwritten. Your source file will be unaffected by Compressor.

The exact amount by which Compressor reduces a file's size will vary. Source files that include a lot of upper case and/or numeric characters will not be reduced as much as more ordinary files. A file that consists entirely of upper case and/or numerics will not be reduced at all. There is no limit on the size of the source file to be processed by Compressor. If the source file and object file are on different disks in the same drive, Compressor will prompt you to swap disks if and when necessary. Just be sure you have the object file's disk in the drive when you first enter its pathname.

The compressed file will be of type \$F8 in the ProDOS catalog. This is one of the file types set aside by Apple as "user defined". For this reason, you may occasionally come across other files of type \$F8 that have nothing to do with Dogpaw or Compressor.

Compressor can only decompress files to standard ASCII text (type "TXT" in the ProDOS catalog). This means that AppleWorks AWP files that are compressed and then decompressed will lose any embedded printer control characters, margin and page-break settings, etcetera. ASCII text files can, however, still be loaded into AppleWorks, worked with, and re-saved as AWP files.

Karl Bunker
January, 1988


```
=====
DOCUMENT conglomerates
=====
```

```

$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^
$
$          CONGLOMERATES COLLIDE          $
$
$          WRITTEN BY                      $
$
$          THE PENGUIN/T-MEN              $
$
$          FOR                             $
$
$ THE SOUTH POLE.....[312] 677-7140 $
$ THE OUTPOST.....[312] 441-6957 $
$ APPLE MANOR.....[716] 654-POOF $
$
$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^$^

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SET-UP AND SEQUENCE OF PLAY

AFTER BOOTING THE DISK, YOU WILL HAVE THE OPPORTUNITY TO REVIEW THE SUMMARY RULES OR GO ON TO SELECT ONE OF 3 GAME PLAY OPTIONS. ONCE YOU CHOOSE A GAME PLAY OPTION, YOU WILL BE ASKED TO INPUT INFORMATION ABOUT THE PLAYERS. THE GAME WILL THEN START WITH YEAR (TURN) 1 AND EACH PLAYER WILL BE ABLE TO ENTER A COMBINATION OF TRANSACTIONS. AT DECISION CENTRAL YOU WILL BE ON-LINE TO FIVE CORPORATE DATA BANKS FOR READY ACCESS TO:

- (1) WORLD FINANCIAL STATUS
- (2) CORPORATE STATUS
- (5) PERFORMANCE CHARTS

ANY TRANSACTIONS DESIRED MAY BE ENTERED THROUGH (3) ROCKROY FINANCIAL CENTER OR (4) ACQUIRE A COMPANY. ONLY WHEN YOU ARE READY TO END YOUR TURN SHOULD YOU PRESS KEY # (6). WHEN THE LAST PLAYER COMPLETES HIS TURN FOR THAT YEAR, THE ROCK-ROY COLOR LINE GRAPHS WILL OVERLAY THE PROGRESS OF ALL PLAYERS FOR THE LAST 6 TURNS. IF A PLAYER'S PERSONAL EQUITY EXCEEDS \$1 BILLION THE SCORE WILL GO "OFF THE CHARTS" IN A STRAIGHT HORIZONTAL LINE BUT ALL QUANTITIES WILL BE CALCULATED AND DISPLAYED IN OTHER DATA BANKS. WHEN THE GAME ENDS (SEE GAME OPTIONS) AN AWARDS CEREMONY WILL DECLARE THE WINNER.

GAME RULES

THIS IS A GAME OF CORPORATE CONQUEST IN THE WORLD OF CONGLOMERATES. EACH PLAYER CREATES HIS OWN COMPANY (BY NAME), SELELCTS ITS INTERNATIONAL HEADQUARTERS AND STARTS WITH \$20 MILLION IN ASSETS. INITIALLY, EACH COMPANY HAS \$10 MILLION IN CASH AND \$10 MILLION IN CONTROLLED CAPITAL STOCK. THE CAPITAL STOCK VALUE OF 10 MILLION REPRESENTS 1 MILLION SHARES AT \$10 PAR VALUE. THE COMPANY ALSO HAS BASE EARNINGS OF \$2 MILLION PER YEAR (TURN) WHICH REMAIN CONSTANT FOR THE ENTIRE GAME. GIVEN THESE RESOURCES, YOU MUST INCREASE THE EARNING POWER OF YOUR MULTI-NATIONAL CORPORATION BY ACQUIRING OTHER COMPANIES KNOWN AS SUBSIDIARIES. WHEN BUYING A SUBSIDIARY, LOANS TO A MAXIMUM OF 50% OF THE PRICE ARE AVAILABLE TO FINANCE THE PURCHASE. ONCE A SUBSIDIARY IS ACQUIRED, THE AMOUNT OF FIXED EARNINGS FROM THAT COMPANY ARE ADDED EACH TURN TO THE BASE EARNINGS OF YOUR CONGLOMERATE. ANY SUBSIDIARY THAT IS AQUIRED MAY NOT BE RESOLD-FORCING PLAYERS TO LIVE WITH THEIR DECISIONS. EACH YEAR (TURN) THE PRIME RATE WHICH RANGES FROM 7 TO 30% CHANGES RANDOMLY AND CAUSES THE BANK RUN BY THE COMPUTER TO COLLECT THE AMOUNT OF INTEREST DUE FROM EACH PLAYER'S COMPANY. THE BANK WILL ALSO PAY INTEREST ON DEPOSITS AT A VARIABLE RATE LESS THAN THE PRIME RATE WHICH PROVIDES EXTRA INCOME

```
=====
DOCUMENT conversion
=====
```

Docs for Converting Wings of Fury:

To convert:

If you can read this, then you've unpacked the UTILS for Wings of Fury. If you haven't done so already, unpack sides 1 and 2. Then, use CONVERT WINGS S1 to convert side one of the UNPACKED disk, and CONVERT WINGS S2 to convert side 2. Put the unpacked disk in drive 1 when the programs tell you to do so.

Only ONE drive is required in order to convert Wings of Fury and make it playable. The unpacked disks are merely overwritten into 18-sector format which makes for a fast conversion and saves disk swapping.

COPY18: This is your bonus for getting my crack of Wings of Fury. This program DOES require 2 drives. It's features include: Copy sides 1 and 2 of WOF, change prolog byte, and copy a range of tracks. Big deal, you say--well, these utilities are for 18-sector wares, and using it you can quickly and easily copy virtually all other Broderbund 18-sector games!

How 18-sector protection works:

Most of you know that normal DOS 3.3 writes 16 sectors per track, and that each sector can be individually read in or written out to the disk. With Broderbund's 18-sector protection, it is more complicated. Each track actually consists of 6 blocks, containing \$300 bytes of information (3 sectors or 3 pages). Each page/sector can be loaded into memory anywhere and individually. When writing, however, the entire track must be written at once.

How to use Broderbund's RWTS:

First, it is located at \$4E00-5300 in all of the utilities. It is AIRHEART's RWTS since it was the handiest one around. Using the loader is similar to ProDOS--you JSR to it, and then the commands are imbedded after it. For example,

```
JSR $4E00
HEX 00,01,04
[more code]
```

turns on drive 1 after a small delay. This chart shows all of the combinations:

First byte:00: Turns on drive; Byte 2: 01 or 02: drive 1 or 2; Byte 3:xx: delay to wait before accessing drive--4 is usually good.

First byte:01: Turns off drive.

First byte:02: Position drive head; Byte 2:00 or xx: if 00, assume track number in \$FF is current track. If nonzero, read from track head is currently over and determine current track; Byte 3:xx: Track to move to.

First byte:03: Read a track; Byte 2:xx: Page to begin reading at. Reads in \$12 pages of information starting at xx.

First byte:04: Read a track; Bytes 2-\$13 (18 bytes): Pages to which data is to be stored. If you don't want to read in sectors, use 00 as the page number to read them in at. For example, 04,32,34,35,36,37,38,39,3A,3B,3C,3D,3E,3F,00,00,00,00 is the code usually used to load in the rest of a hi-res picture (after a 03,20).

First byte:05: Write a track; Byte 2:xx: Page to start writing from. Analogous to 03.

First byte:06: Write a track; Bytes 2-#13:Pages to write from. Analogous to 04.

First byte:07: Change prolog byte. Byte 2:xx: New prolog. This allows you to read in other 18-sector Broderbund wares. The prolog byte for WOF is \$96. For Airheart, it was \$A4. Use a nibble editor to discover what it should be for other games. Changing this value in the COPY18 program along with copying a range of tracks makes all 18-sector programs easily copyable (though not in 16-sector format).

18-sector disk accesses are FAST! Broderbund has written a great little RWTS and with these docs, other people doing future cracks should have a much easier time.

Also, I cleaned up the first few stages of WOF's boot, which makes it much easier for someone else to do a complete crack. All of these utilities is enough for me--but I've done all of the hard work. Someone only needs to grind out the 16 sector version! Space in the first boot stage was so tight that I didn't even have room to shut off the drive while the title page was up!

If these docs make more sense (it's late...sorry), or if you have more questions, I'm easy to reach. The whole world knows my phone #.

Mr. Slick

=====
DOCUMENT coupon.handler
=====

+++

^: Coupon Handler :@

Do you keep putting those coupons in the drawer for shopping day, but keep forgetting them? Here is a program to help you out. You enter each coupon, along with its category (there are 9 to choose from), company, product type, its value, and the expiration date. Then, when you are set to go, just select those coupons to use, and the program will print them out for you.

The program is menu driven, and self explanatory. One item you MUST take note of is that when you enter a new coupon, the program will assign it a "Coupon Number", and tell you to write it down. We suggest that you write this coupon number in the upper right hand corner of the coupon itself, so that you never have to worry about the coupon's identity.

In order to select coupons to be used select the View/Select coupon option. Decide which category the coupons are in (this may take a few selections, since the coupons may not all be in the same category). The program will then show each coupon to you and ask you if you want to select it. Pressing "Y" will do so, "N" will leave the coupon unselected. You will then be shown the next coupon, and the cycle will repeat until all coupons have been processed. You can then print this list out for reference if you have a printer.

After you have used a coupon (or decided you're not going to) you can tell the program about it by using the Delete option. Here you select your coupons, and at each one tell the computer if it was unredeemed, redeemed, or redeemed for double value. This lets the computer know how much money you have saved. The total amount saved is available using the Amount Saved option.

Once in a while (once a month) you may want to delete those coupons that have expired, and are no longer any good. When entering the cut-off date, remember that ^ most @ stores will accept coupons up to 30 days after the expiration date!

^ Files Needed @

The following files are needed to run the program:

- COUPON HANDLER - Main program.
- COUPONS - Data file. Must be present to run the program!
- ~~~gram!
- ~~~ program!
- ~~~rogram!
- ~~~

Apple II Computer Info

=====
DOCUMENT cpuspeed
=====

CPUSpeed Documentation - Version 1.20

This program is ShareWare. Go ahead and try it out, but if you want to continue using it, you need to pay me for it. For complete details, see the Standard Plea and Legal Absurdities sections near the end of this document.

Synopsis & Description

This program tells you approximately how fast your computer is running, in terms of megahertz. It gives you a "CPU" speed, which will be close to the rated speed of your computer, and an average "system" speed, which is a general indication of how fast the computer will seem to be to a program. See the "Problems & TechStuff" section for why these two numbers are different.

Usage

Just run this program from any program launcher. If you have the Orca shell or some other shell that can run "EXE" files, you can change the filetype of the CPUSpeed program to EXE so it will work better with the shell. Using Orca/APW, the command would be "filetype CPUSpeed sl6". If, for some bizzare reason, you want to install this program as a utility under Orca/APW, it is restartable.

Problems & TechStuff

The routine which generates the CPU speed works by essentially turning off everything taking place in the background while it's checking the speed. While things are only off for about 1/60th of a second at a time, very time-critical things such as AppleTalk may have problems. For this reason, the CPU speed routine is only called when the system speed varies by more than 1 MHz. This will usually only happen when the CPU speed has actually changed.

The CPU and system speed are different because several things take place in the background while programs are running. There are too many possible things to go into, but they include AppleTalk, screen blankers such as UltraBlank (shameless plug), and anything else that needs to be handled on a regular basis.

The average system speed is computed by taking the average of the last 60 "instantaneous" system speed values, which are kept in a circular buffer. Every time the speed changes by more than 1 MHz, this buffer is cleared so that the new system speed will appear immediately. Smaller changes will take some time to show up in the average, though, since it takes time for the new numbers to replace the old (at one MHz, several seconds).

The actual numbers that this program reports are, as far as I can tell, correct. I have no means of determining the exact speed that my computer is running, so I've 'tweaked' the numbers to arrive at what should be close, if not exactly right. This program has been tested at 1.024 and 2.8 MHz, and a "7" (actually 6.25) MHz TransWarp GS. Let me know if the numbers are way off at other speeds. Remember though, that the reported CPU speed will be somewhat slower than the actual speed of the chip.

This program should fairly accurately report the speed of the computer up to slightly more than 19.6 MHz, after which the program will cease giving meaningful numbers.

Standard Plea

This program is ShareWare, so if you find yourself using it, please help me out by paying something for it, so I can justify spending the time to update this and write other nifty pieces of software. People who send me at least \$2 (US) per computer, along with their vital information (Name, Address, # of computers, America Online screen name [if applicable], any other Internet-accessable names, etc.), and refer to "CPUSpeed Version 1.20" will be assigned a registration number and will be entitled to receive future ShareWare versions of this program. Unless you include money to cover shipping, I will only send updates by e-mail.

If you enjoyed this software, have suggestions for enhancements or improvements, want to report bugs, or send piles of money, my address is:

Robert S. Claney
2370-E Shady Oaks Rd
Marshalltown, IA 50158-9575

I can also be reached at the following locations:

America Online: BobClaney
Internet: bobclaney@aol.com
txa84@isuvax.iastate.edu (won't be checked very often
claney@iastate.edu this summer)

Version History

Version 1.20

Make program run cleaner when launched as S16 (while still working as EXE). Enlarge the history buffer, so the system speed will be more stable.

Version 1.15

Change the way the program decides to "recalibrate" the CPU speed, to attempt to keep the system loading down. Add the closing plug. Shrink system speed history buffer, to keep size down, and make the system speed more responsive.

Version 1.11

Tweak the timing control for the CPU speed, so it's accurate at higher speeds.

Version 1.10

Change speed calibration to try to take into account the amount of time spent in the timing routines running at 1.024 MHz (because of accesses to slow RAM). Add the onscreen docs.

Version 1.01

Add CPU speed routine, to (attempt to) indicate the processor's actual speed irrespective of system loading.

Version 1.00

First version. Attempt to calibrate number to documented speed (1.024/2.8MHz) when there are no background tasks.

Legal Absurdities

This document and the accompanying software are Copyright 1992 by Robert S. Claney.

Non-registered users are granted a limited license to try out this software to see whether it is useful to them. Continued usage requires registering this software by following the instructions in the "Standard Plea" section. In any case, this software may only be used for non-commercial purposes on a single machine only, unless specifically authorized in writing by me.

The accompanying software may be distributed as long as the following conditions are met: This documentation (CPUSpeed.Docs) must accompany the program (CPUSpeed). Neither the documentation nor the program is modified in any way, other than compression by ShrinkIt or some other widely available Apple compression program. No charge is made for it, other than minimal copying and media charges, or normal network charges, if online. It is not incorporated into or with any other software, without my written permission.

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Apple and AppleTalk are registered trademarks, and Finder is a trademark, of Apple Computer, Inc.

Orca is a trademark of The Byte Works, Inc.

Any other names are trademarks or registered trademarks of their respective companies.

=====

DOCUMENT creatre.venture

=====

```

=====
====>>                                <<====
====>>  CREATURE VENTURE TUTORIAL      <<====
====>>                                <<====
====>>      BROUGHT TO YOU BY:         <<====
====>>                                <<====
====>>          ME III                  <<====
====>>                                <<====
====>>          IN                      <<====
====>>                                <<====
====>>      RICHMOND, VA                <<====
====>>                                <<====
=====
    
```

1. THE KEY IS IN THE TREE (CLIMB)
2. "LOOK ROOF" FROM THE TREE
3. TO GET THE KNIFE YOU NEED TO KNOW WHAT IS IN THE MAILBOX FIRST (SAY THE WORD IN THE SHED).
4. LOOK AT EVERY OBJECT YOU GET.
5. ANYTHING YOU DROP BY THE ELF WILL BE THROWN OVER THE WALL.
6. THE OOLZYBUB IS SCARED BY THE WORD ON THE KNIFE.
7. THE PICTURE IN THE MAIN HALLWAY SHOWS WHERE THE MAGIC LAMP IS BURIED.
8. LOOK AT THINGS AFTER FINDING THE GLASSES ON THE TABLE.
9. "BEEZ" + "LEBUB" (ON THE KEY) IS THE WRONG SPELLING FOR "BEELZEBUB".
10. IT TAKES FOUR MOVES TO GET THRU THE MAZE: THE FIRST MOVE IS WEST NEVER THE SAME MOVE TWICE IN A ROW UP AND DOWN ARE NOT USED HERE GO OUT THE WAY YOU CAME IN
11. THE MIRROR IS THE MIRROR THAT ALICE WENT THRU IN THE "LOOKING GLASS" (GO MIRROR)
12. THE FLASHLIGHT IS ON THE STAIRS
13. THE GENIE WILL HANDLE THE MIMIC.
14. THE MIMIC HAS THE SOLUTION TO THE CAVE-IN.
15. THE PILLAR MESSAGE (LOOK PILLAR) IS "INDIAN PARTNER"
16. SAYING "TONTO" OPENS THE SEALED DOOR.
17. THE WATER IN THE BOTTLE MAKES THE TREE GROW.
18. USE THE BOTTLE TO CATCH THE FIRE- FLYS.
19. RUB LAMP TO KILL THE KYBOR.
20. RUB STUMP TO GET TO LUCMFER (DROP FLASHLIGHT FIRST)
21. THE BAT WILL KILL THE SNAKE.

22. DROP LAMP TO KILL LUCIFER.
23. THE CUP AND TACK ARE USELESS.
24. SAY SHAZAM TO CROSS THE GORGE TO THE WEST.
25. TO GET THE PICK YOU MUST FIRST CUT THE TREE AND GET THE BLOB OF RUBBER
26. DROP RUBBER (BLOB) TO STOP THE WATER FROM DROWNING YOU.
27. GET THE CAKE ON YOUR WAY OUT ONLY.
28. THROW KNIFE TO OPEN THE DOOR TO THE EAST.
29. EAT CAKE TO ESCAPE THE CAGE.
30. DIG WITH THE PICK TO GO BEYOND THE DEAD END.
31. YOU CAN FLY WITH THE MAGIC CARPET BUT GET THE PENCIL FIRST.
32. KISS THE MEDUSA AND THEN GO DOWN AND WEST TO A DEAD END.
33. DRAW WITH THE PENCIL THERE.
34. RUB RING TO GET BY THE SNAKE.
35. UNLOCK DOOR WITH THE KEY YOU FOUND AFTER DRAWING THE DOOR.
36. "GOOSUM" WILL GET YOU BY THE SQUID.

```
=====
DOCUMENT crisis.mountain
=====
```

```
=====
CRISIS MOUNTAIN DOCS
=====
HERE'S THE 'DOCS' FOR CRISIS MOUNTAIN:
-----
```

THIS IS A FANTASTIC NEW GAME BY DAVID SCHROEDER. YOU ARE A MAN (CALL HIM MARIO) WHO IS DESPERATELY TRYING TO SAVE THE MOUNTAIN FROM DESTRUCTION BY DISARMING THE NUCLEAR BOMBS FOUND BURIED IN THE MOUNTAIN. THE BOMBS ONLY NEED TO BE DUG UP TO BE DISARMED AS THE TERRORISTS WHO PLANTED THEM DID NOT EXPECT MARIO TO FIND THEM. ONCE ALL THE BOMBS HAVE BEEN MADE 'SAFE', MARIO CAN START HIS BONUS RUN. HERE'S HOW TO PLAY:

```
=====
ACTIVITY CONTROL
=====
MOVEMENT JOYSTICK
WALK/CRAWL TOGGLE BUTTON 1
JUMP/DIG BUTTON 0
```

(DEPENDING ON WHETHER MARIO IS WALKING OR CRAWLING DETERMINES IF HE'LL DIG OR JUMP.)

MARIO CAN FALL SAFELY FROM ANY HEIGHT. HE MAY NOT FALL INTO THE LAVA (RED STUFF). THE MOVING BALLS OF LAVA CAUSE HIM TO LOSE STRENGTH. IF HE IS HIT BY THEM, THE STRENGTH IS INDICATED BY AN 2=WALKING SLOWLY, 1=CRAWLING, 0=DEAD THE OTHER OBJECTS ARE WORTH BONUS POINTS. POSSESSING THE SHOVEL LETS MARIO DIG FOUR TIMES AS FAST. THE BONUS RUN BEGINS WHEN ALL BOMBS HAVE BEEN DUG UP. ANY TIME WHEN MARIO IS HIT BY A ROCK OR JUMPS INTO THE LAVA AND THEREFORE DIES, THE BONUS RUN ENDS. THE LENGTH OF THE BONUS RUN IS THE AMOUNT OF TIME LEFT ON THE TIMERS WHEN MARIO DEFUSED THE BOMBS HIGHER LEVELS ARE FASTER AND HAVE MORE BOMBS TO DEFUSE. THERE ARE A TOTAL OF TWO SCREENS.

```
=====
DOCUMENT cyclotron
=====
```

```
+++++
+ CYCLOTRON +
+++++
```

THE OBJECT OF THE GAME IS TO PROTECT YOUR POWER CRYSTALS FROM THE ATTACKING MANGANS. A CRYSTAL CAN TAKE 4 HITS BEFORE GOING CRITICAL AND DESTROYING ALL THE OTHER CRYSTALS IN A CHAIN REACTION. MOVE HORIZONTALLY WITH PADDLE 0, WHILE FIRING UP AND DOWN WITH THE 'A' AND 'Z' KEYS. YOU GET ONE SMART BOMB ON EACH LEVEL, INDICATED BY A SYMBOL SORT OF LIKE A '+' AT THE TOP OF THE SCREEN. PRESS '1' TO DETONATE. YOU ALSO GET REPAIR PODS (INDICATED BY A GREEN CIRCLE) AT REGULAR INTERVALS. IF YOU HAVE ONE, PRESSING THE SPACE BAR WILL REVERSE THE EFFECTS OF ONE HIT ON A SINGLE POWER CRYSTAL.

```
=====
DOCUMENT d.code
=====
```

COMPACT

DECODE's COMPACT program allows you to reduce the amount of memory occupied by an Applesoft program, by optionally removing Rem statements, packing as many statements as possible into single lines, and shortening variable names.

How to Use Compact:

1. Lock the program you want compacted on disk so you don't accidentally loose it.
2. LOAD the program you want to compact.
3. BRUN COMPACT. If this has recently been done you probably can just type "&".

D.BUG Note: If you want D.BUG and both in memory, you must BRUN D.BUG first. Otherwise COMPACT will disappear.

Now you will see COMPACT's menu:

- ```
(1) REMOVE REMS YES
(2) CONCATENATE LINES YES
(3) SHORTEN VARIABLE NAMES ... YES
(4) RENAME VARIABLES YES
(5) COMPACT PART OF PROGRAM NO
(6) VARIABLE TABLE TO PRINTER .. NO
(C) COMPACT
(Q) QUIT
```

### COMPACT Menu Options

#### 1. REMOVE REMS

YES means when you compact your program, every Remark statement will be deleted. If you use a lot of Rems, thiill save more program space than any other, because every character and space in a Remark takes up an entire byte of memory.

#### 2. CONCATENATE LINES

YES means that when you compact your program, as many statements as possible will be packed into single program lines, thus eliminating old line numbers. ULTRA-LONG-LINE PROBLEMS

With option 2 set at YES, COMPACT will often create a program line that works perfectly, but is too long to edit. Applesoft allows program lines of about 250 bytesd like "PRINT" takes up one byte). Editing, however, has to consider each character in the listing (now "PRINT" takes up five characters, plus two more for spaces on each end). Even GPLE's "Pack" feature won't always let you edit an ultra-long line.

WATCH OUT that you don't inadvertently chop off a program line when you attempt to edit it. If you are cursor-tracing a line and you hear beeping (or you try to edit with GPLE and code is missing), type CONTROL-X immediately, and BRUN LINE.SPLITTER.

3. SH# When this option is set to YES, all variable names longer than two characters will be shortened to two characters.

In Applesoft, it doesn't matter how long your variable names are, only the first two characters count (COMPACT leaves only those two characters if you select YES for this option). The variables APPLE, APPALOOSA and AP are the same. So are MOUSE\$, MOUNTEVEREST\$ and MO\$. The advantage to long variable names is that they are more descriptiave. The disadvantage is that they take up a lot of room - one byte perNote: OPTION 3 simply chops off the end of long variable names. OPTION 4 actually renames variables without regard to their former name

## 4. RENAME VARIABLES

When this option is selected, COMPACT will change as many two-or-more character variable names into one-letter names as possible. The multiple characater variables that are used most often will be converted to single letter names until all 26 letters have been used (for each variable type. Remember, A\$, A% and A may all be in the same proe: A (4) YES sets (3) to YES and (5) to NO. A (4) NO sets (6) to NO.

## 5. COMPACT PART OF PROGRAM

Use this option if you only want a portion of a program compacted. After typing "C" to start compacting, you will be asked for the start and end line numbers for compacting. You may default to the beginning or the end of the program by simply hitting RETURN as an answer to either question.

Note: A (5) YES sets (4) to NO.

## 6. VARIABLE TABLE TO PRINTER

When set to YES, this option wil variables on your slot 1 printer (if option 4 set to YES).

"&" TO RE-RUN COMPACT

After COMPACT has been used and exited, you will usually be able to bring it up again by typing "&" (return). If this doesn't work, just type "BRUN COMPACT" again.

COMPACT assumes that any extra bytes that it finds imbedded beyond the end of a program is relocatable code that the program uses. If extra bytes are found, you will be asked if you wish to keep them. Answering "Y" will move the code to the new program e the extra bytes.

If you don't think you have anything beyond the end of the program, and COMPACT asks you about it anyway, just answer "N" and that will be the end of that.

## UNUSED STATEMENTS

When programs have undergone heavy revision, statements often remain that can't possibly be executed - your program just won't encounter them. COMPACT will report the line numbers that contain these potentially useless statements. It's up to you to delete them after COMPACT is finished.

THE VARIABLE CONVERENAME VARIABLES (option 4) is set to YES, a variable conversion table will be displayed on the screen during compaction. This chart lists the name of every variable in the program, it's new name (if it was changed), and the number of times it appears in the program. (Note: Only the first two characters of the variable will appear under the OLD column heading, even though that variable may have had a longer name.).

One-character variables are listed first, unchanged, in the order of their appearance in tt come the multiple-character variables. COMPACT will shorten as many of those as possible to one character, with the ones that appear most often in the program changed first.

If no name appears in the NEW column, it's because there are no more single characters left for that particular variable type. This will only occur in very large and/or complex programs. Usually real of string variables will be the first to run out of the 26 available single-character names.

## LOOK FOR "LONE" VARIABLES

Watch theart for variables that appear only once or twice in a program. This could indicate that the variable name was misspelled or was once part of a program segment that was removed. You might be able to save additional space (or uncover a potential bug) if you look at the lone variable.

| OLD           | NEW | OCCURRENCES                                              |
|---------------|-----|----------------------------------------------------------|
| ---           | --- | -----                                                    |
| D             |     | 2 SAMPLE VARIABLE CONVERSION TABLE                       |
| L\$(          |     | 6 This table prints on the screen when COMPACT           |
| B             |     | 5 option 4 (Re) is set to YES.                           |
| B\$(          |     | 8                                                        |
| A%(           |     | 2                                                        |
| L             |     | 14                                                       |
| H             |     | 21                                                       |
| C             |     | 4                                                        |
| K             |     | 1 <-- Note: Only 1 occurrence may indicate an            |
| Z             |     | 8 unnecessary (or misspelled) variable name.             |
| J             |     | 9                                                        |
| N\$(          |     | 15 <-- Single-character variables are listed first,      |
| D\$(          |     | 7 and will remain unchanged.                             |
| A\$(          |     | 72                                                       |
| S\$(          |     | 52                                                       |
| A             |     | 95                                                       |
| X             |     | 20                                                       |
| S             |     | 12 Variables A, B,C, & D are already used, so the        |
| T             |     | 9 first multi-character variable is converted to E       |
| P(            |     | 16                                                       |
| I             |     | 94 <-- End of old single-character variable names.       |
| BU => E       |     | 39 <-- The most-often used multi-character variable name |
| FI => F       |     | 19 is converted first                                    |
| EC => G       |     | 17                                                       |
| LV => M       |     | 16                                                       |
| SM => N       |     | 14                                                       |
| YE => O       |     | 14                                                       |
| BE => P       |     | 14                                                       |
| CO #BP => R   |     | 12                                                       |
| DF\$( => A\$( |     | 11 <-- First string array is named A\$(.                 |
| CD => U       |     | 11                                                       |
| PN => V       |     | 10                                                       |
| FD => W       |     | 10                                                       |
| FI\$( => B\$( |     | 9                                                        |
| PN\$( => C\$( |     | 8                                                        |
| BL => Y       |     | 8                                                        |
| IP            |     | 8                                                        |
| ID            |     | 8                                                        |
| PR            |     | 8                                                        |
| PR% => A%     |     | 8 <-- First integer variable is named A%.                |
| IO            |     | 8                                                        |
| CF            |     | 8                                                        |
| ME\$( => A\$( |     | 7 <-- First string is name A\$(.                         |
| WD            |     | 6                                                        |

## COMPACT ERROR MESSAGES

### NOT IN MEMORY

This means what it says. Load your program first, then BRUN COMPACT (or type "&" if COMPACT is already loaded).

### MEMORY OVERFLOW. PROGRAM TOO LARGE

This sometimes happens when you have other machine language program(s) in memory in addition to COMPACT. You may need to re-boot or take other measures to clear memory.

### RELOAD YOUR BASIC PROGRAM

This message will occasionally come up when you're going to compact a very long Applesoft program. Just re-load the program as instructed, and type COMPACT.

In case you care: When you first BRUN COMPACT, it's code loads at \$4000 (16384 decimal), and then relocates itself just under HIMEM. If your loaded program

extends above \$4000, it will be partially wiped out by COMPACT and you'll be told to re-load.

## LINE.SPLITTER

LINE.SPLITTER simply chops a program line into two parts, in case it is too long to edit. With your program loaded simply type "BRUN LI when asked, type the number of the line you want to split. LINE.SPLITTER will split the line as near the middle as possible, taking into consideration any IF statements.

The second section of the split line will be numbered one line number higher than the first section.

## LINE.SPLITTER ERROR MESSAGES

### LINE DOES NOT EXIST

Oops, try again.

### RENUMBER FOLLOWING LINE

If the higher number is already taken, the split will be cancelled and you will have to renumber that part of your program to make rN'T BE SPLIT. The line has only one statement, or its first statement contains an IF.

## COMPARE

D CODE's COMPARE program will take two Applesoft programs and tell you exactly what lines are unique, different, or the same. You can also use COMPARE to check binary and text files to see if they are identical.

### JUST BRUN COMPARE AND TYPE TWO FILE NAMES

Select COMPARE from the D CODE startup menu, or simply type:BRUN COMP. COMPACT and COMPARE cannot live in the same Apple at the same time - irreconcilable differences. COMPARE and D.BUG get along quite well, however. So do COMPACT and D.BUG.

When the COMPARE screen appears, enter the names of the two files you want to COMPARE. RETURN (with no name) signifies the Applesoft program currently in memory. Under DOS 3.3, type the file name and any DOS parameters that go with it (for example - MYPROGRAM,S6,D2). Under ProDOS, COMPARE will assume the current prefix, unless a name is specified (for example

/MYDISK/MY.SUBDIR/MYPROGRAM).

### COMPARING APPLESOFT FILES

When you're comparing two Applesoft programs, COMPARE will ask you if you want occurrences of identical lines printed. You will usually want to answer

"N", since "Y" will often print a ton of meaningless line numbers.

During comparison, a 1, 2, D or S will appear next to the line numbers as they are shown on the screen:

1 means that this line is unique to Program #1 (the first one you selected) and doesn't exist in Program #2 and not in #1.

D means both programs have duplicate line numbers, but the contents of the lines are different.

S means the lines are the same (This will appear only if you answered "Y" to the DISPLAY SAME LINES? option.)

## COMPARING BINARY AND TEXT FILES

Since there are no line numbers in binary and text files, COMPARE will just tell you if the files are identical or not.

Binary file note: If you're using DOS 3.3, COMPARE will also display the starting address of both files (If you're in ProDOS, just type "CATALOG" and take a look there.)

## "&" TO RE-COMPARE

Once it's loaded, you may usually re-enter COMPARE and use it again by typing "&" (return).

## D.BUG

### LOADING D.BUG

To load and activate D.BUG's commands, just type:BRUN D.BUG. Or select D.BUG from the STARTUP program's menu.

If you want D.BUG to co-exist in memory with either COMPACT or COMPARE, D.BUG must be loaded first like GPLE, Double-Take, ProntoDOS, and so on, should be loaded before D.BUG.

D.BUG may be loaded from a program in the usual way:

```
10 PRINT: PRINT CHR$(4);"BRUN D.BUG"
```

### REMOVING D.BUG

To disable D.BUG and free up approximately 5.5K of memory it occupies, type "FP" (DOS 3.3) or "--FP" (ProDOS - FP is a memory clearing file in the ProDOS D.CODE catalog.).

## SINGLE CHARACTER ABBREVIATIONS

Each D.BUG command may be abbreviated by typing only its first character (or characters). For example, they can be abbreviated as C, CH, CHE, or CHEC. To function properly, some of the new commands may or must be followed by other characters or words.

## D.BUG FUNCTIONS AND COMMANDS

### Fast Finder

New command: FIND (F)

Function: Quickly searches through an Applesoft program for occurrences of a specified character or word.

### Program Checker

New command: CHECK (C)

Function: Quickly proofreads Applesoft programs for syntax errors and undefined statement errors. In addition, everything you type from proofread automatically (no command required)

### Easy Lister

New command: L

Function: Saves you three keystrokes every time you list a program, by letting you type "L" instead of "LIST".

### Window Tracer

New commands: TRACE (T), NOTRACE (N), VARIABLES (V), and WINDOW (W)

Function: Lets you watch Applesoft program line numbers and statements "live" as they are executed (and optionally watch variable and expression values) in an adjustable text window at the bottom of the screen.

### Dump Tracer

DUMP (D), SIZE (S), and ZAP (Z)

Function: After a program stops for any reason, you can see the line numbers and statements that were most-recently executed.

### Breakpoints

New command: BREAK (B)

Function: Lets you set up breakpoints so your program will automatically stop when a variable becomes a certain value, or when other specified conditions are true.

Note: All D.BUG commands may be used within a program.

### FAST FINDER

New command: FIND (F)

With any Applesoft program (and D.BUG) "F" (return). You will be asked what you want to "SEARCH FOR:". After you respond, all line numbers containing your character or word will be reported. If your word appears in line, say three times, that line number will appear three times. The total number of occurrences will be reported after the search ends.

FIND scans your entire program twice, first looking for your string in PRINT, REM, and DATA statements, and then in the form of Applesoft words, or tokens. When you tell FIND to search for "READ" it reports one set of line numbers for occurrences like PRINT "READ YOUR MAIL." and then another set of numbers for occurrences like READ A\$.

### WILDCARD CHARACTERS

Using "@" in a search word will match a single character in a string.  
Using "#" in a search will match any number of characters.

### FIND AND LIST (FIND L OR FL)

Typing "FINDL" or "FL" works like "F" (above), but each occurrence will be listed, and the search word will be highlighted in inverse.

### PROGRAM CHECKER

New command: CHECK (Applesoft program (and D.BUG) in memory, type "C" (return), and your program will quickly be proofread for two specific things:

?SYNTAX ERRORS: This includes misspelled commands (like "PTINT"), improperly



punctuated Applesoft statements (like "INPUT A/B") and type-mismatch errors (like A="CAT" and a\$=CAT).

?UNDEFINED STATEMENT ERRORS: For example, a "GOTO 100" statement when there is no line 100 in your program.

Sorry: misspelled words inside quote marks (including DOS commands) and in REM and DATA will be ignored. CHECK will also not find ?Illegal Quantity errors and the like. The COMPACT program will find program statements or lines that can't possibly be executed (not really an error)

D.BUG does not cancel improper statements, it just tells you about them. May be your "error" was intentional - like a GOTO 100 when you hadn't typed in line 100 yet. After entering a program line that is improper, you should immediately edit, re-enter or delete the line. And speaking of editing, D.BUG is totally compa If you want to type a statement that contains an error, and you don't want to see and hear D.BUG's warning, precede the statement (and line number, if any) with a slash ("/"). The slash turns off D.BUG's proofread function for that line only.

## ERROR MESSAGES

No Errors: This means that the program in memory when you typed "C" is free of syntax and undefined statement errors.

<?> An inverse "?" in a listed program line or statement means a syntax error exists nearby.

<#> An inverse "#" in a listed pratement means an undefined statement error exists nearby.

## "LIVE" SYNTAX CHECKING

With D.BUG loaded, every time you type anything, it will automatically be checked for syntax and undefined statement errors. Improper statements will be listed and flagged with an inverse "?" or "#".

## EASY LISTER

New command: L

With D.BUG loaded you may simply type "L" (return) to LIST a program in memory. All Applesoft syntax is in effect; therefore you can use commands like L10-100, L-100, and L100-.

WINDOWnds: TRACE (T), NOTRACE (N), VARIABLES (V), WINDOW (W)

Typing "T" before you run a program activates an adjustable-size "trace window" at the bottom of the screen. that displays the current line numbers and statements currently being executed. You can slow down the program execution or even execute one program line at a time.

Note: Most 80-col!cards for the ][+ do not scroll properly because they don't support the required windows for "Window Tracer"

NOTRACE (N)

Typing "N" disables TRACE and rels

VARIABLES (V:)

With TRACE active you can specify particular variables to display in the trace window. (Only the first 12 characters of strings will appear) All variable expressions are also displayed. Type "V:" to cancel variable tracing.

Errors: When an expression which are impossible to interpret, like CHR\$(-65) or 123/0, will produce an error message during a trace.

WINDOW (W)

This command changes the size of the trace window. The controls are: (Up arrow or Ctrl-K): Moves the top of the trwn arrow or Ctrl-J): Moves the top of the trace window down. (the trace window can occupy all but the top 3 lines on the screen (> or .): Moves the division between the variable area and the statement area 20 spaces right. (< or ,): Moves the division between the variable area and the statement area 20 spaces left. (the "\*" shows the division between the two areas in the trace window)

While the program is running you can use these keys:

Space bar: Will execute one statement. If the trace windostatement will appear in the window BEFORE it is executed so you can press Ctrl-C before it goes.

Return: Will restore normal execution after using the above function.

Left arrow: Will slow down execution to one lower of eight speeds.

Right arrow: Will speed up execution to the next higher of the eight speeds.

Button 1: Will turn off the TRACE function making your program run faster.

Button 0: Will restore the TRACE function.

Ctrl-C: Does it's normal thing.

## DUMP TRACER

New comma                    SIZE (S)  
ZAP (Z)

DUMP (D)

After a program stops for any reason "D" will list, in order used, the last line numbers and statements that were executed. If D is followed by a number only that many lines will be displayed. (You can only dump up to the amount of space set aside by the "S" option) PR#1 will work normally with DUMP.

If you change your program in any way the dump buffer will be cleared, thus if you are going to DUMP then you should do it immediately after exdon't want the buffer cleared when you run a program type "RUN 10" (or whatever the first line in the program is)

While you are DUMPing you may use the following:

Left & Right arrows: Will control the direction of the dump, however it is pretty hard to understand while going backwards.

Ctrl-S: Does the same thing it has always done.

Space bar: Will single step through a DUMP.

Ctrl-C: Halts a DUMP.

SIZE (S)

Type "S" followed by a number to specify how many lines you want to be stored. Each line in the buffer eats 2 bytes of memory. You cannot specify a SIZE smaller than 5. If you want only 5 lines in the buffer you need only type "S".

Anytime you use SIZE all of your variables are cleared, and you will also need to run your program again before DUMP will work.

Note: The buffer is above HIMEM, when you use SIZE, HIMEM is changed.

ZAP (Z)

This will clear the dump buffer. If you do not ZAP before typing "RUN FILENAME", you will get meaningless garbage next time you DUMP.

commands: BREAK IF...  
 BREAK ON...  
 BREAK AT...  
 BREAK LIST  
 BREAK +  
 BREAK -

Typing "BREAK:" or "B:" followed by a number 1-8 will set up a breakpoint.

Sample program:

```
5 TEXT:HOME
10 X=INT(RND(1)*20)
20 PRINT X
30 IF X+2 THEN PRINT CHR$(7): GOTO 10
40 IF NOT INT(RND(1)*200) THEN 10
50 PRINT "END":END
```

Sample breakpoints:

B1: IF X=10  
 B2: ON GOTO  
 B8: AT 20,10

BREAK IF...

The first breakpoiogram to stop anytime X=10. When X does equal ten then the following will appear:

```
BREAKPOINT 1: IF X=10
BREAK IN 20
```

The first line tells you what made the program stop, the second is the next statement executed after the break occuded.

BREAK ON...

The second breakpoint will stop the program the first time a statement beginning with GOTO. This breakpoint will stop the program at line 30

BREAK AT...

The third breakpoint will halt the program the 10th time a statement in line e were two statements, seperated by a colon, in line 20, then the 5th time the program reached line 20 the program would stop. If the breakpoint was set up as "B8: AT 20" then the first time line 20 was encountered the program would break.

BREAK LIST (BLIST)

This will list all breakpoints that are currently in memory. A "+" will indicate an active breakpoint, and a "-" will denote an inactive one. To list one breakpoint, 2 for example, type "B2LIST".

BREAK- (B-)

To deactivate all breakpoi"B-" to deactivate only one, say 4, type "B4-".

BREAK+ (B+)

"B+" will activate all breakpoints. You can use the same method to activate only one as you do deactivate one breakpoint.

After a breakpoint does it's job you can continue the program with "CONT". If the program stopped with a BREAK IF... or BREAK ON... then you will need to deactivate that breakpoint or change the condition, or the program will stop immediatly after you restart it. Do not, however, change the program.

Breakpoints slow the program down considerably. However, BREAK ON and BREAK AT won't slow down a program much at all.

that breakpoint or change the condition, or the program will stop immediatly after you restart it. Do not, however, change the program.

-END- MISSING TEXT AT END

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DOCUMENT d.t.paint.notes

=====

D.T. Painter v0.7

This software is freeware and may be used and distributed at no charge, but do not sell it!!!

D.T.Painter is copyright (c) 1989 by Earl Gehr and copyright 1986 TML Systems, Inc. Certain portions of this software are copyrighted by TML Systems, Inc.

Apple, Apple IIgs, AppleColor, ProDOS, GS/OS and Imagerwriter are registered trademarks of Apple Computer, Inc.

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\*\*\*\*\*

Minimum system requirements are :

1. Apple IIgs computer.
2. System memory requirements are as follows:
  - a) 768k of RAM when used with System disk 4.0.
  - b) 1 megabyte of RAM when used with System disk 5.0.
3. One 3.5" disk drive (a hard disk is recommended).
4. Apple Imagerwriter II or compatible printer (not required, optional).
5. AppleColor RGB Monitor (not required, optional).
6. Apple IIgs System Disk version 4.0, 5.0 or later.
7. A host application to run within (such as the Finder).

To install D.T.Painter:

Copy the file named "D.T.Painter" to the DESK.ACCS folder (located within the SYSTEM folder of an Apple IIgs GS/OS boot disk).

This program will fit on a Apple IIgs System disk v4.0 with plenty of space left over for other DA's and fonts.

Users electing to use System disk 5.0 will find that they need to delete some fonts and/or unused drivers in order to fit the program on the disk.

To use D.T.Painter:

Launch any application that supports standard Apple IIgs NDA's and select "D.T.Painter" from the Apple menu. If the host application you are running is in 320 SHR mode, then D.T.Painter will sense this and adjust itself to run in that mode. The same goes for host applications that run in 640 mode.

You will be prompted to insert your boot disk if it is not in a drive when selecting D.T.Painter.

## New Features added to version 0.7

The following is a list of improvements and new features incorporated into this version of D.T.Painter that were not available in the previous release (version 0.6):

- 1) The editing tool and all edit menu functions are now operational (cut, copy, paste, clear, invert, horiz flip, vert flip and show clipboard).
- 2) You have the option of using a pictures color palette instead of the host applications colors.  
The only limitation here is that the picture must have been created in the same SHR mode (either 320 or 640) that the host application is running, in order to enable use of the pictures colors.  
Pictures are saved to disk and printed using whichever color palette you have selected.
- 3) Full Screen now displays pictures using the color palette and SHR mode that they were originally created in.  
You can also now toggle Full Screen on and off by pressing the space bar.
- 4) Choose Font can now be selected by holding the Open Apple key and clicking the Text tool icon.
- 5) Pen Size can now be selected by holding the Open Apple key and clicking on any of the shape tools or line tools icons.
- 6) The program can now be used with either System disk 4.0 or 5.0. The advantage to using System disk 4.0 is that users with 768k memory can now use D.T.Painter. There is also much more space available on System disk v4.0, so it is easier to fit the program on it.

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## Bugs found and fixed

The following is a list of the bugs I have found in v0.6 and have since corrected in 0.7:

- 1) Solid polygon dimensions off screen did not match those on screen. The first time the screen was updated after a solid polygon had been drawn, the size changed by approx 1 pixel on all sides.
- 2) The bug that was causing the ProDOS error #64 message dialog to appear and the source for many mysterious crashes has now finally been nailed down and eliminated! The majority of the trouble came during the initial selection of the program from the Apple menu when the program looked to find the boot up disk.
- 3) The program no longer checks a \$C1 picture files aux type. This caused quite a few pictures to be unloadable.
- 4) The program now tests to make sure the boot disk is in a drive when selecting Choose Font. When the boot disk was not available to v0.6 it would cause the system to lock up.
- 5) The program now tests to make sure you have at least 10k of memory available before it will print a picture. This eliminates the system locking up during printing operations in the event that insufficient memory is available to the print manager.
- 6) This version of D.T.Painter no longer asks if you want to save a picture that has been changed before quitting the program. This may seem like a step backward, but for some unknown reason the program would crash when asking to save the picture when you elected to launch another program from the Finder. At any rate I thought it better to leave this "feature" out.

There were MANY other minor bugs fixes. I think you will find this version of D.T.Painter to be very solid and reliable to use. I have been unable to crash it

and hope none of you are able to either. At any rate if YOU are able to crash it please let me know!

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## General Notes

D.T.Painter (DeskTop Painter) is an Apple IIgs NDA (New Desk Accessory). With it you can load, edit, save or print super hi-res (SHR) pictures. It works from within host applications running on a desktop of either 320 or 640 super hi-res graphics (SHR) mode.

This program is still under development and I am always open to suggestions to improve upon it, so if you see something that doesn't look or feel right let me know.

My current plans for this program are to make it shareware when it is complete. As it stands the only features not operational that have been planned from the start are Zoom and Coordinates. I have quite a few other ideas that I have come up with since the initial idea for this program came to me and may implement them in version 1.0.

There is a great deal of memory testing that goes on behind the scenes and if you find that you are getting locked out of a feature or two because of lack of memory, try closing some windows or NDAs. They all require overhead and closing out something may free up enough RAM to let you do what you want to do.

Many thanks to Jeff Krich (JeffK01), Joe Schober (JSchober), Marian Petrides (Gus Grafix) and Scott Gentry (AFL Scott) on ALPE for their suggestions, help and encouragement.

If you have any questions or discover any bugs you can reach me on AppleLink PE (screen name "Bud Gehr"), on GEnie (account name "E.Gehr1") or you can get me via US mail at the following address:

Earl Gehr  
1824 A Manning Circle  
Charleston, SC 29404

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DOCUMENT danmono

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## EAST ASIA'S GREATEST HITS

### Piece #1: Rokudan no Shirabe

For the first in a limited series of classic music pieces from the Far East (limited only by the number of sheet musics I can get my hands on), I have chosen two versions - koto solo and koto accompanied by shakuhachi - of Rokudan no Shirabe (translation: "A Study of Six Levels"). This is one of the better known of the Japanese classics, and by far the best known piece of the type called danmono ("leveled pieces").

The danmono format is one of the oldest formats of Japanese music, the other being kumiuta ("assembled songs"). A danmono piece consists of a number of sequential "levels", each of which varies slightly from the one before, and each of which use the material given in the first level. The "material" of the music is mainly a series of ascents and descents in fifths, and the main cadence, in terms of key C as the basis, is G-D-C. Most of the danmono are written in the tuning system called "hira-jo\_shi", a pentatonic scale for which the open-string notes are C-D-D#-G-G#-C'. Intermediate pitches are made on the koto - a long zither tuned by raising the strings off the soundboard with bridges - by manipulating the non-playing area of the strings on the left side of the bridges with the left hand. The first string on the koto - the farthest from the player - is one fifth ABOVE the second string, and in fact has the same pitch as the fifth string. This first string is only used alone, or in combination with the second string to produce the open fifth chord called "shan", or when it will be echoed or accompanied by the fifth string. The "shan" chord, as will be heard, incorporates two of the primary registers of the tuning system, and therefore the melody departs from and returns to either or both of these pitches. The "shan" chord in some cases can be likened to a drone for musical purposes, and this seems an especially good analogy considering the drone of Scottish bagpipes consists of the same open fifth chord.

Danmono begin with a cadence which expresses the three primary notes of the tuning system used. After this opening cadence, called the "kando\_", come the levels, one after the other, each level containing 104 regular beats. The first level, from which all subsequent levels depart, has basically three parts. In the first part, the piece reiterates the cadence, then slowly rises in register, eventually covering all the strings on the koto. This task completed, a short state which one musical analyst calls "crisis" or "climax", ensues in which the piece "knocks its head against the ceiling" - remaining mostly in high register, but marked by irregularly paced phrases and often unusual notes which are rarely found at any other time in the given level. Finally, a descent is made, first hesitant, then in earnest, back down through the registers, and finally sets itself up to repeat the main cadence, thus drawing the level to a close and readying for the next level. The final level often has a "hanging ending", which sets up for playing the cadence but never actually does so.

### #2 Godan ("Five Levels")

This is the other Danmono piece I've chosen to include, partly because it is the shortest danmono piece, and partly because upon inspection I found that this piece makes a nice demonstration of the "tsuki-iro", or "stabbing color" technique described below. This technique occurs only once in Rokudan, but is used extensively in Godan to add "lilt" to certain notes in the middle of melodic strings.

Enjoy!

Oh, and... get some tea to drink. This piece is LONG. It took up nearly 60 blocks in the Soundsmith document.

Times on my own computer for these pieces are:

Rokudan: 7:35  
 Haya-Rokudan: 5:00 (same piece as above, but different tempo changes)  
 Godan: 4:30

Thanks to Huibert for adding the pitch-sliding effects, which are NECESSARY to simulate the "ato-oshi" (after-push) which raises the pitch of a string after it is sounded, and the "tsuki-iro", which occurs in the first dan of this piece, in which a string is played, then the tuning part of the string is "stabbed", making a quick "lilting" rise and fall in the pitch. Thanks also for the tempo change effect, which makes simulation of the accelerating nature of Asian songs a lot easier.

More pieces for the koto and the shakuhachi ("One Foot Eight Inches" - the length of the vertical flute called by this name), and a few others for Chinese stringed instruments ch'in and cheng, will follow as soon as I get some time.

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DOCUMENT dark.designs.3
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DARK DESIGNS III: RETRIBUTION

by John Carmack

You have Grelminar's Staff, you have journeyed to Mount Delkeina and closed the gate, now you must seek retribution against Agamon, the creator of this madness! Top quality graphics and superb sound make this role-playing game a delight to play.

WHAT IS DARK DESIGNS III?

Dark Designs III is a role-playing fantasy game. Your goal is to adventure through all eight terrifying levels and bring back Agamon's head. If you haven't played Dark Designs I or Dark Designs II, and don't plan to get them (you should, they're great!), then you can create new characters. You will move them around using the arrow keys or mouse. Occasionally you will encounter a group of hostile monsters. You'd best attack them, as their sole purpose is to kill anything living that they see. They are not nice beings. You can use your weapons and spells to defeat these evil forces and forge on to defeat the evil warlord.

If you like this type game but find it too hard, try Dark Designs I on Softdisk G-S #9 or Dark Designs II on Softdisk G-S #12.

PLAYING DARK DESIGNS III

After you press a key at the title screen, you will see a menu of choices. If you played Dark Designs I or Dark Designs II, this will be fairly familiar. For the uninitiated, let's take a look at each option.

1-4: Examine character

This allows you to look at each of the four members of your party. You can examine the items or the spells they have. You can Transfer, Drop, Ready (for fighting), or Use Items. You can cast spells.

C: Create character

If you do not own Dark Designs I or Dark Designs II and you want your own characters, you will have to use this option. Characters have five attributes:Strength, Intelligence, Dexterity, Constitution, and Piety. Fighters need Strength, Dexterity, and Constitution. Priests need Piety and Intelligence first, then the fighting attributes. Wizards need Intelligence foremost. You can distribute the numbers using the arrows and spacebar. Once you place the last, press RETURN and choose what kind of character you want. Then you may name your character.

NOTE:

Try to have two fighters, a priest, and a wizard. This seems to be the best balance. Once you create them, you can add them to the party.

D: Delete a character

If your character roster starts getting full, you can delete a character with this option.

R: Remove a character

This removes a character from the current party.

A: Add a character

This allows you to add a character to the current party.

H: Heal a character

If you have the money, you can heal characters at the local temple. Sometimes the characters will be so bad off that the only people that can help them are at the temple.

E: Equip a character

You can go to the equipment shop to buy or sell equipment.

NOTE:

You must buy equipment for your character before you begin the adventure. If you don't, your party will go naked and weaponless into battle--not the smartest plan of attack.

After equipping them, press each character's number (1-4), go into the Items menu and Ready their equipment. Fighters need a weapon, shield (unless the weapon requires two hands to wield), and armor. Priests need the same, but can't use pointed weapons. Wizards can only wear leather armor (they need to gesture a lot), and usually use a staff.

T: Transfer a party

If you finished Dark Designs II, you can transfer your characters from that scenario to this one. You can transfer from Softdisk #109, Softdisk G-S #12, or wherever you have copied the game. You will need to know the exact pathname if your Dark Designs II is not on your Softdisk disk.

L: Learn spells

You can learn (read "buy") spells. Your priest or wizard will be taken to the appropriate spell shop. Each has eight spells to offer.

Wizard Spells

- Magic Missile: shoots a bolt of energy at a monster
Speed: gives a player great dexterity for a while
Strength: improves a player's strength for a while
Stun: paralyzes a monster temporarily
Lightning Bolt: zaps a monster with a big lightning bolt
Fireball: blasts a column of monsters with fiery force
Flame Strike: blasts all monsters with critter-crisping fire
Death Ray: convinces most monsters to shuffle off this mortal coil
Mark: (found on a scroll in the adventure) this spell marks a spot to which you can teleport to later
Teleport: (found in the adventure) instantly transports you to the 'mark' you made with the mark spell.

Priest Spells

- Cure Light: heals a character of some damage
Dispel Undead: commands magically animated dead creatures to begone in God's will
Bless: protects the player from attacks
Cure Serious: heals a character of serious damage
Death's Door: heals a knocked-out character to consciousness
Banishment: tells evil beings to go take a hike
Word of Recall: moves the party from big danger back to town
Cureall: heals a character completely (unless they are dead)

It is wise to accrue all of these spells.

Q: Quit and Save position

This quits the game and saves the state of your party.

W: Enter the Castle

You can restock the game so someone else can start from scratch by pressing Control-R when the colorful title screen appears. All characters that have not brought back Agamon's head will be deleted. You have been warned!

### COPYING DARK DESIGNS III

Select "File Copier" from the File menu (or just press Open-Apple-F) to run the copying program. Click on "Dark Designs III" and select the disk you'd like to copy it to.

### INSIDE THE CASTLE

When wandering around the Castle, you will have four windows full of information.

The upper left window presents a 3-D view of the hallway you are in (spiffy graphics courtesy of Laura Malone). You can use the mouse to move around by clicking at the top, left, right and bottom of that window. The top and bottom are forward and turn around respectively, and left and right are rather nicely equivalent to left and right.

When you look at a character (by pressing 1 through 4), the character info will appear in this window. When you are attacked by monsters, an overhead view of the melee will appear in this window.

The upper right window contains the automatic map. Wherever you have explored will be automatically mapped for you. When you are attacked by monsters, their numbers will be displayed here.

Across the center of the screen is the information window. A text description of the area you are in will be here, as well as information and prompts during an encounter.

At the bottom of the screen is the character status window, showing each character's name, body points, spell points, and class.

### COMMANDS IN THE CASTLE

You can use the arrows keys to move around, or IJKL, or click on the 3-D window.

Press S to search the wall in front of you for a secret door.

Press Q to quit and save the game where you are.

### ENCOUNTERS

When a group of monsters attacks, you can Fight or Run away. If you run away, you will move back to the square you were in.

If you fight, each character can choose to Attack, cast a Spell, Use an Item, move Forward to the front line, or drop to the Back of the party. If the character doesn't want to do any of these, press the SPACEBAR to pass the turn.

Once all characters have chosen you have one last chance to change your course of action.

The fight continues until a) the monsters are defeated, b) you are defeated, c) you cast a Word of Recall, or d) you run away.

If you are victorious you will get either a) gold, b) an item, or c) nothing. Regardless of which you receive, you'll get experience points, which go toward you character improving his or her body and spell points.

### SOME TIPS ON PLAYING DARK DESIGNS III

¥ Never let your cleric get too low in hit or spell points. If you need to get out quickly, they are your only hope. (Unless you have wisely purchased a Recall Scroll...)

¥ Cure Light is a pretty good spell, as the higher level the caster, the better it heals, and it only takes one spell point. Save the other healing spells for heavy combat.

¥A speed ring on a Wizard is a joy to behold. (He almost always casts first.) A Cleric with a speed ring is helpful, also. He can heal characters before the monsters get to attack him or cast Word of Recall before the party can be mauled.

### RESTOCKING

TIME LOG AND MUCH MUCH MUCH MORE.

And you can do it all within the incredibly flexible "AppleWorks" database. What this means is that at a touch of a key or two you can find, sort, format, add, delete, view, or print your information to suit YOUR specific needs.

"DateWorks" is a group of "AppleWorks" data templates encompassing 12 years of dates, days of the week and holidays. Each file gives you fields for occasions and 24 appointment or reminder fields. You can also add any local holidays, union holidays or anything you want in any field.

- "DateWorks" is not copy protected. As with any valuable data or program disk, the first thing you should do is make a backup copy. Use the "DUPLICATE DISK" option on your system utilities for that purpose and store your original in a safe place.
- To add a "DateWorks" file to YOUR data disk use the "COPY FILES" option on the System Utilities Disk. Another way to do this is to boot your "AppleWorks" program and then insert your "DateWorks" disk into your data drive. Bring the "DateWorks" file (year) that you want to the "desktop" in the normal manner. After you have done this, remove the "DateWorks" disk from the data drive and insert the data disk that you will be using. Using option 3 of the "AppleWorks" Main Menu, put the "DateWorks" file on YOUR data disk. CAUTION: DO NOT TRY TO COPY "DateWorks" FILES TO YOUR "AppleWorks" PROGRAM DISK. "DateWorks" CONTAINS DATA FILES AND MUST GO ON YOUR DATA DISK. For quick and easy access I suggest that you keep the current "DateWorks" year on the "Desktop" whenever using "AppleWorks".
- Your "DateWorks" screen looks like this in the "single record layout".:

```

DATE : Jan 1 86 OCCASION:
DAY : WED
HOLIDAY : NEW YEARS DAY

1: 13:
2: 14:
3: 15:
4: 16:
5: 17:
6: 18:
7: 19:
8: 20:
9: 21:
10: 22:
11: 23:
12: 24:

```

And like this in the "Multiple Record Layout":

```

DATE : DAY :HOLIDAY : OCCASION: 1:
=====
Jan 1 86 WED NEW YEARS DAY - -
Jan 2 86 THUR - -
Jan 3 86 FRI - -
Jan 4 86 SAT - -
Jan 5 86 SUN - -
Jan 6 86 MON - -
Jan 7 86 TUE - -
Jan 8 86 WED - -
Jan 9 86 THUR - -
Jan 10 86 FRI - -
Jan 11 86 SAT - -
Jan 12 86 SUN - -
Jan 13 86 MON - -

```

=====
DOCUMENT dataworks
=====

"DateWorks"
(A data template for AppleWorks)
VERSION 1.0
DAVID SACHS ASSOCIATES
(USE DOWN ARROW TO SCROLL TEXT)

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CONGRATULATIONS

You have just purchased a valuable and convenient tool that you will use day in and day out for as long as you have to remember an appointment, birthday, holiday, or any date for any reason. You will also have a complete record of all appointments, expense records, family medical records, or any type of information that you wish to keep a chronological record of. "DateWorks" can be used as an:

- APPOINTMENT BOOK
- DIARY
- EXPENSE LOG
- FAMILY MEDICAL RECORD
- DAILY REMINDER
- T & E LOG

```
Jan 14 86 TUE - - -
Jan 15 86 WED - - -
```

The "DATE" and "DAY" fields contain data for the years 1986 thru 1997. The "HOLIDAY" field contains all "legal" Holidays in effect at the time of the latest version of "DateWorks" plus the more widely recognized holidays. You may add any local, union, school or any holiday that effects you or your geographical area. The "OCCASION" field is for entering birthdays, anniversaries or any other occasion that you would not want to forget.

You may change the category names or any other part of the "DateWorks" screen that you want to change. Use the "OPEN APPLE - N" to enter the "CHANGE NAME/CATEGORY" screen and follow the instructions on the screen. If you need further help, press "OPEN APPLE ?" from the "REVIEW/ADD/ENTER" screen.

Here are some sample screens that you may use for different purposes:

DAILY EXPENSE RECORD:

```
DATE : JAN 1 86
DAY : WED
HOLIDAY : NEW YEARS DAY
OCCASION: .
MILEAGE :
LODGING :
TOLLS :
CAR WASH :
PARKING :
TIPS :
LAUNDRY :
FUEL :
MEALS :
PHONE :
MISC EXP :
```

APPOINTMENT BOOK

```
DATE : JAN 1 86 OCCASION:
DAY : WED
HOLIDAY : NEW YEARS DAY

8:00 AM: 2:00 PM:
8:30 AM: 2:30 PM:
9:00 AM: 3:00 PM:
9:30 AM: 3:30 PM:
10:00 AM: 4:00 PM:
10:30 AM: 4:30 PM:
11:00 AM: 5:00 PM:
11:30 AM: 5:30 PM:
12:00 PM: 6:00 PM:
12:30 PM: 6:30 PM:
1:00 PM: 7:00 PM:
1:30 PM: 7:30 PM:
```

FAMILY MEDICAL RECORD

```
DATE : JAN 1 86 OCCASION:
DAY : WED
HOLIDAY : NEW YEARS DAY
```

```
PATIENT :
DOCTOR :
ILLNESS :
MEDICATION:
PHARMACIST:
PRESCRIPTION #:
MEDICATION COST:
DOCTOR COST:
MISC. COST:
COMMENT:
COMMENT:
COMMENT:
```

These are only a few samples of the way you can change the screen to suit your needs. Let your creativity and requirements be your guide. The possibilities are virtually unlimited.

4, I have prepared 4 basic printer formats for you. You may want to prepare your own. Refer to your Appleworks Manual for additional help in preparing printer formats.

The four printer formats which I have prepared for you are:

- APPOINTMENTS
- HOLIDAYS
- OCCASIONS
- ALL ENTRIES

For each of the formats note the record selection rules on the top of the "REPORT FORMAT" screen and you will see the criteria the format uses to select the records. You may change the record selection rules from the same menu simply by pressing "OPEN APPLE R" from the same screen.

A WORD ABOUT HOLIDAYS

I have researched holidays through a number sources and checked and double checked my work until I was sure that the information was accurate. THINGS CHANGE!! It is possible that new holidays may be added or the formulas used to determine on what day a particular holiday be observed will be changed. I STRONGLY SUGGEST THAT YOU TAKE A MOMENT OR TWO AT THE BEGINNING OF EACH YEAR TO COMPARE THE HOLIDAY SCHEDULE IN "DateWorks" WITH A CURRENT HOLIDAY CALENDAR.

Everybody does not celebrate the same holidays. Depending on your religion, geographical location, union membership, and various other factors, you may choose to either observe or ignore the listed holidays. You may enter any holiday in the "HOLIDAY" field and you can just as easily delete any holiday that appears. Technically there are no national holidays in the United States. Each of the states has jurisdiction over its holidays which are designated by legislative enactment or executive proclamation. In practice however, most states observe the Federal Public Holidays even though the President and Congress can legally designate holidays only for the District of Columbia and for Federal employees. When a holiday falls on a Sunday or a Saturday, it is usually observed on the following Monday or preceding Friday. For some holidays, government and business closing practices vary. In most states, the office of the Secretary of State can provide details of holiday closings.

In most states the following will be legal public holidays as of 1986:

- |               |                                       |
|---------------|---------------------------------------|
| NEW YEARS DAY | PRESIDENTS DAY (WASHINGTONS BIRTHDAY) |
| MEMORIAL DAY  | INDEPENDENCE DAY                      |
| LABOR DAY     | COLUMBUS DAY                          |
| VETERANS DAY  | THANKSGIVING DAY                      |
| CHRISTMAS     |                                       |

I have also included holidays that are generally observed by most geographical areas and religious faiths, they are:



|                     |                           |
|---------------------|---------------------------|
| LINCOLNS BIRTHDAY   | ST VALENTINES DAY         |
| ST PATRICK'S DAY    | MARTIN LUTHER KING JR DAY |
| MOTHERS DAY         | ARMED FORCES DAY          |
| MEMORIAL DAY        | FATHERS DAY               |
| FLAG DAY            | VICTORIA DAY (CANADA)     |
| CANADA DAY          | HALLOWEEN                 |
| ELECTION DAY        | ASH WEDNESDAY             |
| PALM SUNDAY         | EASTER SUNDAY             |
| GOOD FRIDAY         | UNITED NATIONS DAY        |
| 1ST DAY OF PASSOVER | 1ST DAY OF ROSH HASHANA   |
| YOM KIPPUR          | 1ST DAY OF HANUKKAH       |

The word "OBSERVED" is used next to holidays that do not occur on the anniversary of the event or the anniversary of the persons birthday. Instead they occur on a day that is designated by a pre-determined formula. For example, Washingtons Birthday which is actually February 22 is always celebrated on the 3rd Monday in February (PRESIDENTS DAY).

IF YOU HAVE ANY QUESTIONS ABOUT DATEWORKS OR THE APPLEWORKS DATABASE, PLEASE DO NOT HESITATE TO CALL.

Very Truly Yours

David Sachs Associates

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-END-

===== DOCUMENT dazzle.draw.i =====

```
<==*-----*==>
| Dazzle Draw Documentation |
| Introduction |
<==*-----*==>
```

```
<==*-----*==>
| Written by |
| The Camel Jockey |
<==*-----*==>
```

```
<==*-----*==>
| Introduction |
<==*-----*==>
```

Welcome to Dazzle Draw - your entry into a world where everyone can be an artist. Using the newest in Apple color technology, Dazzle Draw lets you turn your monitor into an artist's canvas. You work your magic with a mouse, graphics tablet, drawing pad...or even a joystick.

Using the full 16 colors of this new "double high-resolution" technology, Dazzle Draw offers you a full selection of electronic paint brushes. You can fill in areas, cut and paste or copy portions of your drawing and create rectangles, ovals and straight lines in seconds. For fine detailed work, you can zoom in on any area of the screen. When you're done, you can save your creation onto a disk so you can work on it another time, show it to your friends, audience or customers in a "slide show." or use it as part of your own software programs.

If you have Apple's Scribe color printer (or another color printer listed on the Dazzle Draw package) you can even make full-color printouts of your artistry.

Dazzle Draw offers Apple //e and //c owners a level of graphics sophistication previously available only on far more expensive computers. Whether you're a professional artist, software developer or a part-time doodler, you'll be drawing in no time. And, as you are about to discover, every feature of Dazzle Draw is easy to use.

So put on your creative cap and let your imagination run free.

```
<==*-----*==>
| Using this Manual |
<==*-----*==>
```

This manual is divided into several parts to show you how to get started and how to use all the features of the program.

The first section, Getting Started, tells you what you'll need to use the program and how to load it into your computer.

Input Devices explains how to use the mouse and other "tools of the trade."

Dazzling Basics introduces the menus and general features of the program. If you're already familiar with graphics software, this section may be all you need to get started.

Beginners should try out Your First Drawing and then read through

Dazzling Details, which takes you through all the menus step-by-step. This section is also useful as a quick reference if you want to learn how to use particular features of the program.

Four Appendices provide technical information on hardware tips, printer setup, color, and ProDOS, the disk operating system used in Dazzle Draw.

The Glossary includes brief definitions of all the menus and functions of the program and terms in the manual that may be unfamiliar.

At the very end, you'll find a list of Shortcuts and a display of all menus for quick reference.

```

<==*-----*==>
| Dazzle Draw Documentation |
| Getting Started |
| Part 2 |
<==*-----*==>

<==*-----*==>
| What You'll Need |
<==*-----*==>

```

The following are Required:

- o Apple //c or 128k //e.
- o Disk Drive.
- o Color TV or monitor.
- o A mouse, Apple Graphics Tablet, Drawing pad (such as a Koala Pad, ErgoPad, or Animation Station), or joystick.

The following are optional:

- o Dot Matrix printer.
- o Apple Scribe or Epson JX-80 color printer.

```

<==*-----*==>
| Start it up! |
<==*-----*==>

```

1. Insert the Dazzle Draw disk into the disk drive, turn on your monitor, and then your computer. The program will load automatically.

2. Wait until the red light on the disk drive goes out. A title screen will appear. A second screen will appear and you will be asked to provide the following information:

- o Type the appropriate number (1 through 4) that corresponds to the input device you will be using.
- o Select which file system (Easy File or Professional File/ProDOS) you would like to use. If you are not familiar with ProDOS we suggest that you use Easy File. For more information refer directly to the File section.

Make a backup Copy

It's a good idea to make a backup copy of Dazzle Draw. The program lets you make one backup copy of the front side of the disk. To make a backup copy, you will need a separate blank disk. Press the ESC key while the program is loading, before the title screen appears. Then

follow the easy, step-by-step prompts that appear on your screen. A disk label is provided to identify the copy you make. Make certain the disk you use does not have the square, write-protect notch along the edge covered over with a tab or label.

```

<==*-----*==>
| Slide Show |
<==*-----*==>

```

For an introduction to the program, insert your Dazzle Draw disk into the disk drive with the label side down. Then turn on your computer. Follow the on-screen prompts for a brief slide show of drawings displaying what Dazzle Draw can do.

Later, you'll learn to make automatic slide shows of your own pictures, with you deciding the sequence and timing of the whole show.

```

<==*-----*==>
| Dazzle Draw Documentation |
| Input Devices |
| Part 3 |
<==*-----*==>

<==*-----*==>
| Introduction |
<==*-----*==>

```

The best tools for using Dazzle Draw are either a mouse or an Apple Graphics Tablet. Although you can use a drawing pad or joystick, you'll have less control over the cursor.

With your "artist's tool" you can move the cursor (a white pointer or other shape) around the screen to select features from the program and to create your drawings.

This manual was written assuming you will be using a mouse. Depending on which input device you use, you'll want to keep in mind the instructions below that apply.

```

<==*-----*==>
| Mouse |
<==*-----*==>

```

To select a Dazzle Draw feature, move the cursor by moving the mouse on a clean, flat surface next to your computer until the cursor reaches the feature you want. Press the mouse button to highlight your choice, and then release the button. This is called "clicking the mouse." To draw, move the mouse while holding down the button. Then release the button to finish a stroke.

```

<==*-----*==>
| Graphics Tablet |
<==*-----*==>

```

Move the stylus on the surface of the pad to move the cursor. Press the pen down in place of pressing the mouse button.

```

<==*-----*==>
| Drawing Pad |
<==*-----*==>

```

Apply pressure to the tablet's surface to move the cursor. Use the left pad button in place of the mouse button.

```

<==*-----*==>
| Joystick |
<==*-----*==>

```

Move the joystick up, down, left and right to move the cursor. Use button 0 in place of the mouse button.

Note - The buttons on various drawing tablets and joysticks may vary.

```

<==*-----*==>
| Dazzle Draw Documentation |
| How to Use the Program |
| Part 4 |
<==*-----*==>

<==*-----*==>
| Introduction |
<==*-----*==>

```

Before you begin, take a minute to study the screen. Your "canvas" covers the entire screen, including the area behind the menus at the top of the screen. The small white arrow is the cursor. It will take on different shapes, depending on the feature you pick.

The vertical band at the bottom of the screen is the scroll bar. It lets you move the canvas up and down the screen so you can use the entire drawing area without obstructions. You select features in Dazzle Draw through the menus. These contain special operations for drawing, choosing shapes, patterns, and colors, for cutting, pasting and copying, and saving and retrieving your work.

```

<==*-----*==>
| Moving the Cursor |
<==*-----*==>

```

Before you begin, practice moving the cursor with the mouse. You don't have to hold down the button.

```

<==*-----*==>
| Pulling Down Menus |
<==*-----*==>

```

Dazzle Draw feature are listed in "pull-down menus." This means that you "pull down" each menu before selecting a feature in the program. To take a look at the available features, move the cursor to each menu, one at a time, and press the mouse button. Like magic, a list of features appears underneath each menu. Remember to hold down the button, or the menu will disappear!

```

<==*-----*==>
| Choosing Features |
<==*-----*==>

```

To choose one of Dazzle Draw's features, simply pull down the appropriate menu. Keep the mouse button held down and move the cursor over the feature you want to highlight, and then release the button. When a feature is gray, it can't be highlighted, and selecting it will have no effect.

```

<==*-----*==>
| The Crown Menu |
<==*-----*==>

```

The Crown menu includes fundamental features of the program. As an exercise, select the first feature, About Dazzle Draw... Here's how you do it:

1. Move the cursor to the Crown menu.
2. When you reach it, hold down the mouse button.

3. Now move the cursor over About Dazzle Draw...and then release the button.

4. A window with a message appears on the screen.

5. To exit the feature and return to the main menus, move the cursor to the small box to the left of the window name and click the mouse.

Here are descriptions of the feature you'll find in the Crown menu:

#### About Dazzle Draw

This feature is like a title screen. It tells you how created and published the program and the publication date.

#### Help About

This is a built-in assistance tool that lets you call up some helpful information about all the menu feature and Undo. For a little help from Dazzle Draw, just click the mouse over Help About...and then move the cursor, now shaped like a question mark, to the appropriate feature. A window with a brief description of the feature appears on the screen. You may use Help About at any point to get information about a Dazzle Draw feature in use. Make sure your Dazzle Draw disk is in the drive.

#### Adjust Color

The Adjust Color feature puts color bars on the screen to help you adjust your monitor. To exit, just click the mouse anywhere on the screen.

#### Printer Setup

This feature only applies if you're using a printer with Dazzle Draw. Dazzle Draw works on a variety of popular printers. Check the label on the back of the box for particulars. You must let the program know what kind of printer you'll be using. Here's how:

1. Pull down the Crown menu and select Printer Setup.
2. The "dialogue box" shown above will appear on the screen.
3. The dialogue box indicates three things: the name of the printer, the name of the interface card, and the slot number your interface card is in. If your printer, interface card, or slot number do not match these, you must change the settings. (If you have a //c, you can only change the printer settings.)
4. To change a setting, click the mouse on that item. The name will be highlighted and the bottom section of the dialogue box will display your choices. Click the mouse over the up-and-down arrows to scroll through your choices. When you see the name you want, just click over it.
5. To change another item, click the mouse over the item you want to change and follow the same steps.
6. If you change your mind at any time during this procedure, just click the mouse over Cancel and Dazzle Draw will restore the original names.
7. If you don't want to make any changes, simply click the mouse over Okay. The dialogue box will disappear.

Note - To test your printer, make sure your printer is turn on and "selected," then click Test in the dialogue box. The message "Welcome to Dazzle Draw" should print out on your printer.

## Quit Dazzle Draw

When you're ready to stop using Dazzle Draw, this feature lets you remove the program from your computer's memory without turning off the system. You can then start up another program.

```
<==*-----*==>
| The Undo Box |
<==*-----*==>
```

You've probably noticed that the Undo box has no features. This is because the Undo box has a unique function. It gives you the option of "undoing" the last step you took - for example, the last stroke you drew or section you cut or pasted. This option works only if you use it immediately following the action you want to take back, when the Undo box is red. To undo an action, move the cursor to Undo and click the mouse, or type "z" which is the keyboard shortcut for this function.

```
<==*-----*==>
| About Windows |
<==*-----*==>
```

Windows in Dazzle Draw are the boxes that appear in the middle of the screen containing either information about the program or "tools" for using the various features.

## Moving Windows

You can use a window from one feature (like Help About...) at the same time you're working with another feature without erasing what's on the screen. You can also move the windows around the screen so you can work more easily. For example, if you want to keep the Help About... window on the screen as you work here's what you do:

1. Move the cursor into the white title band at the top of the window.
2. Press the mouse button.
3. "Drag" the window to a more convenient location and release the button.

Note - Several windows on the screen at one time will look like a stack of cards. To bring one up from the pile, just click the mouse over an exposed area of the window you want it will jump to the top of the pile.

## Using Tool Windows

When you choose certain functions of the program, tool windows appear at the bottom of the screen. A tool window is really like a tool box. It contains the tool you'll need to use the feature you've picked. For now, take a look at the tool window for Paint Brush. It contains the following features:

Name - Identifies the tool window.

Sizes - Lets you pick one of the four sizes for your paint brush.

Shapes - Gives you a selection of six paint brush shapes.

Solid Color or Pattern - Lets you decide whether you want to paint with a solid color or pattern.

Palette - Lets you pick one of 16 colors or 30 patterns from a palette.

Active Box - Tells you what color or pattern is active.

Scroll Bar - Lets you expose the entire canvas by moving the drawing area up and down.

Exit Box - Lets you exit Paint Brush and return to the main menus.

```
<==*-----*==>
| Watch the Colors! |
<==*-----*==>
```

By now you have probably noticed that the little boxes that contain the names of the menus and features change color from time to time. Each of these colors has a specific meaning.

Blue - It's okay to use this option.

Yellow - You've just highlighted this option and it will be selected when you release the button.

Gray - This option is off bounds. You can't use it right now.

Red - Applies to Undo only. Lets you know when the Undo functions is available.

===== DOCUMENT dazzle.draw.iiia =====

```

<==*-----*==>
| Dazzle Draw Documentation |
| A Walk through the Menu |
| Part 5a |
<==*-----*==>

```

```

<==*-----*==>
| Tools |
<==*-----*==>

```

This section is designed both as a step-by-step guide to all the features in Dazzle Draw for beginners, and as a reference guide to particular features of the program for experienced Dazzle Drawers.

```

<==*-----*==>
| Paint Brush |
<==*-----*==>

```

Paint Brush lets you paint with a wide variety of solid colors and patterns. You can add text and even create lines, ovals and rectangles at the touch of a button.

Here's how to use Paint Brush:

1. Pull down the Tools menu and select Paint Brush.
2. Select either the solid color or pattern option.
3. Select a color or pattern. If you've chosen patterns, click the mouse over the "up" or "down" scrolling arrow to view all the patterns possibilities, six at a time.
4. Select a brush shape.
5. Select a brush size. The smallest brush size you can use with solid colors is one pixel.
6. Move the cursor, now shaped like the tip of a paint brush, onto the drawing area, and press the mouse button to begin drawing.
7. Release the button when you want to stop drawing and to move the cursor around the screen without leaving a trace.
8. To erase, select black or the color of your background and the brush size and shape with which you want to erase.
9. With the mouse button pressed down, sweep the cursor across the area you want to erase.

Hints:

1. To draw straight vertical or horizontal lines, press the "Open Apple" key ("Closed Apple" if you're using a drawing pad or joystick) while you move the brush. This feature is called "constrain." You can also use this feature in the Spray Paint mode and, as you'll soon see, when drawing Shapes.
2. Your brush tip is displayed in a contrasting color so that you won't "lose" it on a background of the same color. Occasionally, you may want your brush displayed in the current color, rather than the contrasting color. Press the spacebar to switch between these two options.

```

<==*-----*==>
| Spray Paint |
<==*-----*==>

```

Spray paint is primarily a shading tool that lets you apply colors and pattern in any density. You can adjust the spray to four different shapes.

Here's how to use Spray Paint:

1. Pull down the Tools menu and select Spray Paint.
- 2a. Using solid colors: If you are filling a solid color with another solid color, the "Fill" and "With" boxes both are pre-set to the solid option, so all you have to do is select a color, then click the mouse over the area that you want to fill that color with.
- 2b. Using patterns: If you're filling with a pattern or over a pattern, you must tell the computer. To do so, first click the mouse option next to the computer. To do so, first click the mouse over the solid or pattern option next to the "Fill" box to indicate what type of area you plan to fill. Then click over the solid or pattern option next to the "With" box. Now select the pattern or color from the palette that you want to fill with. If you are filling over a pattern, the cursor will change to a dotted-line box. Click the mouse over the area that you want to fill.

Note - The dotted-line box shows what Dazzle Draw "sees" as the pattern it will cover

```

<==*-----*==>
| Zoom |
<==*-----*==>

```

The Zoom feature lets you magnify a small segment of your drawing so that you can do fine detail work by adding and deleting colors, pixel by pixel. You can work in even finer details with the color option in the Goodies menu turned off. The Grid function, also in the Goodies menu, can further enhance your Zoom work.

Here's how to magnify a section of your drawing:

1. Pull down the Tools menu and select the Zoom feature.
2. A dotted-line box will appear on the screen.
3. Move the box to the area you want to magnify by pressing the mouse button and dragging the box to the section you want to magnify. Then click the mouse.
4. The selected area will be placed in the Active box. It also will be enlarged to fill up the entire drawing area, so you can modify the drawing pixel by pixel.
5. While you're working, you can redefine the section you're working on by using the "zoom scroller," a device that appears in the Zoom tool window. The zoom scroller is like a joystick that directs the positioning of the magnified working area. Simply point the cursor at the dot in the center of the zoom scroller and press the mouse button. Then move the cursor in the desired direction.

Working in your magnified section, here's how to add the delete colors:

1. Pick a color.
2. Move the cursor to the pixel you want to color and click the mouse.

To color more than one pixel, simply hold down the button while moving the mouse until you've filled in all the pixels.

3. If you change your mind and want to erase this color, click the mouse over the pixel or pixels you have that color. The pixels will turn black.

```
<==*-----*==>
| Text |
<==*-----*==>
```

Using the Text feature, you can add words to your drawing. You have your choice of two type fonts (Modern or Serif) and three stylus (Plain, Bold, or Italic). In addition, you can choose two sizes for each font: 18 or 36 Point for Modern and 24 or 48 Point for Serif.

If you want to add text to your drawing:

1. Pull down the Tools menu and select Text.
2. The Text Tool window will appear, displaying the current font, size, and style. You can change any of these settings by clicking the mouse over the current choice. The available options will appear one at a time.
3. Move your cursor to the position where you want your text to begin, and click the mouse. This position the text cursor at the place where the character type will begin.

```
<==*-----*==>
| Shapes |
<==*-----*==>
```

Shapes lets you add squares, circles, ovals, and rectangles to your drawing. You can choose solid shapes, outlined shapes with four different border thicknesses, plus 16 colors and 30 patterns.

Here's how to use the Shapes feature:

1. Pull down the Tools menu and select Shapes.
2. Select the outline or filled oval or rectangle.
3. Pick a border thickness if you've chosen an outlined shape.
4. Move the cursor to the drawing area.
5. Press the mouse button and drag cursor to create the size shape you want, and then release the button.

Note - To draw a perfect circle or a square, press the "Open Apple" key ("Closed Apple" when using a drawing pad or joystick) while defining an oval or rectangle.

```
<==*-----*==>
| Dazzle Draw Documentation |
| A Walk through the Menu |
| Part 5b |
<==*-----*==>

<==*-----*==>
| Lines |
<==*-----*==>
```

With the Lines feature, you can draw solid lines with patterns or colors. You can use single lines, connecting lines, or rays emanating from a single point.

It's easy to use the Lines operation. Here's how:

Single Lines

1. Pull down the Tools menu and select the Lines feature.
2. Pick a color or pattern.
3. Pick the straight line option.
4. Choose a line width.
5. Move the cursor into the drawing area and press the mouse button where you want your line to begin. Then move the cursor to where you want your line to end and release the button.

Connecting Lines

1. Follow the instructions for straight lines until you get to Step 3. Then pick the connecting lines option.
2. Choose a line width.
3. Move the cursor to the area where you want your first line to begin and press the mouse button. Drag the cursor to the place where you want that line to end, and then release the button.
4. To draw a second line, press the button again. The second line will begin where the last line ended. Then drag the cursor until you get to the place where you want this line to end, and release the button. You can draw as many lines as you want.
5. To begin a new series of lines, click the mouse anywhere outside the drawing area to end the old series.

Rays

1. Follow the instruction for single lines until you get to Step 3.
2. Pick the rays option.
3. Move your cursor to the drawing area and press down the button at the point from which you want the rays to emanate.
4. Press the mouse button and drag the cursor to the point at which you want the line to end. To draw a second line, press the mouse button again and drag the cursor again.
5. To begin a new set of rays, click outside the drawing area.

```
<==*-----*==>
| Edit |
<==*-----*==>
```

Dazzle Draw's Edit menu gives you the option of "editing" your drawing. Using the Capture feature, you can "capture" specific sections of your drawing and then erase, move, or duplicate them. You can even "invert" colors in a captured section or flip the section vertically or horizontally. With Capture and the Exchange Colors feature, you can replace one color with another within any section.

```
<==*-----*==>
| Capture |
<==*-----*==>
```

The Capture feature lets you define a section of your drawing on the screen and place it onto the computer's invisible "clipboard" for later use. The Capture feature must be used before you can use the

Flip, Invert Colors, Cut, Paste, Copy, Exchange Colors, or Clear Section features.

Here's how to capture a section:

1. Pull down the Edit menu and select Capture.
2. Move the cursor to any corner of the section you want to capture, and then press the mouse button. Drag the cursor a little and a small, dotted-lined box appears on the screen.
3. While continuing to hold down the mouse button, move the mouse so that the dotted line surrounds the area you want to edit.
4. Release the mouse button.

```
<==*-----*==>
| Flip Section |
<==*-----*==>
```

With this feature, you can flip a section of your drawing vertically or horizontally.

1. Capture the section you want to change.
2. Select Flip Horizontally or Flip Vertically from the Capture tool window.

```
<==*-----*==>
| Invert Colors |
<==*-----*==>
```

The Invert Color feature lets you change colors in a section of your drawing to their "opposite" colors (such as white to black).

1. Capture the section where you want to invert colors.
2. Select the Invert Colors option from the Capture tool window.

```
<==*-----*==>
| Cut and Paste |
<==*-----*==>
```

Using the Cut and Paste features together, you can remove the section you captured and reposition it in another area of your drawing. Here's how to do it:

1. Capture the section you want to reposition.
2. Select Cut from the Edit menu or type "x" on your keyboard. The captured section will be lifted off your screen and placed onto the clipboard. In its place will be a black space.
3. Select Paste or type "v".
4. Press the mouse button and drag the cursor (which now look like a right angle to indicate the lower right corner of the section you cut) to where you want the section to be relocated. Then release the mouse button.

```
<==*-----*==>
| Copy and Paste |
<==*-----*==>
```

With the Copy feature, you can reproduce a section of your drawing without removing it and, by using Paste, place the duplicate onto another part of your screen. Here's how:

1. Capture the section you want to copy.
2. Select Copy from the Edit menu or type "c." The captured section will be copied off the screen and placed on the computer's clipboard. This time you won't see a black space replacing it - the original remains on the screen.
3. Press the mouse button and drag the cursor to the location where you want a copy of the section to appear.
4. Select Paste or type "v." The cursor now looks like a right angle.
5. When you move it to where you want the copy to go, press the mouse button. As you hold down the button, you can drag the image for exact positioning. Then release the button.
6. To make multiple copies, type "CTRL-V" each time you want a copy to be pasted to the screen.

included in this program as well as the power of the new features, you will never accept again to use other DDD imitations, and you will only swear by D.D.DeLUXE, guaranteed!

Louis Roy, the author of this program, has completely redesigned his packing algorithm. It packs more and faster! He also included a super fast and reliable checksum mechanism to validate the integrity of the compressed data. And Louis has designed this package thinking of the various types of users out there, from the faithful ][+ users, all the way to the PC transporter //GS users of today, without forgetting Sysops, Hard disk and Ram disk users, etc..

Another significant built-in feature of the program is the capability offered to the packing user to compose, and permanently store in the packed file, an 11 line personal message, and this, plus the built-in checksum and all the new features that you will soon discover, has resulted in a faster packer! As we said before, the world of modem telecommunication will never be the same again!

.....  
 D.D.DeLUXE AT A GLANCE:  
 .....

- o Can pack 5.25, 3.5 800K and 3.5 1600K disks.
- o Compatible with all PRODOS devices in existence today, including Ram disks, hard disks, etc..
- o A new feature that permit you to communicate with hundreds of people
- o have a copy commands that permit you to copy file from a directory to another.
- o have a optimize option to pack even more (only prodos disk)
- o have a clock on the main menu
- o Support up to 14 storage units connect to your Apple.
- o Will execute on Apple ][+, //e, //c and //GS.
- o Recognize, and utilizes your 80 columns cards (except on a ][+)
- o Packs more than ever.
- o Packs and unpacks faster.
- o PRODOS Hard disk compatible.
- o Window driven.
- o Keeps the name of the packer and the date of packing.
- o User friendly, less typing involved thru intelligent user interface.
- o Built-in checksum.
- o Supports all PRODOS commands directly from the program.
- o Built-in FORMAT command recognizing all PRODOS devices.
- o Keeps your configuration and personal message between sessions.
- o Full error trapping mechanism.
- o Recognizes, and utilizes, any clocks you may have.
- o Built-in mini editor to edit your personal message.
- o Packs and unpacks with one or more devices.
- o Allows duplicate volumes on-line (contrary to COPY ][+).
- o Easy to use!
- o and more!!

.....  
 HISTORY  
 .....

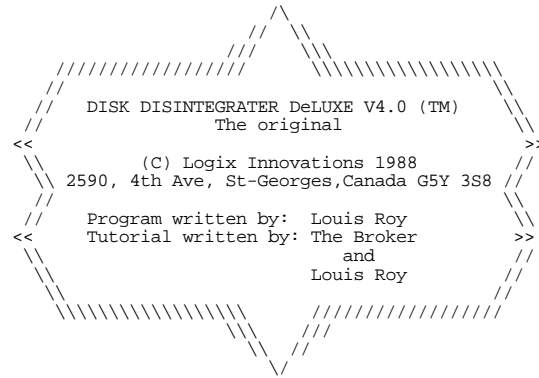
Most of you have heard of the history of the famous DDD packer, but for the benefit of those that may not, we will recap the accomplishments of Louis Roy:

1983: Louis Roy, under the alias of DALTON, writes his first packer. Immediately this became a huge hit. It became THE de-facto standard in the modem world. What made this packer so special? Basically, a faster and more efficient packing algorithm and a few new ideas that were destined to become some of the most copied features of the day: the mean to compress a full disk of data into a single transferable file! This became the start of a revolution in the world of packers... From

=====

DOCUMENT dd.deluxe.1

=====



.....  
 IMPORTANT NOTICE  
 .....

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.....  
 INTRODUCTION  
 .....

Finally! No, you are not dreaming, here is the latest packer that Louis Roy wrote especially for you:

DISK DISINTEGRATER DeLUXE V4.0  
 The original !! (nothing less...)

D.D. DeLUXE is more than a packer, it is a totally new mean of communication. Effectively, when you will have discovered the new ideas



that day onwards, packers would never be the same again, thanks to DDD V1.0.

1984: He writes a new version, DDD V2.0. This version supported new utilities, but still was using the DDD V1.0 packing algorithm. The program became visually more attractive, and user friendly routines as well as a more intelligent user interface appeared, things such as a track status bar, built in size appearing in the packed title, etc...

1985: DDD V2.1 correcting a bug in V2.0.

1986: DDD V3.0. Louis wrote this new version of his now legendary packer, but decides not to release it. This version supported many of the features that you will now find in DDD V4.0. The personal message, hard disk support, all appeared in that version. It was still using DOS 3.3. Why wasn't it released? Because Louis decided to stop programming for the Apple all together. Even with the new packer nearing completion, he decided to take a sabbatical to put his life in perspective. The life of a hacker is an arduous one, sooner or later you must let go...

This seemed to be the signal other hackers, with little imagination of their own, were looking for! From this moment on, we saw the appearance of new packers while keeping compatibility with DDD V2.1. Even now, most packers in use have blatantly copied his algorithm. Sometimes one wonders if programming ability is not equivalent to copying abilities!

1988: After his sabbatical, Louis takes charge again by introducing Disk Disintegrator DeLuxe V4.0. The packing algorithm has been totally revamped into a faster, more powerful packer. Mark my words, this packer marks the dawn of a new era, and believe me, the shock waves will be felt all over the modem world, and probably, the same unimaginative people will copy it again. Make yourself a favor, use the original! As in other domains, the original has usually the upper hand on the copy!

.....  
**COMPATIBILITY**  
 .....

A) D.D.DeLuxe is not compatible with the older algorithm of DDD V2.1 (and other compatible packers). Why? Keep reading, the reasons will become obvious... In any case, this packer will render all other obsolete!

B) D.D.DeLuxe will execute bug free under the following computers:

- Apple ][+ or compatible, with 64k
- Apple //e, enhanced or not, with or without extended 80 column cards.
- Apple //c, all models
- Apple //GS

C) Screen mode:

o Apple ][+: The display will be in 40 columns mode and in upper case characters only, even if you have a compatible ][+ which supports lower case characters. The main reason being that even those compatible cannot display inverted lower case characters that DDD uses.

If you have an 80 column card, D.D.DeLuxe will not use it, this is caused by the lack of standard in the ][+ 80 columns. Remember that you will have to boot DDD in 40 columns, any attempt to boot in 80 columns will result in garbage characters on your screen.

o Apple //e without 80 columns card: You will see lower case characters, but obviously you will only get 40 columns of display.

o Apple //e with 80 columns, Apple //c and Apple //GS: You will see both 80 columns and lower case characters.

D) Disk format that D.D.DeLuxe can pack:

- 5.25" floppy diskettes
- 3.5" floppy diskettes with 800k capacity
- 3.5" floppy diskettes with 1600k capacity (yes, we know, they don't exist...yet... but we can compact them!).

E) Disk drives compatible with D.D.DeLuxe:

- 5.25" disk drives
- 3.5" 800k drives (this include Apple 3.5, Unidisk 3.5, Universal disk controller and all other 3.5 drives that are Apple compatible.)
- 3.5" 1600k drives (not yet available, but Apple is rumoured to announce one for 1988).
- All hard disks working under PRODOS (CMS, Siders, Profile, etc..)
- All RAM cards that support a PRODOS RAM disk driver.
- All Rom disks (such as the //GS Memory Saver).
- PC transporter RAM disk.
- PC transporter 5.25" PRODOS disk.

F) PRODOS version:

D.D.DeLuxe is compatible with PRODOS version 1.3 or higher. Do not use with older PRODOS revisions (it will not run). It's preferable to use V1.4 because V1.3 have minor bugs in it.

G) Clock cards:

D.D.DeLuxe will read your clock card as long as you have loaded its driver in the PRODOS boot (clock patch). D.D.DeLuxe is compatible with all standard PRODOS clock cards, with or without patch. D.D.DeLuxe will also work without a clock card, in which case you will be prompted for date/time input whenever required.

.....  
**WHAT YOU HAVE ON D.D.DeLuxe DISK**  
 .....

The D.D.DeLuxe original disk have 2 sides. Following is a description of the various files on the disk:

D.D.DELUXE.LOAD

SYS file. To be used if you wish to start D.D.DELUXE.V4.0 directly from Applesoft Basic.

D.D.DELUXE.V4.0

This is the main program of D.D.DeLuxe (application file). This file should never be renamed, if you use D.D.DELUXE.LOAD or if you use the Finder on a //gs.

D.D.DELUXE.CONF

This is the file where your personal configuration of D.D.DeLuxe (type BIN) will be stored. This file should never be renamed !!

ICONS directory: FINDER.ICONS, FINDER.DATA and DDELUXE.ICONS

These files will only be useful for Apple //gs users. On the disk itself, these files are useless. Copy these files to the directory called ICONS of the Finder you are using. Your finder will then be able to load these files and will display the appropriate ICONS relative to D.D.DeLuxe files. A small surprise is waiting for you! (Note: you probably have FINDER.ICONS and FINDER.DATA on your disk, replace them by these new files).

READ.ME.FIRST

First text file to read when booting for the first time the D.D.DeLuxe disk (side 1).

D.D.DELUXE.DOX1

TXT file. First part of the D.D.DeLuxe documentation.

D.D.DELUXE.DOX2  
TXT file. Last part of the D.D.DeLUXE documentation.

DDDELUXE.BENCH  
TXT file. D.D.DeLUXE comparative benchmark, as done by Roger Richard (HA!  
HA!).

DDDELUXE.ERRORS  
TXT file. List of error codes, and their significance, that you may  
encounter during the use of D.D.DeLUXE.

BONUS.FILES  
TXT files. An extra from the author of D.D.DeLUXE, Louis Roy! Various  
interesting text files for your pleasure.

.....  
WHY D.D.DeLUXE DOES NOT USE 128k  
.....

D.D.DeLUXE works on any system with at least 64k (except on the original  
Apple II). Maybe you are disappointed that the program does not make use of the  
full 128k, or more, memory of the //e, //c or //GS? There is a simple reason to  
this: it's faster that way! Even if the DDD's buffer is smaller by only using  
64k of the available memory, resulting in increased disk access, it's still  
faster! This is caused by the peculiar architecture of the Apple bus. The Apple  
can only access 64k of memory at the same time, all subsequent 64k of memory  
are used as a switched memory bank. Basically, this demands a substantial  
amount of memory moves. In his beta version, Louis was using bank switched  
memory, but after a few bench marks, he noticed that the increased memory  
handling capability resulted in decreased performance. So he removed it.

Statistically speaking, 98% of ther Apple systems in use have more than  
one disk drive, so this will not cause a problem to the majority of the users.  
Those that only have a disk drive are left with the alternative of using a ram  
disk, acquiring a secondary disk drive, or swap disks! (check the copy command  
for further instructions on how to use ram disks when packing and unpacking).

.....  
NOTE ON RAMDISK  
.....

If you have a configured ram disk with 800k, D.D.DeLUXE will treat it as a  
3.5" 800k drive. The same rule applies with ram disks of 1600k. It will so be  
possible to you to unpack DDD files of 800k and 1600k onto ramdisks instead of  
the usual 3.5" disks.

.....

CLOCKS  
.....

If your Apple has a clock card, D.D.DeLUXE will display the current date  
and time in a little window at the bottom left of your screen of the main  
menu.

.....

RESET KEY  
.....

As in other Apple programs, never press the RESET button while D.D. DeLUXE  
accesses your disk. This may prove to be hazardous to the life of your disk!  
However, as long as D.D.DeLUXE is not accessing the drives, it will be  
safe to press reset, you will then be transported back to the main menu.

.....  
ESC KEY  
.....

At any stage during the program, you can go back to the main menu by  
pressing the ESC key. No matter where you are, no matter what you are doing,  
you can always ESCape back to the main menu!

.....  
DISK ACCESS ERROR TRAPPING  
.....

Anywhere and at any time, D.D.DeLUXE always utilizes the same error  
trapping routine. This routine is activated automatically whenever you get an  
error while D.D.DeLUXE is accessing the disk. In the eventuality of such an  
error occuring, D.D.DeLUXE will tell you the appropriate PRODOS error code, in  
hexadecimal, in a little window at the top of your screen. Just refer to the  
standard PRODOS error codes (or the PRODOS error charts in a file on your  
D.D.DeLUXE disk) to find out the cause of the error and select an appropriate  
course of action.

In an error situation, the program will suggest that you press a key if  
you wish to retry the same operation again. It may give you the same error  
again, but if you corrected the problem in the meantime, it will work. This  
feature will prove useful whenever you leave your disk drive open for  
example...

.....  
WHAT'S THE PERSONNAL MESSAGE?  
.....

The personal message is a very powerful and useful feature, maybe the  
impact of this feature escapes you right now, but as you will soon find out,  
you will not want to pack without this option!

Every time you will pack a disk, D.D.DeLUXE will compress and insert in  
the resulting DDD file your personal message along with your name and the date  
you packed the file. When another person will de-compress your DDD file,  
D.D.DeLUXE will display automatically on the screen your personal message,  
your name and the date packed. Can't you already sense the obvious advantages  
of such a feature?

What could you write in that message? In reality, just about anything that  
you feel you would want other people to see, things such as documentation,  
special hints, even a classified ad! Let's say you have a modem to sell, etc..  
You may even be able to reach somebody that you ignore his telephone number,  
even his address, the possibilities are endless!

.....  
WHAT'S THE MENU LINE  
.....

The menu line is edited at the same time as your personal message. As the  
user unpacks the DDD file, at the very start of the unpack, your personal  
message will be displayed. But the menu line will only be displayed at the end  
of the unpack, providing that no errors were detected.

This menu line will appear in the user's main menu as long as he will work  
with D.D.DeLUXE, or until the next unpack. What you will do with this menu line  
is only bound to your imagination, for example, you could use it as publicity  
for your favorite BBS, as this line will remain in permanenne on the screen of  
the unpacking user as long as he uses D.D.DeLUXE (or until the next unpack), or  
why not use it to pass on proverbs, I'm sure that already ideas are popping in  
your head.

Take note that the menu line stay on the main menu screen even if the

user use the option "View DDD file informations" (in PRODODS COMMANDS).

D.D.DeLUXE STANDARD DIRECTORY COMMAND

Every time that you use the following options: PACK, UNPACK, PRODODS COMMANDS, OPTIMIZE, VIEW DDD FILE INFORMATIONS, SAVE MESSAGE and COPY COMMAND you will always have access to the following commands:

The first window that D.D.DeLUXE will display will be a list of the on line PRODODS volumes as well as a list of all devices without a valid PRODODS volume in it. At this time, you can use the arrow keys to browse through that list and choose your preference by pressing the Return key. Just remember that you will only be allowed to choose a device that contains a valid PRODODS volume.

Then D.D.DeLUXE will show you a second window containing the directory of the volume you chose previously. You will also indicate to you wether the catalog you are viewing is a FULL or PARTIAL catalog. You will see such information on the top line of the window. At the bottom of the window, you will see the volume name, total free blocks of the disk as well as the total block capacity of that disk. You then have, at least, the following options:

- a) Arrows:
  - Right and down arrows: move down 1 line in directory
  - Left and up arrows: move up 1 line in directory
  - Open apple + down arrow: move down 7 lines in directory
  - Open apple + up arrow: move up 7 lines in directory
- b) RETURN key:
  - If you wish to catalog a subdirectory, position your scroll bar to the subdirectory and press Return, D.D.DeLUXE will give you a new catalog of that subdirectory.
- c) Key "1":
  - Back 1 directory. If you are not at the volume directory and you are in a subdirectory, you can backtrack to the previous directory by pressing the number 1 key.
- d) Key "2":
  - Full and Partial catalog toggle switch. By pressing the number 2 key, you will activate a toggle between the full and partial catalog mode. In a full catalog, D.D.DeLUXE will display all files present in the working directory, in a partial directory, D.D.DeLUXE will only display the sub-directories and the files of type \$DD (or DDD). This option will allow you to quickly zero in on such type of files.
- e) Key "3":
  - Volume window. By pressing this key, D.D.DeLUXE will give you back the volume window of all on-line volumes on your Apple. Of course, if you inserted or removed volumes since the last time, D.D.DeLUXE will present you with an up to date picture of these volumes.

Note that if your directory is empty, D.D.DeLUXE will display "No Entry". If you are in mode "full" and D.D.DeLUXE will display that message, then you have no files whatsoever in your directory, however, if you were in "partial" mode, then this message will indicate that you have no sub-directory or DDD files in the working volume. You may still have other types of file in this directory, to verify, just go in "full" mode by pressing "2" key.

HOW TO START D.D.DeLUXE

Before starting D.D.DeLUXE, if you have a clock card, you should evidently load its driver to patch PRODODS, if it hasn't been done already. Furthermore, if you also want to utilize your Ram card, you should also load its driver. Note that no diver are necessary for /RAM5 on the //GS or the standard /RAM on the //c or //e. And don't forget either that you must use PRODODS 1.3 or higher.

D.D.DeLUXE PRODODS FILE TYPE and DISK IDENTIFICATION

When you are packing, D.D.DeLUXE uses the PRODODS type \$DD (short for Disintegraterr DeLuxe) to store your DDD file, no matter if you used 5.25, 3.5, 800k or 1600k. As of now, this file type has not been used by any other Apple software programs.

When you will catalog such a directory with D.D.DeLUXE, these file types will appear as "DDD", but if you use other software programs to catalog such disks, they will appear as "\$DD". This will facilitate the identification of DDD files.

How will you know what type of medium is to be used during the unpacking operation? This is made quite simple, just look at the file name! D.D.DeLUXE utilizes suffixes to differentiate the various mediums:

```
<filename>.A ---> 5.25 floppy
<filename>.B ---> 3.5 800k disk
<filename>.C ---> 3.5 1600k disk
```

HORIZONTAL MENU

At certain occasions, D.D.DeLUXE will ask you to choose certain options with the horizontal menu. In this case, just use the left and right arrows ( -> and <- ) to choose the option you desire, then press Return to accept it.

NOTE ON DIRECTORY SIZE

D.D.DeLUXE can catalog any PRODODS directory that contains a maximum of 600 files. Note that the limit applies to each directory, you may have thousands of files on your disk, but in any given directory (or sub-directory), D.D.DeLUXE cannot catalog more than 600 files. In the rare eventuality of this happening, you will get the message "DIRECTORY TOO LARGE", in which case you should consider splitting that directory into smaller sub-directories. But in reality, we all know that nobody would have this problem since we all know what problem having such huge directories will bring.

One final note, if you use a RAM disk driver, this limit will perhaps be lower, but then again, nobody should be affected.

EDITOR CONTROL KEY

Every time that D.D.DeLUXE will ask you to type anything, you will automatically have access to the following editing keys:

```
-> : move cursor right in sentence
<- : move cursor left in sentence
DEL : delete character at left of cursor
CTRL-D : delete character at cursor
TAB or CTRL-I : toggle insert mode on/off
CTRL-F : put cursor at first character of the line
CTRL-L : put cursor at last character of the line
CLEAR or CTRL-X : Clear line
RETURN : Accept line
```

Do not rename the following files, as they are used by D.D.DeLUXE and you may create unnecessary problems:

```
"D.D.DELUXE.V4.0"
"D.D.DELUXE.LOAD"
"D.D.DELUXE.CONF"
```

You must have the configuration file "D.D.DELUXE.CONF" residing in the same directory as "D.D.DELUXE.V4.0", so that D.D.DeLUXE can load this configuration. If the configuration file is not found, then D.D.DeLUXE will configure itself with default parameters.

If you are using a //GS, you can start D.D.DeLUXE directly from the Finder by executing the main module: D.D.DELUXE.V4.0. You will not need to execute the D.D.DELUXE.LOAD if you use the Finder or the PRODOS dispatcher (PRODOS BYE or QUIT commands).

If you start D.D.DeLUXE from Applesoft basic, then you must start D.D.DELUXE.LOAD first, this binary file will load the main program D.D.DELUXE.V4.0 in resident memory. This procedure is necessary due to the size of the routine and this could cause a conflict with the BASIC.SYSTEM in memory if you wished to start directly from basic.

If you have an Apple ][+, you must start D.D.DeLUXE from 40 columns, if you have an 80 column card, you must refrain from using it.

Once loaded, D.D.DeLUXE will show you a banner page, at this stage, you may elect to press the letter A to read the "About D.D.DeLuxe" for the program, pressing any other key will go directly to the main menu. Voila! You are now ready to utilize D.D.DeLUXE.

If this is the first time ever you used D.D.DeLUXE, you will probably elect to go to option #8 and configure your personal version of D.D.DeLUXE, if you need help with this option, read the documentation on the CONFIGURE option.

```
.....
MAIN MENU
.....
```

First, let's review the list of commands that will be documented in the following paragraphs and are available from the main menu:

```
[1] Pack disk
[2] Unpack disk
[3] Prodos commands
[4] Edit my message
[5] View last DDD info
[6] Optimize Prodos disk
[7] Format Prodos disk
[8] Checksum disk
[9] Configure
[0] Quit
```

You can choose one of the options directly by pressing its appropriate number or browse through the choices with one of the "browse" keys:

```
Space bar, right and down arrow: down one line
left and up arrow: one line
Return: accept option selected
```

```
.....
PACK DISK
.....
```

This option will allow you to compress a whole disk (5.25, 3.5 800k or 3.5

1600k) into a single file. Here is how to proceed:

- 1) D.D.DeLUXE will ask you to select the location of the disk you wish to pack. D.D.DeLUXE will show you the inventory window of all the disk 5.25, 3.5 800k and 3.5 1600k allowable on your system. Using the arrow keys, choose the location of your original medium and press return. It is not necessary that you insert your original disk at this time. You could do but you could also wait until D.D.DeLUXE asks you for it. If you are using an Apple //gs and you wished to pack a 3.5" disk, it would be preferable to insert the source disk prior to press RETURN in step #2.
- 2) The next step will be to type the name of the file you wish to assign to your PACKED DDD file, you are allowed a maximum of 13 characters, either in upper or lower case. Note that D.D.DeLUXE will always append a suffix to your selected name, this suffix will identify the medium to be used to unpack:
 

```
.A ----> 5.25" floppy
.B ----> 3.5" 800k disk
.C ----> 3.5" 1600k disk
```

Apple //gs user: Please note that if you chose to pack a 3.5 disk and that you have inserted the disk to be packed prior to start step #2, D.D.DeLUXE will default the file name to be used to the volume of the disk to be packed, if it is a PRODOS disk of course. You will then have the option of accepting it as is, to modify it, or to enter a different name, by pressing first the CTRL-X or CLEAR (clear line).

Note: it's now time to insert your destination prodos disk where you want to save the DDD file.

- 3) If you are using an installed clock in your PRODOS, the D.D.DeLUXE will not ask you for the date, it will read it directly from the clock, however, if no clock was recognized, then D.D.DeLUXE will ask you to register the date, that date will be defaulted to the date you stored in the configure option, but you can always override it with today's date, or another, with the help of the following keys:

```
right or up arrow: add 1 to current field (day, month or year)
left or down arrow: subtract 1 from current field
space bar: switch between fields (day, month or year)
Return: accept the date
```

- 4) Now D.D.DeLUXE will show you the volume window. You can use the "STANDARD DIRECTORY COMMANDS" as mentioned previously to select the volume and directory where you wish to store your packed file. By default, D.D.DeLUXE will suggest you the first directory (the volume directory) in "partial mode".

Note that if you haven't already inserted your target disk (the one where you want to store the DDD file) and that you are already at the volume window, you can still insert it right away and choose, with the scrollbar, the device where the disk resides (i.e. the slot and drive number), then press RETURN.

Also note that if your target disk is not a PRODOS disk, or that it has never been formatted, D.D.DeLUXE will ask you whether or not you wish to format it (PRODOS format). If you decline, then D.D.DeLUXE will go back to the volume window (as you must absolutely choose a PRODOS directory to store your packed file).

You must also make sure that there is sufficient space on the directory where you wish to store your packed file, otherwise you will end up having to redo the entire packing process. With experience, you should be able to estimate roughly the number of PRODOS blocks required to pack a disk.

- 5) Finally, D.D.DeLUXE can start packing! Check this:

- a) 1 drive operation:
 

If the device you chose to pack your disk is the same as the device where your packed file will be stored, then D.D.DeLUXE will only use 1 drive to pack your disk. Get ready to do a lot of disk swapping!

D.D.DeLUXE will ask you to alternatively insert your original disk and your destination disk. Don't make a mistake, because D.D.DeLUXE will not verify that this is indeed the original disk or the target disk (it would slow down the packing process). It would be a prudent decision to put a "write protect tab" on your original disk, just in case... The consequences could be that you damage your original disk.

b) 2 devices operation:

If your source and destination disks do not reside on the same device, then D.D.DeLUXE will assume that you are packing using 2 different devices, will ask you to insert both the disks to be used at their respective selected locations and start packing by pressing a key!

c) Information displayed:

D.D.DeLUXE will display the following five parameters:

- > "DDD status" : Will tell you what DDD is doing
- > "Block #" : the block number that DDD is currently loading in memory to compress it.
- > "Total block": The total number of blocks to be compressed
- > "Checksum8" : Since DDD loads 8 blocks of data at the same time to compress them, the checksum8 is the cumulative checksum of these 8 loaded blocks.
- > "Total file block": This is the cumulative size, in block, of the packed file.

d) When D.D.DeLUXE has finished, just press any key to return to the main menu. Voila! You have successfully packed your disk!

NOTES:

- o D.D.DeLUXE will use PRODOS file type \$DD for all files packed with D.D.DeLUXE.
- o D.D.DeLUXE will save in your packed file, your name, the date packed, your personal message and your menu line and all checksums of the disk.
- o If you packed a 3.5" disk on a Apple //gs and if you use a APPLE 3.5 drive, and you do a 2 devices operations, D.D.DeLUXE will automatically eject your original disk from the drive.

<<see next file D.D.DELUXE.DOX2>>

```
=====
DOCUMENT dd.deluxe.2
=====
```

<<Previous file: D.D.DELUXE.DOX1>>

```
.....
UNPACK DISK
.....
```

This option will allow you to unpack a DDD file (PRODOS type \$DD files).

- A) Even before choosing this option, insert your disk containing the DDD file, as the first thing DDD will do is display the volume window. Once again, use of the command mentioned previously in the "STANDARD DIRECTORY COMMANDS". Choose the DDD file you wish to unpack and press RETURN. D.D.DeLUXE will then proceed by verifying that the selected file was indeed packed with D.D.DeLUXE. If the DDD file that you wished to unpack was not compatible with the version of D.D.DeLUXE that you are using, then D.D.DeLUXE will prompt you to use a most recent version of the program.
- B) The next step consists in identifying the location of your target disk, once again D.D.DeLUXE will show you the inventory window of all your connected 5.25, 3.5 800k and 1600k devices, just as in the pack option. Just choose one.

NOTES:

- o If you have no drives available to unpack the DDD file, then D.D.DeLUXE will warn you, For example, if the packed file is a 1600k 3.5" disk and you do not have that type of devices.
- o If you only have one drive that can unpack the file, then D.D.DeLUXE will skip step B, since it will evidently assume that you will want to unpack on that device!

C) Now, D.D.DeLUXE will ask you whether or not you wish to format your target disk (that's the disk where you will unpack your disk onto, not the other way around!). By default, the response will be "YES", if you already know that your target disk has already been formatted in a standard way, (PRODOS, DOS 3.3, PASCAL, CP/M or other standard format), then you do not need to reformat your disk, you can then answer "NO". Just remember that your target disk must have been formatted at least once and that, in a normal method (i.e. not a protected disk). In any other cases, you will have to format your target disk.

D) D.D.DeLUXE now proceeds in unpacking your DDD file:

a) 1 drive operation:

Once again, if your source and target devices are the same, D.D.DeLUXE will assume that only one drive will be used to unpack, you will be then asked to alternatively insert the target and source disks.

b) 2 devices operation:

If your source and destination disks do not reside on the same device, then D.D.DeLUXE will assume that you are unpacking using 2 different devices, will ask you to insert both the disks to be used at their respective selected locations and start unpacking!

c) Information displayed:

As it unpacks, D.D.DeLUXE will display the following information:

- > "DDD status" : Will tell you what DDD is doing
- > "Block #" : the block number that DDD is currently writing on the target disk.
- > "Total block": The total number of blocks to unpack
- > "Checksum8" : Since DDD loads 8 blocks of data at the same

time to decompress them, the checksum8 is the cumulative checksum of these 8 blocks written to disk.

- > "message window": The personal message of whoever packed the disk.
- > "Packed by" : The name of whoever packed the disk.
- > "Date of packing": The date the disk was packed.

d) When D.D.DeLUXE has finished, it will display you the "menu line" (last line of the personal message). This line will also be displayed on your main menu.

If your DDD file has been altered or destroyed (it only takes a lone bad bite!), while unpacking D.D.DeLUXE always verifies the checksum of the file being unpacked against the checksum stored on the DDD file. This way, you are always sure that the unpacked file matches the original.

If an error was detected in the checksum, D.D.DeLUXE will stop unpacking immediately and indicate to you the last checksum of the DDD file. (the checksum8 parameter of the status window indicates the checksum of the 8 blocks stored on the disk). In this case, there is nothing you can do with that packed DDD file.

Voila! You have just unpacked your DDD file!

.....

PRODOS COMMANDS

.....

This option will allow you to catalog a directory, delete files, create sub-directories, rename files, convert DDD files to type \$DD, view a text file, view DDD file informations and finally, copy files from a directory to another.

Once again, as you select this option, D.D.DeLUXE will display the volume window, as usual the "STANDARD DIRECTORY COMMANDS" described above will apply. Furthermore, D.D.DeLUXE will always default the first catalog to FULL mode.

On top of the usual commands, the following additional commands are available (to activate these commands, use the arrow keys to position your scroll bar on the file requested):

A) CTRL-C: CREATE A DIRECTORY

This option will allow you to create a sub-directory in the working directory. As you press CTRL-C, D.D.DeLUXE will as you to enter the name of the directory to be created, you are allowed 15 characters maximum, then press Return and it's done! Your subdirectory has been created.

B) CTRL-T: CONVERT TO DDD FILE

This command will allow you to convert a DDD file that would be of a type TXT (text file) or any other file type to a normal DDD file type \$DD. This command may be necessary in instances where your modem transmission program only creates files of type TXT (or other file type like BIN). Once the file received, you must use this option to change this file type back to the usual \$DD type.

Most of the time, this command will never be used as the majority of contemporary modem transmission programs preserve the file type. If you ever have doubts that a TXT file (or other file type than \$DD) was actually packed with DDD, one hint is to use for the usual DDD suffix (.A, .B or .C).

You can try this command on any type of files. Prior to convert that file to type \$DD, D.D.DeLUXE will verify that this file was indeed packed with D.D.DeLUXE, so have no fear that D.D.DeLUXE will ever convert a file that is not a DDD file.

C) CTRL-V: VIEW TEXT FILE

This command will allow you to view a text file on the screen. As you

choose this option, D.D.DeLUXE will start displaying that file on the screen. D.D.DeLUXE will automatically display that file in page mode, when the display window is full, D.D.DeLUXE will stop further displaying until a key has been pressed on the keyboard (any one except ESC). Once the entire text file has been viewed, D.D.DeLUXE will go back to the directory where you were prior to press CTRL-V. Note that you could always exit from that command before having viewed the entire file, by pressing CTRL-Q (quit).

Officially, you are only allowed to view any file of type TXT, but un-officially, you could also view Appleworks file type AWP, but right now the text will not be formatted exactly like Appleworks would. The reason is that Appleworks support is not officially implemented in this revision, but will be in a subsequent release of D.D.DeLUXE.

D) CTRL-V: VIEW DDD FILE INFORMATIONS

You may use this option on any DDD file. Take note that it's the same control key as "VIEW TEXT FILE". D.D.DeLUXE identify automatically which command you wish to use by checking the file type of the file (TXT or DDD).

This command is identical to the "VIEW LAST DDD INFO" command. Once D.D.DeLUXE has supplied you with the informations concerning the DDD file, it will go back to the directory where you were. Note that you can also save these informations in a TXT file, just like "VIEW LAST DDD INFO" by pressing CTRL-S.

E) CTRL-D: DELETE FILE

This option will allow you to delete any file in the working directory. As you press CTRL-D, the file is deleted! Note that to delete a file type DIR, indicating a sub directory, this sub-directory must be empty of any files. In the eventuality that the directory contained files, you would have first to position into that sub directory, then delete each files contained, one by one. In situations like that, the use of a commercial program such as Copy ][+ maybe more appropriate.

F) CTRL-R: RENAME FILE

This option will allow you to rename any PRODOS file. As you press CTRL-R, D.D.DeLUXE will prompt you for the new name of the file, as usual you are restricted to 15 characters maximum. As you press Return, the file has been renamed and D.D.DeLUXE would have refreshed the volume window accordingly.

G) CTRL-P: COPY FILE

This option will allow you to copy a file from the working directory to another directory. As you press CTRL-P, D.D.DeLUXE will display the volume window, as usual, the "STANDARD DIRECTORY COMMANDS" are available. Just choose the target directory, press the space bar and D.D.DeLUXE will begin copying the file to its intended destination. When the copy has finished, press any key and D.D.DeLUXE will put you at the target directory where you stored the copy file.

Note that you can copy a file to another directory on the same device as long that it is not in the same directory as the working directory. Also note that you cannot copy a directory, copy an entire disk to another, or copy a file from one disk to another using only one drive, for operations like that, the use of a disk utility program such as COPY ][+ would be more adequate.

You can use this option to do your "housecleaning" in your file, but for users having only one drive and a ram card, this would become a very useful utility. For example, you could pack into the ram disk and then transfer the packed file from the ram disk to another disk. The opposite is also true, transfer the DDD file to the ram disk, then unpack onto another disk. No more disk swapping! (and you don't have to quit D.D.DeLUXE to run a copy program).

.....

A) EDIT MY MESSAGE

.....

This option will allow you to edit your personal 10 lines message as well as the menu 11th line. Each line consists of 38 characters. You will be using

the built-in D.D.DeLUXE MINI EDITOR to compose your message, here is a rundown of the various commands of this editor:

```

CTRL-J : (or down arrow), move cursor 1 line down
CTRL-K : (or up arrow), move cursor 1 line up
-> : move cursor right 1 character
<- : move cursor left 1 character
RETURN : move cursor 1 line down and position the cursor
 at the start of the first character
DEL : delete character at left of cursor
CTRL-D : delete character at cursor
TAB or CTRL-I : toggle insert mode on/off
CTRL-N : toggle normal or inverse mode
CTRL-Z : center the line
CTRL-F : put cursor at first character of the line
CTRL-L : put cursor at last character of the line
CLEAR or CTRL-X : Clear line
CTRL-E : Erase the entire message

```

For ][+ users, the following keys have been added:

```

CTRL-R : Prints the underscore character "_".
CTRL-T : Prints the backslash character "\".
CTRL-Y : Prints the square bracket character "[".

```

These three special characters have been added since the standard Apple ][+ cannot generate these characters directly from the keyboard, while being able to display them.

Note that you can type the characters in normal mode or in inverse mode. This should allow you to be creative in your message. Note also that the insert mode can be turned off by using the CTRL-I command again or by pressing one of the arrow keys or Return.

On your status line, D.D.DeLUXE will display the current insert mode (on or off) as well as the character mode (normal or inverse). Furthermore, if you are currently using 80 columns, D.D.DeLUXE will display an index of the various commands available to you at the left of the window. Of course, if you are using 40 columns display, this index will not be seen on the left of the window, but underneath it.

Once you have finished typing your personal message (your creation), press ESC to return to the main menu. You can save this message for future use by going to the configuration option, D.D.DeLUXE will save it along with all other configuration parameters. This is the message that will appear as part of your packed file the next time you pack a file. Note that it is not necessary to go to the configuration option if you only wish the personal message you just typed to affect the files you will be packing in the current session, this is only if you wish to have this message appear as the default message every time you start D.D.DeLUXE.

```

.....
VIEW LAST DDD INFO
.....

```

This option will allow you to read the message from the last disk you have unpacked or the message from the last packed DDD file where you used the "VIEW DDD FILE INFORMATIONS" (from PRODOS COMMANDS), whichever came last.

D.D.DeLUXE will display the following informations:

- o the name of the DDD file
- o the personal message of that file
- o the menu line
- o the name of whoever packed that file
- o the date of packing
- o the version of D.D.DeLUXE used in packing (>= 4.0)

- o the type of device to be used in unpacking (5.25", 3.5" 800k or 1600k).
- o the version of D.D.DeLUXE which the file can be unpack

Once you have finished reading these informations, press any key to return to the main menu, or if you wish to save the information currently appearing on the screen, you can do so by pressing CTRL-S (save message).

Here's how to proceed to save all these informations:

Insert the disk where you wish to store that file, then press on CTRL-S, D.D.DeLUXE will then show you the volume window. You will then only have to use one of the standard D.D.DeLUXE directory commands, as mentioned previously, to choose the directory where the text file should be saved. When you are at the directory you wish to save the file, press the space bar. All the informations appearing on the screen will be saved in that text file. The filename will start by the prefix "I.<filename>" (I for Info file).

```

.....
OPTIMIZE PRODOS DISK
.....

```

This option will allow you to erase all the free blocks from a PRODOS disk. What use could that serve? Simple, it will just speed up the packing by making the packed file smaller. An unused block still represents data, an erased block represents the absence of data. While it is not necessary to back up your disk prior to optimizing it, you may elect to take this wise precaution, just in case! Remember that the optimization option will only be available to PRODOS disks. DOS 3.3, PASCAL and CP/M disks will not be optimized.

As you choose this option, D.D.DeLUXE will show you the volume display window, but this time, you will not see the directory window. Using the arrow keys, select the volume you wish to optimize and press Return. Note that if you attempt to optimize a non-PRODOS disk, D.D.DeLUXE will refuse to do so. You can optimize all types of disks (ram disks, harddisks, 3.5, etc..) as long as it is PRODOS.

D.D.DeLUXE is now ready to optimize your disk. To start it, just press any key. D.D.DeLUXE will display an information window with the following parameters:

- ```

-> "Total blocks"      : Number of blocks to be scanned to optimize the
                        whole volume.
-> "Scanning block #" : The block number D.D.DeLUXE is presently analyzing.
-> "Blocks optimized" : The cumulative number of blocks that D.D.DeLUXE has
                        already optimized.
    
```

Note that the "blocks optimized" are only the free blocks that had not already been optimized (i.e. contains all zeros), they would not be considered. When the optimization routine has completed, your disk has been optimized and is now ready to be packed.

```

.....
FORMAT PRODOS DISK
.....
    
```

This option will allow you to format any one of your devices connected to your Apple, these include Ramdisk, harddisk, floppy 5.25", 3.5" 800k and 1600k drives, PC transporter 5.25" disk, etc..

When you choose this option, D.D.DeLUXE will give you a display window listing all devices connected to your Apple, using the arrow keys, just choose the devices to be formatted and press Return. D.D.DeLUXE then verifies that the selected devices have a disk inside them and will ask you to confirm that you indeed wish to format them. By default, the answer to this question is "NO", so choose "YES" and press Return. As the formatting is completed, press any key to return to the main menu.

NOTES:

- a) If you wish to format a ram disk, depending on the type of ram disk, you must evidently have loaded its PRODOS driver before starting D.D.DeLUXE. You do not need drivers for the standard /RAM on the //e, //c and //gs, or /RAM5 on the //GS.
- b) If you wish to format a harddisk, it is possible that the hard disk could not be formatted, just as it could work. This is due to the peculiar method of some hard disk that requires that a special code be sent to its controller, this seems to be a protection built in by the hard disk manufacturer to ensure against accidental formatting of such devices.
- c) If you wish to format a 5.25" floppy disk, D.D.DeLUXE will immediately verify, after formatting, that it has been formatted correctly. This is due to the fact that D.D.DeLUXE utilizes the Hyper-Format routine, a routine that does not check for errors, so we are playing it safe!
- d) Note that, in the event where you wanted to format a 5.25" disk while unpacking, D.D.DeLUXE would not verify the formatting as it would pick up formatting errors as it unpacks to it.
- e) D.D.DeLUXE does not store the standard PRODOS boot on the formatted disk. This implies that disks formatted with D.D.DeLUXE are unbootable. All D.D.DeLUXE uses as a boot code, is a very small message in block #0 and the rest is full of zeroes. Consequently, a disk formatted with D.D.DeLUXE can only be used to store data files (such as DDD files).
- f) If you are using an Apple //gs and that you are formatting a 3.5 disk on a 3.5 Apple Drive, and if your diskette has bad blocks on it, then D.D.DeLUXE will eject it immediately upon detection of the error.
- g) If your disk to be formatted is brand new, D.D.DeLUXE will not ask you if you want really format it, it will format it directly.

.....
CHECKSUM DISK
.....

This option will allow you to do a checksum of a 5.25" floppy or 800k or 1600k 3.5" disks. When you select this option, D.D.DeLUXE will display the checksum window including the following informations:

- > Block number : This is the first of the 8 blocks of the checksum, as you already know, DDD computes the checksum every 8 blocks. For example, if the display shows "Block8: 32", then the checksum corresponds to block number 32 to 39 inclusive.
- > Checksum : Checksum of these 8 blocks.
- > Last block : This is the last block # to be reached
- > Total checksum : Checksum of all blocks on disk.

When D.D.DeLUXE has finished to compute the entire disk's checksum, you will have the total checksum, in hexadecimal, at the bottom of the screen. Note that if you wish, at any time, to stop the scrolling window (maybe to write down each checksum), you can do so by pressing the space bar once, you would restart it by pressing it again. Also note that you can checksum any type of Apple disk, it may be PRODOS, DOS 3.3, PASCAL, CP/M or any other valid format, even if we mention the term "block" to compute the checksum8.

This option is not necessary to pack or unpack disks, D.D.DeLUXE automatically do so for you. It's just one more utility at your disposal, if you should ever decide to check the checksums yourself.

.....
CONFIGURE
.....

This option will allow you to customize D.D.DeLUXE according to your personal tastes and hardware. Following is a list of the various parameters available to you:

A) DISABLE 5.25":

D.D.DeLUXE will only ask you this question if you are using a //GS. A lot of //GS users no longer utilize their 5.25", in which case you may elect to disable them from DDD. This will mean that D.D.DeLUXE will just ignore all 5.25" controllers it finds. Note that if you had disconnected your slot 6 (the usual 5.25" controller slot), then you would have no use for this option, unless you also had other 5.25" controllers in other slots (see configuration #B). The changes are made immediately after pressing return. It's not necessary to save all the configuration if you want only change this option.

B) KEYCLICK:

This option will toggle the "noise" made every time you press a key. Use it according to your taste.

C) YOUR NAME:

This is where you register your name, up to 19 characters are allowed. This name will become your default for all further packing.

D) PACK DEFAULT DATE:

This option should only be used if your Apple does not contain a clock card. Basically, this date will become the default date every time you pack a disk. To adjust this date, follow the same procedure as outlined in the PACK function.

E) QUIT PATHNAME:

This option will allow you to specify the default pathname to be used upon exiting from D.D.DeLUXE. For more information on this option, check the section "QUIT" later on in the documentation. Just remember that all pathnames must start by "/" and that the name of the called application program must correspond to a file type SYS.

F) SYSTEM SPEED:

This option allows you to adjust the speed of D.D.DeLUXE according to the speed of your CPU, for example, if you have a ZIPCHIP, chose 4Mhz, for a //GS, chose 2.8Mhz, etc.. Why this parameter? D.D.DeLUXE will adjust the scrolling speed, the keyclick and bell consequently.

G) SAVE YOUR MESSAGE:

Actually, you do not have any choice! Whether you want it or not, your personal message will be saved! This is just a reminder.

After you have finished configuring D.D.DeLUXE, you will be asked a final time whether you still wish to save it on disk, if you decline, you will just be returned to the main menu. If you elected to save it, then you should insert the disk where you have saved D.D.DeLUXE V4.0, press any key and your configuration will be save as D.D.DeLUXE.CONF. That's it! You have configured your D.D.DeLUXE.

....
QUIT
....

You have three methods of leaving D.D.DeLUXE, actually four if you consider turning off the computer! When you choose this option, you will see the default pathname as specified in your configuration along with the following menu:

PRODOS.QUIT DEFAULT OTHER

A) PRODOS.QUIT:

When you select this option, D.D.DeLUXE will utilize the standard QUIT function of PRODOS (like BYE in Applesoft). On a //gs, if you called D.D.DeLUXE via the finder and after using D.D.DeLUXE you wish to return to the finder, you should use this quit option.

B) DEFAULT:

If you elect to quit to the default pathname, then D.D.DeLUXE will utilize the pathname that you have configured, of course you will have to make sure that the appropriate volume be online. This option will be practical if you always use the same application after leaving D.D.DeLUXE, such as a communication program.

C) OTHER:

This option is similar to the PRODOS QUIT command but is much faster. D.D.DeLUXE will ask you to enter the pathname of the application that you wish to execute upon leaving. Just type the full pathname, the name of the system file to be executed (type SYS) and press Return, D.D.DeLUXE will then load it and execute it.

.....
HOW TO GET MORE SPEED
.....

There are many ways to increase the execution speed of D.D.DeLUXE while packing or unpacking, here are some suggestions:

a) If you use a //GS, D.D.DeLUXE switch automatically to 2.8Mhz, compressing mechanism will then go roughly twice as fast as on 1Mhz. You could also use a Ramdisk or a Romdisk (such as the Memory Saver) to store your DDD file. Or you could also use a memory cache program. The speed difference is really interesting, wether you are packing, unpacking, be it on a 5.25", 3.5", ramdisk or hard disk. The best memory cache program is probably "DIVERSI CACHE". Loading such a memory cache program will prove worthwhile, especially if you have many DDD files to pack or unpack.

b) If you use a I[+, //e or //c, you basically have three methods of speeding up D.D.DeLUXE:

1) The first method is to use an accelerator card, such as Applied Engineering's Transwarp which speeds up your Apple to 3.6Mhz. The best accelerator is probably the ZIPCHIP from Zip Technology which increases speed to 4Mhz, in which case D.D.D. would pack/unpack 3 times as fast (since disk accesses would remain at 1Mhz).

2) The second method would be thru software, once again using a ramdisk. Note that D.D.DeLUXE is compatible with all PRODOS memory cards that fits in the I[+, //e or //c. You only have to load the Prodos driver before booting DDD. D.D.DeLUXE will then recognize your ram card, if you forgot to load the driver, then DDD will not recognize the extra memory. In certain rare cases, it is possible that there will be a conflict between the driver and DDD, in which case you will not be able to use your ramcard. Certain cards have Rom based drivers, and in such instances, no drivers require to be loaded.

3) You can use also a cache program if your ramdisk allows one (check on the diskette that the manufacturer supplied with your RAM card)

.....
CONCLUSION
.....

I hope that D.D.DeLUXE will please you. Louis Roy has spent countless hours perfecting it, so be creative when you use it while composing your personal message on each DDD file, this idea will revolutioniza the world of packed files!

As Louis releases new versions of his packer, be sure that they will remain compatible to DDD 4.0, since he already reserved sufficient space for improvement in the DDD files. He has a lot of new ideas already popping in his mind, he only asks to program them, but for this, he needs your support (\$29.95), without support, this will be the last of its kind.

=====
MESSAGE FROM LOUIS ROY, AUTHOR of D.D.DeLUXE
=====

Do not forget that this is a shareware program, it is a copyrighted product of LOGIX INNOVATIONS. If you like this program and use it regularly, you should then send \$29.95 (plus \$1.50 for shipping and handling) to obtain your registered legal copy from:

LOGIX INNOVATIONS
2590 4th Avenue
St-Georges
Cte Beauce, P.Q.
Canada G5Y 3S8

You will then receive your registered copy of the latest version of D.D.DeLUXE along with its documentation (on book format). If I have enough request, I will do a french version of this program. If you wish a french version, send me your request by mail (or E-MAIL) with your address, your name and your phone number.

Understand that I need your support to be encouraged to make newer and better versions of the extraordinary packer. Many ideas are already coming to my head to make it even more powerful, without your support, these ideas will never see the light of day!

I spent hundreds, maybe thousands, hours programming this program, all these hours, I spent in front of my //GS monitor programming in Assembler to come up with the results you have before you, why? Only to help you, you who are reading this release notice.

So you have basically three moral choices:

- 1) after using the program, you decide that it doesn't suit your needs and you must either erase all your copies or pass it on to a friend.
- 2) You decide that you wish to keep the program and you mail your \$29.95 to obtain your registered copy.
- 3) You decide to keep the program without sending your contribution and you indicate by this dishonest conduct that you cannot be trusted and that I should stop wasting my time for the like of you.

So you see, this \$29.95 will not kill you, but it will encourage me to pursue further programming endeavors. Who could have foreseen that DDD 1.0 would become the standard it became? The future of D.D.DeLUXE rests with you.

ACKNOWLEDGEMENTS

I wish to extend my thanks to the following individuals for their help and their cooperation:

Roger Richard (HA! HA!), sysop of THE CASTLE GS BBS from Montreal
Roger did all the beta tests of D.D.DeLUXE on his system and helped me debug the program. D.D.DeLUXE exist, thanks to him, who lured me out of retirement to write a new version of my packer.

The Broker, co-sysop of the same board
The Broker has adapted, translated and typed this documentation from my original text which was written in French, my mother tongue (since my writing skills are better in french than english).

Jerry Hewett of LIVING LEGENDS SOFTWARE
 For his Hyper Format routine which is used to format 5.25" disks in
 D.D.DeLUXE.

Lord Zeus / Olympians
 Him and the Olympians group have distributed this software.
 Call: Mount Olympus, 9600 bauds, (215) 797-5116

If you have questions, problems, suggestions, comments or even
 congratulations, you can reach me, c/o LOGIX INNOVATIONS or leave me electronic
 mail (E-mail) at THE CASTLE GS bbs (514) 276-4047 where I am available to
 answer you (user #2).

Have fun with D.D.DeLUXE!!

Louis Roy, author of D.D.DeLUXE.

===== DOCUMENT ddd.1.0 =====

```
#####
#####
## DALTON DISK DISINTEGRATER 1.0 ##
##                                     ##
##          (C)JULY 1984                ##
##          WRITTEN BY                   ##
##                                     ##
## DD   A L TTT  OO  N N ##
## DD  AA L  T  O O N N ##
## DD AAA L  T  O O NN N ##
## DD AA L  T  O O N NN ##
## DD  AA LLL T   OO N N ##
#####
#####
(CANADIAN PIRACY ON STAGE...)
```

INTRO:

'DALTON DISK DISINTEGRATER' is a new
 program which compresses a whole disk
 into 1,2,3 or 4 binary files maximum.
 As you will see, 'D.D.D. 1.0' is much
 better than disk splitter, disk rigger
 and disk slicer.

It works with ONE or TWO drives and
 with an original DOS 3.3 or a modified
 DOS 3.3 (like PRONTO-DOS, DIVERSI-DOS,
 DAVID DOS, SUPERDOS, ZDOS, HYPERDOS,
 etc.).

PACK A DISK (COMPRESS):

When you pack, the SOURCE disk is
 the disk you want to compress and the
 TARGET is an initialized disk which
 will contains the compressed files.

To compress a disk into files, BRUN
 D.D.D. 1.0 and enter the number of
 drives you have. Now, choose option 1
 (PACK) and enter the name of the
 program you want to compress. Before
 pressing 'RETURN', insert the ORIGINAL
 disk into drive 1 and an initialized
 disk (TARGET disk) into drive 2 if you
 have 2 drives (be sure you have enough
 space on this disk). Now press
 'RETURN'. Voila!

If you have not enough space on your
 TARGET disk, the program will stop and
 write 'DISK FULL'. Just change the
 TARGET disk and put another one, then
 press a key (not 'ESC'...) to complete
 the compression.

When the program has finished,
 press 3 to quit, 1 to PACK or 2 to
 UNPACK another disk.

UNPACK A DISK (DECOMPRESS):

=====

.....
 COPYRIGHTS

DISK DISINTEGRATER DeLUXE
 is a copyrighted product and a trade mark of LOGIX INNOVATIONS

COPY][+
 is a trade mark of CENTRAL POINT SOFTWARE, Inc.

MEMORY SAVER
 is a trade mark of CHECKMATE TECHNOLOGY, Inc.

TRANSWARP and PC TRANSPORTER
 are trade mark of APPLIED ENGINEERING

ZIPCHIP
 is a trade mark of ZIP TECHNOLOGY

DIVERSI CACHE
 is a trade mark of DSR, Inc.

APPLE][,][+, //c, //e //GS and PRODOS
 are trade marks of Apple Computers

```
*****
* CALL: THE CASTLE GS (with a special //e section) *
* Support from 1200 to 9600 bauds *
* 90 Megs on-line *
* (514) 276-4047 Sysop: HA! HA! *
*****
```

When you UNPACK, the SOURCE is the disk with the compressed files and the TARGET is the disk you want to merge onto.

To re-assemble (UNPACK) a disk, BRUN D.D.D. 1.0 and enter the number of drives you have. Now choose option 2 (UNPACK) and enter the name of the program you want to UNPACK. Before pressing 'RETURN', insert the SOURCE disk drive 1 and the TARGET disk (a blank disk, initialized or NOT) into drive 2 if you have 2 drives. Now press 'RETURN'. Voila!

When the program has finished, just press 3 to quit, 1 to PACK or 2 to UNPACK another disk.

TECHNICAL NOTES:

- Any time you can press 'ESC' and the program will restart.
- The program is completely error proof.
- Filenames can be up to 20 characters long.
- When you choose the option 3:QUIT, you will be in Applesoft. If you wish to execute the program once again, you must "BRUN" DALTON DISK DISINTEGRATER (don't make a 'CALL XXX' because of the program's structure...).
- It is not necessary for all the compressed files to be present on a single disk when you unpack a program.

ADVANTAGES FOR SYSOP:

1. Because of the algorithms used in D.D.D. 1.0, the compression is at its maximum, so you can put more programs on your AE LINE or BBS'S disk(s).
2. The downloadings take less time and it is more convenient for users to capture program(s).

ADVANTAGES FOR USERS:

1. Less time to wait while downloading a disk.
2. Less interventions to the AE LINE when you download a disk (because there's is a maximum of 4 files).
3. For those of you who have one drive, when you will pack or unpack a disk, you will open and close the drive's door (for exchange SOURCE and TARGET disk) only a few times: 2 to 8 times maximum (DISK SLICER: 18 times...).

COMPARAISON:

Here are some examples of the program's efficiency with regard to DISK SPLITTER, DISK RIGGER and DISK SLICER.

The RATING is the percent % the program has compressed. For example: If the RATING is 25%, the program has compressed 1/4 of the disk. It is impossible to obtain 100%, although obtaining 0% RATING is likely (in this case, no compression has been done). Higher the rating, better the compression...

(note: DISK RIGGER1 = DISK RIGGER 1.1 and DISK RIGGER2 = DISK RIGGER 2.0)

```
DISINTEGRATER: 1 to 4 files maximum
DISK RIGGER2: 2 to 5 files
DISK SPLITTER: 4 to 8 files
DISK RIGGER1: 6 files
DISK SLICER: 9 files
```

```
=====
Program: BUCK ROGERS
DISINTEGRATER:203 sect. Rating:63.8%
DISK RIGGER1: 233 sect. Rating:58.4%
DISK RIGGER2: 268 sect. Rating:52.1%
DISK SLICER: 276 sect. Rating:50.7%
DISK SPLITTER:416 sect. Rating:25.7%
```

```
***WINNER: DALTON DISK DISINTEGRATER
=====
Program: ARCADE BOOT CAMP
DISINTEGRATER:358 sect. Rating:36.1%
DISK RIGGER1: 412 sect. Rating:26.4%
DISK SLICER: 431 sect. Rating:23.0%
DISK RIGGER2: 432 sect. Rating:22.9%
DISK SPLITTER:458 sect. Rating:18.2%
```

```
***WINNER: DALTON DISK DISINTEGRATER
=====
Program: PIRATE SIGNATURE
DISINTEGRATER:121 sect. Rating:78.4%
DISK RIGGER2: 139 sect. Rating:75.2%
DISK RIGGER1: 140 sect. Rating:75.0%
DISK SLICER: 149 sect. Rating:73.4%
DISK SPLITTER:186 sect. Rating:66.8%
```

```
***WINNER: DISINTEGRATER (only 1 file!)
=====
Program: ZAXXON
DISINTEGRATER:226 sect. Rating:59.6%
DISK RIGGER1: 270 sect. Rating:51.8%
DISK RIGGER2: 289 sect. Rating:48.4%
DISK SLICER: 293 sect. Rating:47.7%
DISK SPLITTER:330 sect. Rating:41.1%
```

```
***WINNER: DALTON DISK DISINTEGRATER
=====
Program: SUMMER GAMES (side 2)
DISINTEGRATER:362 sect. Rating:35.4%
DISK RIGGER1: 416 sect. Rating:25.7%
DISK RIGGER2: 487 sect. Rating:13.0%
DISK SPLITTER:535 sect. Rating:4.5%
DISK SLICER: WON'T WORK Rating:0.0%
```

```
***WINNER: DALTON DISK DISINTEGRATER
=====
```

As you can see, D.D.D. compresses a disk extremely efficiently considering the SIZE of the files saved on disk as well as the NUMBER OF FILES saved.

I have programed D.D.D. for all AE LINES to reduce transfer time. I hope you like it and don't hesitate to use it!

HAVE PHUN!



=====
DOCUMENT ddd.1.2
=====

DALTON DISK DISINTEGRATER 1.2

(C)July 1984/May 1985

Program & dox written by: DALTON
Special thanks to: THE NECROMANCER
Distributed by: The Disketteer

INTRODUCTION

First, I would like to point out that the soul purpose of this new DDD 1.2 version is to enable Catsend 3.0 to function properly with DDD 1.0 which it didn't to start off with!

Therefore DDD 1.2 should only be used with Catsend!! DDD 1.2 works with all transfer programs but please use DDD][(new version!) with all other transferring programs.

All DDD 1.2 supported commands are identical to those of DDD 1.0. Therefore please refer to DDD 1.0 documentation for a complete tutorial on the supported commands!

WHY D.D.D. VERSION 1.2 ???

The soul purpose of this version is to content Catsend users. DDD 1.2 performs flawlessly with all Catsend versions! Therefore I suggest all Catsend sysops to switch from Disk Rigger to DDD 1.2 because DDD's packing algorithm is much more efficient than Disk Rigger's or any other present disk compressor except for DDD]['s. Packing disks with DDD 1.2 will only be more beneficial to you.

- More available disk space for Catsend sysops with few floppies.

I regret for not having released this DDD 1.2/CATSEND 3.0 compatible version sooner. But now there is DDD][which works properly with CATSEND (to a certain extent).

COMPATIBILITY

DDD 1.0 and DDD 1.2 are not at

all compatible with eachother!!
 DDD 1.2 compressed files contain
 2 less than signs <<, a single digit
 and 2 greater than signs >> at end
 of their filenames so that you can
 differ both versions apart.

[DDD 1.2] - Catsend compatible version.

Example: *B 123 SUPER PINBALL<<0>
 *B 040 SUPER PINBALL<<1>>

[DDD 1.0] - Not Catsend compatible.

Example: *B 123 SUPER PINBALL<0>
 *B 040 SUPER PINBALL<1>

ROACHES IN CATSEND!

Why didn't DDD 1.0 work properly
 with Catsend to start off with???
 Your guess was as good as mine.
 I recently located a bug in good old
 Catsend! (Believe it or not..)

Following many experiments on this
 matter, I noticed a glitch (bug!!) in
 Catsend that wouldn't transmit every
 byte of a binary file! This error only
 occurred randomly throughout the tests.
 Which in turn explains why some DDD 1.0
 packed files successfully unpacked after
 they were transmitted using Catsend.

Here are the following bugs I
 located in Castend. This section is
 a little technical; therefore if you
 are curious, keep reading...

Roach Number 1
 =====

This bug concerns regular BINARY
 FILES as well as DDD 1.0 packed files
 when transmitted over by Catsend.
 (Only Binary files; not Applesoft,
 Integer or Text files...). DDD 1.0
 failed to unpack the packed files
 because of this following error:

With certain binary files Catsend
 will not transmit the last bytes.
 For example, with DDD 1.0 packed files
 (123 Sectors) Catsend will not transmit
 the last 3 bytes. These last bytes are
 vital to the UNPACK command in DDD 1.0!

At the same token, I tried various
 binary files other than DDD 1.0 files
 and sometimes Catsend refuses to
 transmit the last bytes. I am unsure
 where the error is in Catsend, although
 I am sure it exists! One certain fact
 I was able to determine is that this
 error revolves around the length of the

binary file being transmitted.

Roach Number 2
 =====

Catsend is unable to transmit any
 file exceeding 255 sectors! In effect
 if you attempt transmitting a file that
 towers over 255 sectors, Catsend will
 only transmit the difference.

Example: *B 300 SUPER PINBALL

Catsend in this case would only
 transmit 44 blocks: 300 minus 256 =
 44 sectors. Here is where the error
 arises! The file (or compressed file)
 Catsend saves on your disk will not
 be the complete version.

This error will cause a huge
 delima with DDD][(new version!)
 because DDD][usually compresses
 a whole disk into one file exceeding
 the length of 256 sectors.

Note: This bug is not in any way
 responsible for the original
 malfunction of DDD version 1.0
 with Catsend!

NOTE TO: THE WOMBAT & THE GONIF

Your Catsend has revolutionized
 distribution of software! Please be
 aware that it contains unpleasant
 ROACHES. Unless you correct these
 errors I believe Catsend will remain
 obsolete in comparison to the awesome
 Catfur][[! Perhaps you dudes should
 consider a catsend version IV!?

CONCLUSION

I corrected the original DDD 1.0
 to cooperate with Catsend by simply
 reducing the compressed files by 3
 lovely bytes! And another miracle was
 casted. Therefore I decided to name
 this new version, DDD 1.2!!

One word to all Catsend sysops:
 Why in the hell don't you switch your
 system to a Catfur][line? It will
 save you a lot of bloody trouble
 because all DDD versions function
 perfectly with Catfur! Especially
 DDD][[! Besides Catfur is the new
 mode nowadays.. You don't see computer
 geeks wearing Catsend anymore!?

Signed:



=====
DOCUMENT ddd.2.0
=====

DALTON DISK DISINTEGRATER][
(C)SPRING 85

PROGRAM WRITTEN BY: DALTON
TUTORIAL BY -> THE NECROMANCER
DISTRIBUTED BY: THE DISKETTEER

.....

Introduction

.....

In This Intro, I Will Simply But Briefly Emphasize On D.D.D's Primary Features. Dalton's Disk Disintegrater 1.0 Malfunctions With Catsend 3.0 For Known Reasons. Following Several Tests On This Matter, Dalton Spotted A Huge Error In Catsend (Every Version) That Would Not Enable DDD 1.0 Compressed Files To Be Successfully Transmitted Over The Phone Line. Therefore Dalton Recently Modified DDD 1.0 To Function With Catsend, Despite The Ugly And Nasty Bug That Contaminates It! DDD 1.2 Is Identical To The Original 1.0 Version, Although Version 1.2 Is Now Fully Compatible With Catsend. Refer To -> Dalton Disk Disintegrater 1.2 Documentation For More Information Concerning This Topic.

Obviously This New DDD][Version Has Been Modified To Perform Properly With Catsend. So Please Do Not Hold Any Grudges Against It. Version][Has Been Beta-Tested Over And Over, Resulting To Our Expectations (Pretty Awesome!)

.....

Primary Features

.....

Here Are The Primary Features Dalton's Disk Disintegrater][Will Have To Offer You:

- o This Second Version Was Designed With 64k Of Memory In Mind. DDD And Your Extra 16k Go Hand In Hand To Offer You Some Pretty Awesome Advantages.
o DDD Packs & Unpacks Programs Very Fast. Unlike Disk Rigger 2.0, which Consumes Too Much Time.
o 85 Percent Of All Programs Will Entirely Compress In 2 Drive Passes Only! [For 64k Systems!!]

- o Squeezes Every Bit Out Of Your Extra 16k Of Ram, To Enable Maximum Speed And Minimum Disk Access.
[For 64k Systems!!]
- o Autochecks For 64k Of Memory On Boot. If Not Present, Will Configure Itself To A Standard 48k System.
- o DDD][Contains A Perfected, Powerful And Flawless Crunching Algorithm Which Utilizes Every Packing Technique In Order To Achieve Maximum Data Compression.
- o Amazingly Compresses Any Program Into Only 1 Super File!!

Example: *B 248 SUPER ZAXXON<248>

Instead Of: *B 135 SUPER ZAXXON.00
 *B 135 SUPER ZAXXON.01
 *B 060 SUPER ZAXXON.02
- o Arrow Driven Commands. This Allows Swift Access To All The Options.
- o Dos Commands. This Permits You To Access Important Dos Commands From Within The Program Without Having To Exit Then Reenter Once Again.

.....
Menu Options
.....

- [1]Pack
- [2]Unpack
- [3]Source:1 Target:2
- [4]Catalog drive 1
- [5]Catalog drive 2
- [6]Dos commands
- [7]Boot drive 1

[PACKING A DISK] - OPTION 1

- o Enter Any Filename You Wish The Superfile To Occupy.
- o Maximum Filename Length Is 25 Characters Long.
- o Make Sure Your Target Disk Has Sufficient Disk Space For The Packed Version.
- o Your Target Disk Needs At Least 200 To 300 Free Sectors Before You Begin The Pack. Otherwise A Disk Full Error May Result! Use Option [6] From Main Menu, (Dos Commands) To Either Format Your Target Disk Or To Delete Useless Files On It.
- o When Packing, Make Sure The Filename You Use Is Not One Identical To A

Filename On Your Target Disk. And If So Delete Or Rename That File Before Attempting The Pack.

- o If A Disk Full Error Does Occur While Packing, DDD Will Obliterate Whatever Packing It Has Achieved And Leave The Exact Diskspace Your Original Target Disk Occupied Before The Pack Was Executed.
- o If You Have Formatted A 40 Track Disk And Wish To Use It As A Target For The Pack, Go Ahead. DDD Supports 40 Track Capabilities, Which Means It Will Write On A 40 Track Preformatted Disk (There Is No Need To Use A 40 Track DOS). If DDD Detects A 40 Track Disk, It Will Write On The Extra Tracks Only If Necessary.

[UNPACKING A DISK] - OPTION 2

- o When Unpacking A Disk, The Source Is The Disk With The Compressed File And The Target Is The Disk You Wish To Merge Onto.
- o Your Target Disk (Merge Onto) Doesn't Necessarily Need A Preformatted Disk. It Will Automatically Initialize Your Target Disk Before Commencing Decompression.
- o When Entering The Filename You Wish To Unpack, Do Not Include The < Less Than Sign, XXX (Where XXX Is The Sectors) And > Greater Than Sign Following The Filename. Only Enter The Bare Filename And DDD Will Do The Rest.

Example Enter: SUPER ZAXXON
Do Not Enter: SUPER ZAXXON<248>

[SOURCE:1 TARGET:2] - OPTION 3

- o This Option Will Permit You To Configure Your Drive Setup In The Manner You Wish! To Change The SOURCE Disk, Press "1" For Drive #1 Or Press "2" For Drive #2 (Or You Can Hit RETURN). Same Process To Configure The Target Disk. DDD][Predefines To Support 2 Drives (SOURCE:1 TARGET:2).
- o Obviously Few Cycles Of Changing Disks Must Occur If You Only Have A One Drive System. Therefore DDD Will Adjust Itself To Tell You When To Insert SOURCE And When To Insert TARGET Disks.

[CATALOG DRIVE 1] - OPTION 4

[CATALOG DRIVE 2] - OPTION 5

- o These Options Were Added To DDD Because They Are So Oftenly Used. Catalog Your Disks When You Are Unsure Of Filenames.
- o Following The Directory, The Free Sectors Remaining On The Disk Will Be Illustrated For Your Convenience.
- o If You Only Have One Drive, Option 5 May Be Quite Useless To You.

[DOS COMMANDS] - OPTION 6

- o This Option Was Added As Well Because Of Great Demand. Many Irrelevant DOS Commands Were Omitted. Here Is A List Of Accessible DOS Cmds: (XXX Symbolizes The Chosen Filename)

```
=> INIT XXX
=> DELETE XXX
=> LOCK XXX
=> UNLOCK XXX
=> RENAME XXX,YYY
=> CATALOG,DX
=> PR#X
=> IN#X
```

[BOOT DRIVE 1] - OPTION 7

- o This Option Is Quite Useful Once You Have Terminated To Unpack A Program. You Simply Insert The Unpacked Version Into Drive 1 (Slot 6 Only!) And Watch Her Boot Up...

```
.....
The Track Indicator
.....
```

- o Instead Of Useless Twirling Cosmetics Appearing On The Screen While DDD Is Active, Dalton Chose To Add A Rather Complete Track Status Indicator Oftenly Found In Bit Copiers.

- o Here Is A Complete Legend Of The Abbreviated Significations Used On The Status Line:

```
=> MEMORY : 48k Or 64k
```

Determines The Amount Of Random Access Memory Your Apple Can Provide.

```
=> DRIVE : 1 Or 2
```

Highlights The Drive Presently Active.

```
=> LEN : XXX Sectors
```

Displays Amount Of Sectors The File Actually Contains. The LEN Gradually

Accumulates As The Packing Or Unpacking Goes On, Until It Has Reached Its Final Limit Or Maximum.

LEN Abbreviates LENGTH (Sector Wise).

```
=> TK Abbreviates Track
=> ST Abbreviates Status
```

```
=> R R)reading A Track
=> W W)riting A Track
=> C C)ompressing A Track
=> D D)ecompressing A Track
```

```
=> I I)nitializing All Tracks
The 'I' Is Illustrated
Simutaneously As DDD ][
Formats Each Track.
```

```
=> . Displays A Decimal Point
On Each Individual Track
Once It Has Successfully
Been Read/Compressed Or
Decompressed/Written.
```

```
.....
Various Details
.....
```

- o Ctrl-A Toggles UPPER/Lower Case. (Press Ctrl-A From Main Menu)

- o Ctrl-K Prints Open Bracket: [
Ctrl-L Prints Backslash: \

- o XXX Equals Sectors. The <XXX> Printed At The End Of The Packed Filename Was Added Because Some DOS'S CATALOG Wrap Around The Sector Counter To 0 When A File Exceeds The Limit Of 256 Sect. Therefore Many Files Will Seem Too Small. So Just In Case, A Backup Counter Was Added At The End Of Each Compressed Filename In Order To Identify The Correct File Length.

- o Hitting ESC From Anywhere Within DDD Will Return You Directly To The Main Menu Prompt.

- o DDD][Will Fully Operate In Slot X. Therefore, BRUN DDD][From Any Valid Slot Number, Appending Drive 1 Or 2. All The Options From The Main Menu Will Work Properly Once DDD Has Been BRUN'ed From A Different Location Other Than Slot 6, Drive 1 (Note: You Must Press CTRL-RESET Once, From The Main Menu).

```
Example: BRUN D.D.D. ][,SX,D1
Or : BRUN D.D.D. ][,SX,D2
X Equals The Prechosen Slot Number.
```

- o In Order To Tell DDD][Apart From DDD 1.0 And From DDD 1.2, Verify The Last Characters Of The Compressed Filename:

[Dalton Disk Disintegrater 2.0]

SUPER ZAXXON<248>

Notice How DDD 2.0(New Version) Compresses The Program Into Only 1 File! Also Note That There Are Always 3 Digits In The <XXX>.

[Dalton Disk Disintegrater 1.0]

SUPER ZAXXON<0>
SUPER ZAXXON<1>
SUPER ZAXXON<2>

DDD 1.0(Old Version) Very Rarely Compresses A Whole Program Into 1 File. Notice There Is Only 1 Digit In The <X>.

[Dalton Disk Disintegrater 1.2]

SUPER ZAXXON<<0>>
SUPER ZAXXON<<1>>
SUPER ZAXXON<<2>>

Notice The <<X>> At The End Of The Filename. Version 1.2 Is A Slightly Modified DDD 1.0 In Which It's Now Fully Compatible With Catsend. Now You Can Tell All Three Versions Apart When Unpacking Files.

.....
Comparing Results
.....

- o Dalton And I Have Done Several Comparisons Between DDD][And Disk Rigger 2.0. In Every Case, DDD Defeated Rigger In Both Speed And Packing Tests. Therefore We Are Quite Convinced That No Other Present Disk Compresser Can Surpass DDD's Overall Qualifications. As For Other Disk Crunchers Like, Compact It 1.0 And Disk Slicer, We Didn't Bother Comparing Statistics Because Next To DDD][, Disk Rigger Performed The Best.
- o I've Included A Sector/Speed Test Chart That Compares DDD And Rigger Back To Back. The Main Objectives Of These Tests Are To Simply Point Out That DDD Is More Versatile And Convenient To Use Especially For Ae/Catsend/Catfur Sysops.

SECTOR TEST (PACKING DISKS)	D.D.D.][sect/file	RIGGER II sect/file
SUPER ZAXXON	248 [1fi]	330 [3fi]
SQUADRON 617	306 [1fi]	445 [4fi]
MEGATERM 3.0	388 [1fi]	472 [4fi]

GREMLINS(ATARI)	153 [1fi]	199 [2fi]
MR. PIXEL'S KIT	311 [1fi]	402 [3fi]
WILLY BYTE SIDE1	302 [1fi]	352 [3fi]
WILLY BYTE SIDE2	457 [1fi]	528 [4fi]

SPEED TEST (PACKING DISKS)	D.D.D.][disk time	RIGGER II disk time

SUPER ZAXXON	[1.5mins]	[3.5mins]
SQUADRON 617	[1.7mins]	[4.2mins]
MEGATERM 3.0	[2.0mins]	[4.0mins]
GREMLINS(ATARI)	[1.2mins]	[3.2mins]
MR. PIXEL'S KIT	[1.5mins]	[4.2mins]
WILLY BYTE SIDE1	[2.3mins]	[3.8mins]
WILLY BYTE SIDE2	[3.0mins]	[5.0mins]

.....
Beta Tests
.....

DDD Has Gone Through Several Tests And It Has Performed Flawlessly. Here Is A List Of Tests DDD Has Successfully Passed:

- o DDD Operates Fine With Any DOS. Such As Diversi Dos, Pronto Dos, Hyper Dos, Original Dos, Etc.. I Suggest That You Don't Use David Dos Because The Init Command Was Purged From That Operating System. We Suggest That You Use Pronto Dos.
- o DDD Operates Fine On Any Apple][,][+,][e,][c, Apple Compatible (48k or 64k), With Either 1 or 2 Disk Drives Online. There Was An Error In The Original DDD 1.0 Which Made The Apple][e Inoperatable With 1 Drive Because The][e's Monitor ROM Differs From The Original Apple][or][+'s ROM. DDD][Now Operates Perfectly With 1 or 2 Drives On The Apple][e.
- o We Have Transferred DDD Packed Files Over The Modem Using Almost Every Transfer Program. DDD Compressed Files Transmit Fine With Every X-fer Program With The Exception Of Catsend 3.0. When The Compressed File Exceeds 256 Sectors, Catsend Crashes (Bug In Catsend...). Therefore Catsend Will Work Fine Under The Condition That The DDD Compressed File Doesn't Exceed 256 Sectors!

The Authors Of Catsend Will Have To Make Certain Modifications To Their Catsend Program In Order To Enable Files Exceeding 256 Sectors To Transmit Properly. Hopefully They Will Release A New Good Working Version Soon!

o The Following Transfer Programs
Check Out Perfectly With DDD][:

- o\ / ASCII EXPRESS (AE)
[V3.0 - V4.0 - V4.2]
- o\ / DOS FILE EXCHANGE (DFX)
[V2.0 - NEW V2.0]
- o\ / CATSEND (Applecacat X-fer Program)
[ALL VERSIONS ON CONDITIONS]
- o\ / DISKFER (Applecacat X-fer Program)
[V1.0 - V2.0]
- o\ / CAT-FUR (Applecacat X-fer Program)
[V1.1 - V2.0]

.....
Conclusion
.....

- o I Hope This Tutorial Has Helped
You Make The Change From Disk
Rigger 2.0(Absolute!) To DDD][.
- o DDD][Was Written Especially For
AE/CATSEND/CATFUR Sysops Who Kindly
Donate Their Computer Systems To
Maintain Massive Software Piracy.
(You're Welcome Dudes..)
- o Special Thanks To The Micron
For His Radical Catfur][.
Catfur Is A Major Breakthrough
In Transfer Programs And Surely
Enriches Pirates All Over North
America.
- o We Urge All Catsend Sysops To Make
The Switch To Catfur][. It's A
More Reliable, Faster, And Very
User Friendly Transfer Program!
(It Works Very Well With DDD][...)
Catfur Compares With Commercial
Transfer Programs Such As:
Ascii Express And D.F.X.][!

=====

DOCUMENT ddd.2.1.src

```

*-----*
* Dalton's Disk Disintegrater Version 2.1 Enhanced *
* Packing algorithm by Dalton *
* Enhancement by Ziopoth of The Assembly Line - '86 *
* Disassembly by L.H.A - 04/86 *
* Commenting by Sound Wave of The LEGION - 12/86 *
* *
* Coming soon (or maybe not so soon): *
* DDD ProDOS 8 v1.0 - packs 5.25 and 3.5" disks, no fuss *
* DDD ProDOS 16 v1.0 - IIgs only (uses all memory) *
* The source code for above will be available-for free *
*-----*

```

```

H00 = $00
WNDLFT = $20
WNDTOP = $22
WNCBTM = $23
CH = $24
CV = $25
BAS = $28
BS = $88
CTRLJ = $8A
CTRLK = $8B
CR = $8D
FA = $95
ESC = $9B
SPC = $A0
IOB = $F3
IN = $0200
H0300 = $0300
RESET = $03F2
H0800 = $0800
H0900 = $0900
H0C00 = $0C00
H4C00 = $4C00
FMTSLSEC = $B5C9 File Mgr T/S List Buffer Addr
HB500 = $B500
HB521 = $B521
HB527 = $B527
HB530 = $B530
HB534 = $B534
HB535 = $B535
HB57C = $B57C
RWTS = $BD00
KEY = $C000
STROBE = $C010
VTAB = $FC22
HOME = $FC58
CLRCCR = $FD8B CLREOL, CR
PRBYTE = $FDDA
PRHEX = $FDE3
COUT = $FDED
SETINV = $FE80
SETNORM = $FE84
SETKBD = $FE89
SETVID = $FE93

```

```

*-----*
JSR SETKBD
JSR SETVID
JSR $03E3 Get IOB Addr in A, Y
STY IOB

```

```

STA IOB+1
LDX #2
LDY #$0E
LDA (IOB),Y ;Get volume # of last access
STA H468A,X
INY
LDA (IOB),Y
LSR
LSR
LSR
LSR
STA H4684,X ;store last used slot*16 in 4684
INY
LDA (IOB),Y ;store last used drive #
STA H4687,X
LDA FMTSLSEC ;set up t/s list for when we
STA IOB ;reconfigure
LDA FMTSLSEC+1
STA IOB+1
LDY #$1E
LDA (IOB),Y
STA H468E ;track of sector #10 of DDD file
INY
LDA (IOB),Y
STA H468F ;sector of sector #10 of DDD file
JSR H38F4 ;make sure we're in main memory
;with 80Store on...

BIT %C083 ;switch in 16k ramcard, read and
BIT %C083 ;write ram (assuming it's there)
LDX #0 ;check and see if we have at
H2F8D STX $E000 ;least 64k of memory...
CPX $E000 ;this routine COULD be a
BNE H2FCA ;little shorter...
DEX
BNE H2F8D

BIT %C082 ;back to main memory
LDA #$F8 ;make it show 64k
STA H2FDC+1
JSR H3CF9 ;clc = no //e,//c -- sec = 128k
BCC H2FD2 ;if no 128k, set some flags, leave
LDA #$FC ;else, make it show...
STA H2FDC+1 ;128k

STA %C005 ;write to aux 48k memory
LDY #0 ;store a whole page of 0's from
H2FAF LDA $B600,Y ;$B600 to $BF00. $0A pages.
H2FB2 STA $B600,Y
INY
BNE H2FAF

INC H2FAF+2
INC H2FB2+2
LDA H2FAF+2
CMP %C0 ;have we reached the end yet?
BLT H2FAF ;no, go do the other pages.
STA %C004 ;switch in main 48k
BGE H2FDA

H2FCA LDA #$FF ;flags indicate no 64k
STA H390F ;if it has not 64k, it certainly
STA H3912 ;doesn't have 128k...
H2FD2 LDA #$FF ;flags indicate no 128k
STA H3915
STA H3918

H2FDA LDY #3

```

```

H2FDC LDA :MEMORY,Y
STA H3161,Y
DEY
BPL H2FDC
LDA $03DA Get Addr for JMP to RWTS
STA H3824+1
LDA $03DB
STA H3824+2
JMP START

:MEMORY ASC "48k 64k 128k"

*-----*
* Note: All the memory from $2000 to $3000 is claimed by *
* a buffer used when we read a track from the disk to be *
* compacted, or after we have unpacked it, write the *
* track back out.. 16 pages of 256 bytes, get it? *
* All the stuff before $3000 is only executed once, and *
* is, therefore, expendable. *
*-----*

START JSR $FB2F ;Monitor INIT
JSR HOME
JSR DISPLAY ;show the following...

ASC "[ ] :: :: :: :: ::][:: :: :: :: [ ]"
ASC " \      Dalton's Disk Disintegrater      /"
ASC "  \          Version 2.1 Enhanced          /"
ASC "   \          Enhancement by Ziopoth        /"
ASC "[ ] :: :: :: :: ::][:: :: :: :: [ ]"
BRK

LDA #5 ;top line is...
STA WNDTOP ;line #5

H30D6 JSR HOME ;clear it,
JSR SHOWBTM ;put "SOURCE:" on screen

LDA #$10 ;line #16 is window bottom
STA WNDBTM

H30E0 LDX #$FF ;reset the stack
TXS

JSR FIXRESET ;fix the rest vector to reboot
JSR H38F4 ;switch in main memory...
JSR HOME
JSR H466D ;inverse SOURCE: over TARGET:

LDX #0
JSR H3221 ;go manage the screen movement...

ASL ;multiply our choice by 2
ADC #<CHTABLE ;use our choice as an index
STA IOB ;to go to the proper routine
LDA #0 ;then return to the caller at the
ADC #>CHTABLE ;main menu
STA IOB+1

LDY #0
LDA (IOB),Y
STA PNTWHERE
INY
LDA (IOB),Y
STA PNTWHERE+1
JSR DOROUT ;do whatever we need, then...
JMP H30E0 ;return to main menu

```

```
DOROUT JMP (PNTWHERE) ;go to adr pointed to by the table
RTS
```

```
PNTWHERE HEX 0000 ;pointer to wherever we're going...
```

```
CHTABLE DA PACK
DA UNPACK
DA CATALOG
DA FORMAT
DA NEWSLOT
DA RECONFIG
DA QUIT
```

```
FIXRESET LDA #0 ;make the reset routine point
STA RESET ;to $3000
LDA #$30
STA RESET+1
EOR #$A5
STA $03F4 ;Fix power-up byte
RTS
```

```
SHOWBTM JSR DISPLAY
HEX 811000
HEX 82
DCI ' ( '
ASC "SOURCE:"
BRK
LDX #0
JSR H31EE ;display slot and drives used...
JSR DISPLAY
DCI " "
ASC "AVAILABLE RAM:"
H3161 ASC "48k "
ASC ' '
ASC " TARGET:"
BRK
LDX #1
JSR H31EE ;put slot drive and volume
;assignments on screen
JSR DISPLAY ;display the following...
DCI " "
ASC " SECTOR COUNT:"
HEX 811227 ;vtab 18,htab 39
HEX 82
ASC ' * '
ASC "TRK "
ASC "11111111111111111222"
ASC ' '
ASC " 0123456789ABCDEF"
ASC "0123456789ABCDEF012"
ASC ' '
ASC "ST:"
HEX 82
DCI " #"
HEX 82
ASC ' ('
BRK
LDA #$20 ;put an inverse space somewhere
STA $07F7
RTS
```

```
H31EE JSR DISPLAY ;put an 'S' up there...
ASC "S"
BRK
LDA H4684,X ;get the current slot (src, trg)
ORA #$B0
JSR H44CD ;go print it; checking for Lcase
JSR DISPLAY ;put a 'D' up there...
```

```
ASC ",D"
BRK
LDA H4687,X ;get the current drive (scs,trg)
ORA #$B0
JSR H44CD ;go print it using Lcase filter
JSR DISPLAY ;put a 'V' up there...
ASC ",V"
BRK
LDA #0 ;high byte to br printed = $00
STA H4620
LDA H468A,X ;lo byte is the volume number
STA H461F
JSR H45DA ;convert hex # to decimal
JSR H4621 ;print decimals as hex (PRHEX)
RTS
```

```
H3221 LDA H32C1,X
STA WNDLFT ;set left edge of window
LDA #0
STA CH ;set htab=0
LDA #$18
STA WNDBTM ;vtab 24 = screen bottom
H322E JSR H3295 ;set cursor vertical
]LOOP JSR H44D7 ;wait for key, update s scroll
CMP #BS ;is it a backspace?
BEQ UP ;yes! move the highlight up
CMP #CTRLK ;is it the up arrow?
BEQ UP ;yes, move the highlight up
CMP #CTRLJ ;is it a down arrow?
BEQ DOWN ;yes, move the highlight down
CMP #FA ;is it a forward arrow?
BEQ DOWN ;yes, move the highlight down
CMP #ESC ;is it <Escape>?
BEQ ESCAPE ;yes, return to main menu
; (if not already there)
CMP #CR ;is it at carriage return?
CLC
BEQ RETURN ;yes, go service that routine
BNE ]LOOP ;no, loop back...
```

```
UP DEC H32C7,X
LDA H32C7,X
CMP H32CA,X
BPL H322E
LDA H32CD,X
STA H32C7,X
DEC H32C7,X
JMP H322E
```

```
DOWN INC H32C7,X
LDA H32C7,X
CMP H32CD,X
BMI H322E
LDA H32CA,X
STA H32C7,X
JMP H322E
```

```
ESCAPE LDA #0
STA WNDLFT
LDA #$10
STA WNDBTM ;reset the current window
JMP H30E0 ;return whence we came...
```

```
RETURN SEC
LDA H32C7,X
SBC H32CA,X
LDX #0
STX WNDLFT
```

```

LDX #$10
STX WNDBTM
RTS

H3295 LDA H32C4,X ;get index to vertical curs pos
STA CV
JSR VTAB ;set it to the vtab value
LDA H32CA,X
STA H32C0
H32A3 CMP H32C7,X ;is it the one to be inverted?
BNE H32AB ;no, don't invert it
JSR SETINV ;yes, invert it
H32AB JSR H44B4 ;go get the index then print
JSR SETNORM ;normal text
JSR $FC62 ;do linefeed
INC H32C0
LDA H32C0
CMP H32CD,X ;is it the last line?
BNE H32A3 ;no, go do some others
RTS

H32C0 BRK

H32C1 HEX 0C
HEX 02 ;indexes for left edge of window
HEX 06

H32C4 HEX 07
HEX 11 ;indexes for vertical cursor pos
HEX 09

H32C7 HEX 00
HEX 07
HEX 09
H32CA HEX 00
HEX 07
HEX 09
H32CD HEX 07
HEX 09
HEX 0D
HEX 60

H32D1 DA T:PACK
DA T:UNPACK
DA T:CAT
DA T:FORMAT
DA T:NEW
DA T:RECON
DA T:QUIT
DA T:SOURCE
DA T:TARGET
DA T:LCASE
DA T:LANG
DA T:AUXMEM
DA T:SAVE

T:PACK ASC "PACK A DISK"
BRK

T:UNPACK ASC "UNPACK A DISK"
BRK

T:CAT ASC "CATALOG A DRIVE"
BRK

T:FORMAT ASC "FORMAT A DISK"
BRK

T:NEW ASC "NEW SLOT, DRIVE, VOL"
BRK

T:RECON ASC "RECONFIGURE"
BRK

T:QUIT ASC "QUIT & REBOOT"
BRK

T:SOURCE ASC "SOURCE"
BRK

T:TARGET ASC "TARGET"
BRK

T:LCASE ASC "LOWERCASE"
BRK

T:LANG ASC "LANGUAGE CARD"
BRK

T:AUXMEM ASC "//E AUXILIARY MEM"
BRK

T:SAVE ASC "SAVE CONFIGURATION"
BRK

*-----
* Here begins the famous Dalton's
* packing routine.
*-----

PACK JSR HOME
JSR DISPLAY ;go stick all this stuff all
HEX 810612 ;over the screen at various
ASC "Pack" ;locations
HEX 810712
ASC "----"
HEX 811604
HEX 82
DCI " #"
HEX 811223
ASC "000"
HEX 810900
ASC "Filename: "
BRK
JSR H4518 ;go get the filename
CPX #0 ;is the length returned = 0?
BNE H33D3 ;no, go pack the blasted thing
RTS ;yes, go back to the menu...

H33D3 LDA #0
JSR H4630 ;put inverse "SOURCE:" on screen
JSR H46E4 ;print "insert" and proper
;designation

LDA #0
STA H3C90
STA H3C91
STA H3C92
STA H3C93
STA H3B6E
STA $F9 ;current track starts at $0
STA H37FC

JSR H388D ;$F8,$F7 point to $804 now
LDA #1
STA H373C

```

```

H33F9 LDA #0 ;zero out 2 pages of memory from
TAY ;$200 - $3FF
]LOOP STA $200,Y
STA $300,Y
INY
BNE ]LOOP

LDA #1 ;next operation by RWTS is read
STA H3805

LDA #$D2 ;go stick an 'R' on screen
JSR H3CD2 ;and switch mem banks around

JSR H3C94 ;read a WHOLE track into $2000

LDA #$C3 ;go stick a 'C' on screen for
JSR H3CD2 ;compacting; switch mem banks

JSR H3485 ;Collect # of bytes in $200-$300

LDA $F9 ;is this the first track? - $0?
BNE H342D ;no, skip over this stuff:

LDA #0 ;do this ONLY if this is the
LDY #4 ;first track...
JSR H35E6
LDA H3807
LDY #$80
JSR H35E6

H342D JSR H34DA
JSR H3527

LDA #$AE ;print a period (.) on screen
JSR H3CD2 ;indicating done w/track

INC $F9 ;increment the current track

LDA $F9 ;have we done $22 tracks yet?
CMP #$23
BNE H33F9 ;no, go do the rest...

LDA #0 ;yes, now fiddle around a little...
LDY #$80
JSR H35E6
JSR H38A6
JSR H38F4 ;set up main memory, no aux
JSR H399C

LDA #1 ;put "TARGET:" in inverse
JSR H4630

LDA H3B6A
STA H37FD
LDA H3B6A+1
STA H37FE

LDA #$B6 ;file buffer is at $B600
STA H3802

JSR H3820 ;go write it
JSR H3C66

JSR H3BC0 ;update file descriptive entry?

LDA #$11 ;track $11
STA H37FD

LDA #0 ;sector $0 - bit map
STA H37FE

LDA #$B5 ;buffer to be used is at $B500
STA H3802

JSR H3820 ;use RWTS - write bit map
JSR H3CF2 ;turn off drive
RTS ;finish and leave... hallelujah!

H3485 JSR H3884 ;$F5 and $F6 point now to $2000
LDY #0
H348A STY $FB
LDA $F6
STA $FC
LDA ($F5),Y ;$2000,Y
LDY #3
H3494 CMP ($FB),Y ;are they the same
BNE H34BF ;no,...
DEY
BNE H3494
LDY $FB
LDX $F6
CPX #$2F ;have we done all 16 pages?
BNE H34A7 ;no, go do some more...
CPY #$FD ;have done all but last 4 bytes?
BCS H34BF ;nope, go collect some more bytes
H34A7 JSR H34D0
JSR H34D0
JSR H34D0
JSR H34D0
BEQ H34CF
H34B5 CMP ($F5),Y
BNE H348A
JSR H34D0
BNE H34B5
RTS

H34BF LDY $FB
TAX
INC $200,X ;up over $FF? (inc lo byte)
BNE H34CA ;no, pop over this:
INC H0300,X ;yes, increment the high byte
H34CA JSR H34D0
BNE H348A
H34CF RTS ;leave with my sanity intact...

H34D0 INY
BNE H34D9
INC $F6
LDX $F6
CPX #$30
H34D9 RTS

H34DA LDY #0
H34DC LDA #0
STA H00,Y
STA $FB
STA $FC
TAX
H34E6 LDA H0300,X
CMP $FC
BCC H3504
BNE H34F6
LDA IN,X
CMP $FB
BCC H3504

```

```

H34F6 LDA IN,X
STA $FB
LDA H0300,X
STA $FC
TXA
STA H00,Y
H3504 INX
BNE H34E6
LDA H00,Y
PHA
STY H3526
LDY #$80
JSR H35E6
LDY H3526
PLA
TAX
LDA #0
STA IN,X
STA H0300,X
INY
CPY #$14
BNE H34DC
RTS

H3526 BRK

H3527 JSR H3884
LDY #0
H352C STY $FB
H352E LDY $FB
LDA $F6
STA $FC
LDA ($F5),Y
LDY #3
H3538 CMP ($FB),Y
BNE H358D
DEY
BNE H3538
LDY $FB
LDX $F6
CPX #$2F
BNE H354B
CPY #$FD
BCS H358D
H354B LDX #4
STX $FF
JSR H34D0
JSR H34D0
JSR H34D0
JSR H34D0
BEQ H356F
H355D CMP ($F5),Y
BNE H356F
INC $FF
BEQ H356C
JSR H34D0
BNE H355D
BEQ H356F
H356C JSR H34D0
H356F STY $FB
PHA
LDA #$97
LDY #$80
JSR H35E6
PLA
LDY #$80
JSR H35E6
LDA $FF

LDY #$80
JSR H35E6
LDA $F6
CMP #$30
BNE H352E
RTS
H358D LDY #$13
H358F CMP H00,Y
BEQ H35B0
DEY
BPL H358F
PHA
LDA #0
LDY #1
JSR H35E6
PLA
LDY #$80
JSR H35E6
H35A5 LDY $FB
JSR H34D0
BEQ H35AF
JMP H352C
H35AF RTS
H35B0 TYA
TAX
LDY H35D2,X
LDA H35BE,X
JSR H35E6
JMP H35A5
H35BE HEX 03
HEX 09
HEX 1F
HEX 0F
HEX 07
HEX 1B
HEX 0B
HEX 0D
HEX 15
HEX 37
HEX 3D
HEX 25
HEX 05
HEX B1
HEX 11
HEX 21
HEX 01
HEX 57
HEX 5D
HEX 1D
H35D2 HEX 08
HEX 08
HEX 10
HEX 10
HEX 10
HEX 10
HEX 10
HEX 10
HEX 10
HEX 20
HEX 20
HEX 20
HEX 20
HEX 20
HEX 20
HEX 20
HEX 20
HEX 20
HEX 20
HEX 40
HEX 40

```

```

HEX 40
H35E6 STA H373E
STY H373D
LDY #0
LDA ($F7),Y
H35F0 LSR H373E ;divide by 10 (decimal)
ROL ;
ASL H373C ;multiply it by 10 (decimal)
BCC H360B ;was lo-bit set? no, branch...
STA ($F7),Y
ROL H373C
JSR H38A2 ;check for memory full?
BNE H3609 ;evidently not full, skip over
JSR H399C ;ack! we must be full, go write
JSR H4690 ;prompt to re-insert source
H3609 LDA ($F7),Y
H360B LSR H373D ;was high bit set?
BCC H35F0 ;no, branch...
STA ($F7),Y ;yes, store shifted value, why?
RTS

*-----
* Here begins the equally famous
* Dalton's unpacking routine.
*-----

UNPACK JSR H3891 ;set up a pointer?
JSR HOME ;clear the screen

JSR H46E4 ;check for # of drives, prompt
;for source or target, etc...

JSR H40CD ;put a LOT of stuff on screen
;then handle file selection

PHA ;push the current file #
JSR HOME ;clear the screen
JSR SHOWBTM ;setup display at page bottom
LDA #0 ;go grab the current slots
JSR H4630 ;print some extra stuff

LDA #$10 ;bottom is reset to vtab 16
STA WNDBTM

JSR DISPLAY ;print the following...
HEX 810611 ;vtab 6, htab 17
ASC "Unpack"
HEX 810711 ;vtab 6, htab 17
ASC "-----"
HEX 810900 ;vtab 9, htab 0
ASC "Filename: "
BRK

PLA ;get the current file # back
ASL ;multiply it by 2

TAX
LDA H0900,X ;using the (file #)*2, get a
STA IOB ;pointer to the filename...
LDA H0900+1,X
STA IOB+1

LDY #9 ;skip over the boring stuff in
;the file description,
;what we want is the filename
H3661 LDA (IOB),Y ;is this the $00 eof marker?

BEQ H366B ;yes, leave it..
JSR H44CD ;no,
INY ;are we done?
BNE H3661 ;nope, keep going...

H366B JSR DISPLAY ;show the following...
HEX 811223 ;vtab 18, htab 33
ASC "000" ;clear the sector count
BRK

LDA H0800,X
STA H37FD
LDA H0800+1,X
JSR H3948 ;get the T/S list for this file

LDA #0
STA $F9 ;current track is $0

JSR H388D
LDY #4
JSR H370C
CMP #0
BEQ H36C3

JSR DISPLAY
HEX 810C03
ASC "This file was not packed by DDD II."
HEX 8D8D
BRK

JSR H45BE
JMP H30E0

H36C3 JSR H46B2
LDY #$80
JSR H370C
JSR H3754
STA $FA
STA H37FC
LDA #$C9 ;put an 'I' on screen, also
JSR H3CD2 ;switch in main memory
LDA #4
STA H3805 ;next operation is format ($04)
JSR H3820 ;go do it with RWTS
JSR H3CEB ;keep drive running
H36E3 LDA #2
STA H3805 ;next operation is write ($02)
LDA #$C4 ;put a 'D' on screen, and
JSR H3CD2 ;switch in proper memory banks
JSR H373F
JSR H3760
LDA #$D7 ;put a 'W' on screen
JSR H3CD2 ;and switch in probably main mem
JSR H3C94 ;go write out a track from $2000
LDA #$AE ;put a period (.) on screen
JSR H3CD2 ;and switch mem banks
INC $F9 ;do next track
LDA $F9
CMP #$23 ;have we done all the tracks?
BNE H36E3 ;no, go do the next one
JSR H3CF2 ;turn off the drive
RTS ;holy nuts, we're done!

H370C STY H373D
LDY #0
STY H373E
LDA ($F7),Y
H3716 ASL

```



```

ROL H373E
ASL H373C
BCC H3731
ROL H373C
JSR H38A2
BNE H372F
JSR H391C
JSR H46B2
LDY #0
H372F LDA ($F7),Y
H3731 LSR H373D
    BCC H3716
    STA ($F7),Y
    LDA H373E
    RTS

H373C BRK
H373D BRK
H373E BRK
H373F LDX #$13
    STX $19
H3743 LDY #$80
    JSR H370C
    JSR H3754
    LDX $19
    STA $00,X
    DEC $19
    BPL H3743
    RTS

H3754 LDA #0
    LDX #8
H3758 ROR H373E
    ROL
    DEX
    BNE H3758
    RTS

H3760 JSR H3884
    LDY #0
H3765 STY $FB
    LDY #1
    JSR H370C
    BNE H3780
    LDY #$80
    JSR H370C
    JSR H3754
H3776 LDY $FB
    STA ($F5),Y
    JSR H34D0
    BNE H3765
    RTS

H3780 LDY #2
    JSR H370C
    STA $1D
    LDA #3
    STA $1C
H378B LDY #1
    JSR H370C
    LSR
    ROL $1D
    LDA $1D
    LDX $1C
    LDY H37F1,X
    STY $1E
    LDY H37F5,X
H379F CMP H37DD,Y

BNE H37AA
LDA H00,Y
JMP H3776

H37AA DEY
CPY $1E
BNE H379F
DEC $1C
BPL H378B
LDY #1
JSR H370C
LDY #$80
JSR H370C
JSR H3754
PHA
LDY #$80
JSR H370C
JSR H3754
STA $1C
PLA
LDY $FB
H37CE STA ($F5),Y
    JSR H34D0
    BNE H37D6
    RTS

H37D6 DEC $1C
    BNE H37CE
    JMP H3765

H37DD HEX 1C
    HEX 1D
    HEX 35
    HEX 00
    HEX 01
    HEX 02
    HEX 03
    HEX 08
    HEX 09
    HEX 0F
    HEX 1B
    HEX 05
    HEX 06
    HEX 0A
    HEX 0B
    HEX 0C
    INV 'NOAD'
H37F1 HEX FF
    HEX 02
    HEX 0A
    HEX 11
H37F5 HEX 02
    HEX 0A
    HEX 11
    HEX 13

H37F9 HEX 01 ;start of RWTS parm table
H37FA HEX 60 ;slot * 16
H37FB HEX 01 ;drive
H37FC HEX 00 ;volume

H37FD HEX 00 ;track
H37FE HEX 00 ;sector

    HEX 0A ;address of device char table
    HEX 38 ;in this case, $380A

H3801 HEX 00 ;address of sector buffer lo

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H3802 HEX 00 ;address of sector buffer hi
    HEX 00 ;not used
    HEX 00 ;byte count for partial sector

H3805 HEX 00 ;type of operation,$01=read
    ;$02=write,$03=seek,$04=format

H3806 BRK ;return code [error #]

H3807 HEX FE6001 ;last used volume, slot, drive
BRK
    HEX 01EFD8 ;device chars table

H380E LDA #$11 ;operation done to track $11
    STA H37FD
    LDA #0 ;sector $0
    STA H37FE
    LDA #$B5
    STA H3802 ;buffer is at $B500
    JMP H3820 ;go do it.
H3820 LDY #H37F9 ;pointers to start of RWTS table
    LDA #>H37F9
H3824 JSR RWTS ;go do it with RWTS
    LDA #0
    STA $48
    BCC H3883 ;was there an error? no, return

    JSR H38F4 ;switch in main memory
    JSR DISPLAY
    HEX 810C00
    ASC " "
    INV 'RWTS ERROR'
    ASC " "
    HEX 87
    BRK
    LDA H3806 ;kind of error (return code)
    JSR PRBYTE ;go print it
    JSR DISPLAY
    ASC " on Track "
    BRK
    LDA H37FD ;occurring on track #XX
    JSR PRBYTE
    JSR DISPLAY
    ASC ", Sector "
    BRK
    LDA H37FE
    JSR PRBYTE ;sector #YY
    JSR CLRRCR
    JSR CLRRCR
    JSR H45BE ;ask them to press a key...
    LDA #0 ;reset lo byte of sector buffer
    STA H3801
    JMP START ;go restart

H3883 RTS

H3884 LDA #0 ;set up pointer to $2000
    STA $F5 ;otherwise known as the
    LDA #$20 ;track buffer...
    STA $F6
    RTS

H388D LDA #4 ;entry here-$F7 points to $804
    BNE H3893
H3891 LDA #0 ;entry here-$F7 points to $800
H3893 STA $F7
    LDA #8

    STA $F8
    LDA #0
    STA H3907 ;reset memory mode to 0
    STA H3908
    RTS

H38A2 INC $F7
    BNE H38DB
H38A6 INC $F8
    LDA $F8
    LDY H3908
    CMP H390B,X
    BNE H38DB
H38B2 INX
    INX
    INX
    CPX #$12
    BEQ H38DD
    LDA H3909,X
    BMI H38B2
    STA H3907
    LDA H390A,X
    STA $F8
    STX H3908

H38C9 JSR H38F4 ;set proper memory
    LDA H3907 ;get "mode"?
    BEQ H38DB ;is it a 0? yes...
    CMP #1 ;is it a 1?
    BNE H38DE ;no, go check for 2
    BIT $C08B ;read and write ram $D000
    BIT $C08B ;bank 1
H38DB LDA #1 ;set mode to 1?
H38DD RTS

H38DE CMP #2 ; is it a 2?
    BNE H38EB ;no, go set aux
    BIT $C083 ;if = 2 then read ram, $D000
    BIT $C083 ;bank 2
    LDA #1
    RTS

H38EB STA $C003 ;read and write aux mem if
    STA $C005 ;<> 2 and <> 1 and <> 0
    LDA #1
    RTS

H38F4 STA $C001 ;80Store is on
    BIT $C054 ;turn off page 2
    BIT $C057 ;Turn on Hires
    STA $C002 ;read main 48k
    STA $C004 ;write main 48k
    BIT $C082 ;read ROM
    RTS

H3907 BRK
H3908 BRK
H3909 BRK
H390A HEX 08
H390B HEX 20
    HEX 00
    HEX 48 ;$4800 to $B4FF-packed stuff
    HEX B5

H390F HEX 01
    HEX D0 ;16k ramcard bank2
    HEX E0 ;$D000 to $DFFF-packed stuff

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H3912 HEX 02
HEX D0 ;16kramcard bank1
HEX 00 ;$D000 to $FFFF-packed stuff

H3915 HEX 03
HEX 08 ;aux memory
HEX 20 ;$800 to $1FFF-packed stuff

H3918 HEX 03
HEX 40 ;aux memory
HEX B7 ;$4000 to $B6FF-packed stuff

H391B HEX FF

H391C JSR H38F4
JSR H3CF2
JSR H4690
LDA #1
STA H3805
LDA #0
JSR H4630
JSR H3891
H3932 JSR H38F4
INC H399B
INC H399B
BNE H395B
LDA $B600+1
BEQ H3980
STA H37FD
LDA $B600+2
H3948 STA H37FE
LDA #$B6
STA H3802
JSR H3820
JSR H3C66
LDA #$0C
STA H399B
H395B LDX H399B
LDA $B600,X
BEQ H3980
STA H37FD
INX
LDA $B600,X
STA H37FE
LDA $F8
STA H3802
JSR H38C9
JSR H3820
JSR H3C66
JSR H38A6
BNE H3932
H3980 JSR H3891
LDA #1
STA H373C
LDA #2
STA H3805
LDA $FA
STA H37FC
JSR H38F4
LDA #1
JSR H4630
RTS

H399B BRK

H399C STY H3526
JSR H38F4
JSR H3CF2

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```

LDA #1
JSR H4630
JSR H46B2
LDA $F8
STA H3B6F
LDA H3907
STA H3B70
JSR H3891
LDA H3B6E
BNE H39F4
INC H3B6E
JSR H380E
LDA #$12
STA H3B71
STA HB530
STA H3B68
LDA #1
STA HB530+1
LDA HB535
STA H3B72
JSR H3A7F
JSR H3AA5
LDA H3B71
STA H3B6A
STA H3B6C
LDA H3B72
STA H3B6B
STA H3B6D
H39F4 JSR H3AA5
INC H3B73
INC H3B73
BNE H3A39
LDA #2
STA H3805
LDA H37FD
STA $B600+1
LDA H37FE
STA $B600+2
LDA #$B6
STA H3802
LDA H3B6A
STA H37FD
LDA H3B6B
STA H37FE
JSR H3820
LDA $B600+1
STA H3B6A
LDA $B600+2
STA H3B6B
JSR H3A7F
JSR H3C66
JMP H39F4

H3A39 JSR H3C66
LDX H3B73
LDA H37FD
STA $B600,X
LDA H37FE
STA $B600+1,X
LDA $F8
STA H3802
LDA #2
STA H3805
JSR H38C9
JSR H3820
JSR H38A6
JSR H38F4
LDA $F8

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```

CMP H3B6F
BNE H39F4
LDA H3907
CMP H3B70
BNE H39F4
JSR H3891
LDA #0
JSR H4630
JSR H38C9
LDY H3526
RTS

H3A7F LDA #0
TAX
H3A82 STA $B600,X
INX
BNE H3A82
LDA H3C92
STA $B600+5
CLC
ADC #$7A
STA H3C92
LDA H3C93
STA $B600+6
ADC #0
STA H3C93
LDA #$0A
STA H3B73
RTS

H3AA5 DEC H3B72
BPL H3AAD
JSR H3B20
H3AAD LDA H3B72
JSR H3B78
LDA H3B71
ASL
ASL
ADC #$38
TAX
LDA HB500,X
AND H3B74
STA H3B69
LDA HB500+1,X
AND H3B75
ORA H3B69
STA H3B69
LDA HB500+2,X
AND H3B76
ORA H3B69
STA H3B69
LDA HB500+3,X
AND H3B77
ORA H3B69
BEQ H3AA5
LDA H3B74
EOR #$FF
AND HB500,X
STA HB500,X
LDA H3B75
EOR #$FF
AND HB500+1,X
STA HB500+1,X
LDA H3B76
EOR #$FF
AND HB500+2,X
STA HB500+2,X
LDA H3B77

EOR #$FF
AND HB500+3,X
STA HB500+3,X
LDA H3B71
STA H37FD
LDA H3B72
STA H37FE
RTS

H3B20 CLC
LDA HB530
ADC HB530+1
BNE H3B32
LDA #1
STA HB530+1
LDA #$12
BNE H3B3E
H3B32 CMP HB534
BCC H3B3E
LDA #$FF
STA HB530+1
LDA #$10
H3B3E CMP H3B68
BEQ H3B9B
STA HB530
STA H3B71
ASL
ASL
ADC #$38
TAX
LDA HB500,X
ORA HB500+1,X
ORA HB500+2,X
ORA HB500+3,X
BEQ H3B20
LDA HB535
STA H3B72
DEC H3B72
RTS

BRK
BRK
H3B68 BRK
H3B69 BRK
H3B6A BRK
H3B6B BRK
H3B6C BRK
H3B6D BRK
H3B6E BRK
H3B6F BRK
H3B70 BRK
H3B71 BRK
H3B72 BRK
H3B73 BRK
H3B74 BRK
H3B75 BRK
H3B76 BRK
H3B77 BRK

H3B78 TAX
LDA #0
STA H3B74
STA H3B75
STA H3B76
STA H3B77
SEC
H3B88 ROR H3B74
ROR H3B75

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ROR H3B76
ROR H3B77
INX
CFX HB535
BLT H3B88
RTS

H3B9B JSR H38F4
JSR DISPLAY
HEX 810F00
INV 'ERROR!'
ASC " Disk Full."
HEX 878D8D
BRK
JSR H45BE
JMP H30E0

H3BC0 LDA HB500+1
STA H37FD
LDA HB500+2
STA H37FE
LDA #$B6
STA H3802
LDA #1
STA H3805
H3BD6 JSR H3820
LDX #$0B
H3BDB LDA $B600,X
BMI H3BFD
BEQ H3BFD
TXA
CLC
ADC #$23
TAX
BNE H3BDB
LDA $B600+1
BNE H3BF1
JMP H3B9B

H3BF1 STA H37FD
LDA $B600+2
STA H37FE
JMP H3BD6

H3BFD LDA H3B6C
STA $B600,X
INX
LDA H3B6D
STA $B600,X
INX
LDA #4
STA $B600,X
LDY #0
H3C12 INX
INY
LDA H470D+2,Y
BEQ H3C1E
STA $B600,X
BNE H3C12
H3C1E LDA #$0C
JSR H3C5D
LDA $0573
JSR H3C60
LDA $0574
JSR H3C60
LDA $0575
JSR H3C60
LDA $0575
LDA $0575
LDA #$0E

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JSR H3C5D
LDA #SPC
H3C3C CPY #$1F
BEQ H3C47
STA $B600,X
INX
INY
BNE H3C3C
H3C47 LDA H3C90
STA $B600,X
INX
LDA H3C91
STA $B600,X
LDA #2
STA H3805
JSR H3820
RTS

H3C5D CLC
ADC #$B0
H3C60 STA $B600,X
INX
INY
RTS

H3C66 INC $0575
LDA $0575
CMP #$BA
BLT H3C87
LDA #$B0
STA $0575
INC $0574
LDA $0574
CMP #$BA
BLT H3C87
LDA #$B0
STA $0574
INC $0573
H3C87 INC H3C90
BNE H3C8F
INC H3C91
H3C8F RTS

H3C90 BRK
H3C91 BRK
H3C92 BRK
H3C93 BRK

H3C94 JSR H38F4 ;start off 80Store = on
JSR H44F8 ;was any key pressed?
BCC H3C9F ;no, keep going...
JSR H3CC1 ;check what type of key pressed
H3C9F LDA $F9
STA H37FD ;current track in RWTS table
LDA #$0F ;current sector in RWTS table
STA H37FE
H3CA9 LDA H37FE
CLC
ADC #$20 ;add $20 to current sector
STA H3802 ;becoming hi byte for file buff
JSR H3820 ;go read or write it
DEC H37FE ;do next sector
BPL H3CA9 ;did we do downto $0? no, go on
JSR H3CEB ;yes, keep the drive running
JSR H38C9 ;return us to the proper memory
;"mode"
RTS

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H3CC1 CMP #ESC ;was the key <ESC>?
  BNE H3CD1 ;no, go back, whew
  JSR H3CF2 ;yes, nuts, shut off the drive
  LDX #$FF
  TXS ;reset the stack
  JSR FIXRESET ;reset the reset vector
  JMP H30E0 ;start almost from scratch

H3CD1 RTS

H3CD2 JSR H38F4 ;put us in main memory
  STA H3CE6 ;put the character to be printed
  LDA $F9
  CLC
  ADC #4
  STA H3CE5 ;current track+4 = htab of print
  JSR DISPLAY
  HEX 8116
H3CE5 BRK ;htab to be modified
H3CE6 HEX AE00 ;single character to be printed
  JMP H38C9 ;go exit through mem bnk switches

H3CEB LDX H37FA ;get current slot
  STA $C089,X ;turn on the motor
  RTS

H3CF2 LDX H37FA ;get current slot
  STA $C088,X ;turn on the motor
  RTS

H3CF9 LDA $FBB3 ;machine ID routine: get machID
  CMP #6 ;is it a //e or //c?
  BNE H3D17 ;no, clear carry, no 128k
  LDA $C017 ;completely undocumented.
  BMI H3D17 ;nope, no 128k
  STA $C005 ;we seem to have 128k, but we're
  STA $C003 ;still not sure, switch in aux
  INX
H3D0C STX H0800
  CFX H0C00 ;if they don't match, have 128k
  BNE H3D1A
  DEX
  BPL H3D0C ;else, keep trying like crazy...
H3D17 CLC
  BCC H3D1B ;nope, sorry, no 128k
H3D1A SEC ;yep, 128k
H3D1B STA $C004 ;switch in main memory
  STA $C002
  RTS

*-----

FORMAT LDX #1 ;which to format?:src or target
  JSR H3221
  JSR H4630 ;choose
  JSR HOME
  JSR DISPLAY ;stick the following on screen
  HEX 810D00
  ASC " Insert disk. "
  ASC "Press <space> to format"
  HEX 810E0A
  ASC "or <esc> to abort."
  BRK

H3D6F JSR H44D7 ;check for keypress & scroll >'s
  JSR H3CC1 ;check for <esc>, if so, leave...
  CMP #SPC ;is it a space?
  BNE H3D6F ;no, go check for one again...

JSR HOME ;clear the screen
JSR DISPLAY ;put this up...
HEX 810D0C
ASC "Formatting..."
BRK

LDA #4 ;send format request to IOB table
STA H3805
LDA #$FE ;volume 254
STA H37FC
JSR H3820 ;format it
JSR H3E1C ;fill up $b500 with zeros
LDA #$11 ;track of first catalog sector
STA HB500+1 ;(building vtoc)
LDA #$0F ;sector of first catalog sector
STA HB500+2
LDA #3 ;version of dos used (3.3)
STA HB500+3
LDA #$FE ;volume #
STA HB500+6
LDA #$7A ;122 T/S pairs in a T/S list
STA HB527
LDA #$12 ;next track to allocated is $12
STA HB530
LDA #1 ;next track to be allocated = +1
STA HB530+1
LDA #$23 ;$23 tracks/disk = 35
STA HB534
LDA #$10 ;sectors per track = 16
STA HB535

LDA #$FF ;now build the free space
LDY #$3C ;bit map...
H3DD1 STA HB500,Y
  STA HB500+1,Y
  INY
  INY
  INY
  INY
  CPY #$C4
  BLT H3DD1

LDA #0 ;mark $11 as being used
STA HB57C
STA HB57C+1

LDA #2 ;next operation is write (RWTS)
STA H3805
LDA #$11 ;done to track $11
STA H37FD
LDA #0 ;sector $0
STA H37FE
LDA #$B5 ;using the buffer at $b500
STA H3802
JSR H3820 ;go do it

JSR H3E1C ;fill up $b500 with zeros (again)
LDA #$11 ;track $11
STA HB500+1
LDA #$0E ;sector $e is next catalog sector
STA HB500+2
LDA #$0F ;written to track $11, sector $F
STA H37FE
H3E10 JSR H3820 ;build catalog sectors
  DEC H37FE ;do next in sequence
  DEC HB500+2
  BNE H3E10 ;have we done all? no, loop...
  RTS

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```

H3E1C LDY #0 ;fill $B500 -$B5FF with zeros...
TYA
H3E1F STA HB500,Y
INY
BNE H3E1F
RTS

*-----

NEWSLOT LDX #0 ;routine to get new slot-driv-vol
H3E28 LDA H3EA5,X
STA CV
JSR VTAB
LDA #10
STA CH
LDA H4684,X
JSR H3E84
STA H4684,X
LDA #13
STA CH
LDA H4687,X
JSR H3E84
STA H4687,X
LDA #16
STA CH
LDA H468A,X
JSR H3EA7
STA H468A,X
INX
CPX #2
BLT H3E28
H3E5C LDX #0
LDA H4684
CMP H4685
BNE H3E78
LDA H4687
CMP H4688
BNE H3E78
LDA H468A
CMP H468B
BNE H3E78
LDX #$FF
H3E78 STX H468D
RTS

H3E7C JSR H3E5C
PLA
PLA
JMP H30E0
H3E84 STA H3EA4
H3E87 JSR H44DD
CMP #ESC
BEQ H3E7C
CMP #CR
BEQ H3EA0
CMP #"1"
BLT H3E87
CMP #"9"+1
BGE H3E87
JSR H44CD
AND #$0F
RTS

H3EA0 LDA H3EA4
RTS

H3EA4 BRK

H3EA5 ORA ($12),Y
H3EA7 STX H4384
STA H3EA4
LDA CH
STA H3F52
H3EB2 LDA H3F52
STA CH
LDY #3
LDA #SPC
H3EBB JSR H44CD
DEY
BNE H3EBB
LDA H3F52
STA CH
H3EC6 JSR H44DD
CMP #CR
BEQ H3F05
CMP #ESC
BNE H3ED7
JSR H3F2F
JMP H3E7C
H3ED7 CMP #BS
BNE H3EF0
CPY #0
BEQ H3EC6
DEY
JSR H44CD
LDA #SPC
JSR H44CD
LDA #BS
JSR H44CD
JMP H3EC6

H3EF0 CMP #"0"
BLT H3EC6
CMP #"9"+1
BGE H3EC6
JSR H44CD
AND #$0F
STA H3F4B,Y
INY
CPY #3
BLT H3EC6
H3F05 CPY #0
BEQ H3F2F
DEY
LDX #0
STX H3F51
H3F0F LDA H3F4B,X
BEQ H3F25
H3F14 CLC
LDA H3F4E,Y
ADC H3F51
BCS H3EB2
STA H3F51
DEC H3F4B,X
BNE H3F14
H3F25 INX
DEY
BPL H3F0F
LDA H3F51
STA H3EA4
H3F2F LDA H3F52
STA CH
LDA H3EA4
PHA
STA H461F

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LDA #0
STA H4620
JSR H45DA
JSR H4621
PLA
LDX H4384
RTS

H3F4B BRK
BRK
BRK
H3F4E HEX 01 ;1
HEX 0A ;10
HEX 64 ;100 -used to hex to dec convert
H3F51 BRK
H3F52 BRK

*-----

RECONFIG JSR HOME ;start of reconfigure routine
H3F56 JSR H403B ;put the stuff on the screen
LDX #2
JSR H3221 ;go manage the screen & keypress
CMP #0 ;change lowercase?
BNE H3F75 ;no go check the other stuff
LDA H391B
CMP #$FF ;is it off?
BEQ H3F6D ;yes, change it to "on"
LDA #$FF ;no, keep it as "off"
BNE H3F6F ;go store it
H3F6D LDA #$DF ;flag to be and'ed to output
H3F6F STA H391B ;go store the flag then return
JMP H3F56

H3F75 CMP #1 ;is it a call to change lang card
BNE H3F97 ;no, go check the next option
LDA H390F
CMP #$FF ;is it already disabled?
BEQ H3F8B ;yes, then enable it
LDA #$FF ;no, disable it by replacing
STA H390F ;these two flags...
STA H3912
JMP H3F56 ;return

H3F8B LDX #1 ;store a 1 at first flag position
STX H390F ;enable $D000-$FFFF alt bank 1
INX
STX H3912 ;enable $D000-$FFFF alt bank 2
JMP H3F56 ;return

H3F97 CMP #2 ;is it a call to aux mem?
BNE H3FB8 ;no, go on to next...
LDA H3915
CMP #$FF ;is it already disabled?
BEQ H3FAD ;yes, go enable it
LDA #$FF ;no, disable it
STA H3915 ;reset flag ($900-$1FFF) *
STA H3918 ;reset flag ($400-$B6FF)
JMP H3F56 ;return

H3FAD LDX #3 ;enable it
STX H3915 ;set flag ($900-$1FFF) *
STX H3918 ;set flag ($900-$1FFF)
JMP H3F56 ;return

H3FB8 JSR HOME ;it HAS to be this option!
JSR DISPLAY ;go stick this on screen
HEX 810A00

ASC "Insert DDD 2.1 enhanced into "
BRK

LDX #2 ;stick slot, drive, vol on scrn
JSR H31EE
JSR H44D7 ;go check for keypress...
CMP #ESC ;is it <esc>?
BEQ H4035 ;yes, just exit...
LDA #2 ;go get right slot and volume...
JSR H4630
LDA #1 ;next operation to RWTS is read
STA H3805
LDA H468E ;get the proper track and sector
STA H37FD ;to read (this was stored when
LDA H468F ;the program initially started)
STA H37FE
LDA #$B5 ;buffer is at $B500
STA H3802
JSR H3820 ;go do it!

LDA HB500 ;look for the pattern:
CMP #$38 ;$38 $20 $DA at the front of
BNE H3FB8 ;the buffer. These values change
LDA HB500+1 ;as the program is reassembled
CMP #$20 ;it is also a pain if one wants
BNE H3FB8 ;to convert this to ProDOS or
LDA HB500+2 ;add functions of one's own.
CMP #$DA ;These bytes are in the front
BNE H3FB8 ;of the 10th sector

LDA #2 ;next operation is write
STA H3805
LDA #$41 ;point the RWTS buffer to $3841
STA H3801
LDA #$38
STA H3802
JSR H3820 ;go write it out
LDA #0 ;zero the lo byte of the buffer
STA H3801
H4035 JSR HOME ;clear the screen, redo screen
JMP H3F56

H403B JSR DISPLAY
HEX 81091C ;display message #9 in mess table
BRK
LDA H391B ;is it off or on?
CMP #$FF
BNE H404B ;no, go show it as "off"
LDA #0 ;yes, show it as "on"
H404B JSR H4069 ;go display either "on" or "off"

JSR DISPLAY
HEX 810A1C ;display #10 - "Language Card"
BRK
LDA H390F ;is it off or on?
JSR H4069 ;go print its status
JSR DISPLAY

HEX 810B1C ;display #11 - "//e Aux Mem"
BRK
LDA H3915
JSR H4069 ;show either "off" or "on"
RTS

H4069 BMI H4076 ;is it $80-$FF? yes, show "off"
JSR DISPLAY ;no, $00-$7F, show "on"
INV 'ON'
ASC "/OFF"

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```

BRK
RTS

H4076 JSR DISPLAY ;show "off" in inverse
ASC "ON/"
INV 'OFF'
BRK
RTS

*-----

QUIT LDX #1 ;select source or target
JSR H3221
TAX
LDA H4684,X ;get slot to boot from
ORA #$C0 ;make a slot address from it
STA H40CA+2 ;make sure we boot from that
JSR HOME ;slot...
JSR DISPLAY ;stick this on screen
HEX 810906
ASC "Another fine program from:"
HEX 810B0A
ASC "The Assembly Line..."
BRK
H40CA JMP $C600 ;go boot-Holy Smoke we're done!

H40CD LDA #0 ;get the target slot
JSR H4630
LDA #24 ;bottom of screen is true bott
STA WNDBTM
JSR HOME
JSR DISPLAY ;stick this on screen
HEX 810611
ASC "Unpack"
HEX 810711
ASC "-----"
HEX 810C00
HEX 82AD28 ;line of $28 dashes ($AD)

HEX 811600
HEX 82AD28 ;'nother line of $28 dashes
ASC " Use arrows and "
ASC "<cr> to select file"
BRK

JSR H4279 ;read catalog into $800,$900...
BNE H4153 ;there ARE file, go do routine
JSR DISPLAY ;hurray! no files!
HEX 811004
ASC "There are no files on this disk"
HEX 8D8D ;(add 2 cr's for emphasis)
BRK
JSR H45BE ;check for keypress
H4150 JMP H30D6 ;leave

H4153 LDA #0
STA CH
H4157 STA H4194 ;first filename to be inverted
JSR H4386 ;draw entire screen
H415D JSR H44D7 ;wait for keypress
CMP #FA ;is it a forward arrow?
BEQ H417C ;yes, move highlight down
CMP #CTRLJ ;is it a down arrow?
BEQ H417C ;yes, move highlight down
CMP #BS ;is it a backspace?
BEQ H4188 ;yes, move the highlight up
CMP #CTRLK ;is it an up arrow?
BEQ H4188 ;yes, move the highlight up

CMP #ESC ;is it <esc>?
BEQ H4150 ;yes, leave
CMP #CR ;is it a <cr>?
BNE H415D ;no, keep looking for keys
LDA H4194 ;get current file highlighted
RTS

H417C LDX H4194 ;which 1 is highlighted?
INX ;increment it (next down)
CPX $F2 ;are we about to hl the last 1?
BGE H415D ;yes, don't touch it, go back
TXA ;retain file # highlighted, ret
JMP H4157 ;go back, redraw ENTIRE screen
H4188 LDX H4194 ;get current file #
DEX ;decrement it (next up)
CPX #$FF ;have we gone back to the first?
BEQ H415D ;yes, don't touch it, just exit
TXA ;retain file highlighted
JMP H4157 ;redraw the ENTIRE screen

H4194 BRK ;current file highlighted

*-----

CATALOG LDX #1 ;go get source or target
JSR H3221
JSR H4630
LDA #6
STA WNDTOP
LDA #24
STA WNDBTM
JSR HOME
JSR H4279
JSR DISPLAY
ASC "Catalog of S"
BRK
LDA H37FA
LSR
LSR
LSR
LSR
ORA #$B0
JSR H44CD
JSR DISPLAY
ASC ",D"
BRK
LDA H37FB
ORA #$B0
JSR H44CD
JSR DISPLAY
ASC ",V"
BRK
LDA #0
STA H4620
LDA H3807
STA H461F
JSR H45DA
JSR H4621
JSR DISPLAY
HEX 8D8D
BRK
LDA #$0F
STA H4445
LDA #0
STA H4194
H41FC CMP $F2
BEQ H422B
ASL

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TAX
LDA H0900,X
STA IOB
LDA H0900+1,X
STA IOB+1
JSR H44A7
JSR CLRCCR
DEC H4445
BNE H4223
JSR H44D7
CMP #ESC
BEQ H422B
LDA #$0F
STA H4445
H4223 INC H4194
LDA H4194
BNE H41FC
H422B JSR DISPLAY
HEX 8D
ASC "Free sectors: "
BRK
LDA H4277
STA H461F
LDA H4278
STA H4620
JSR H45DA
JSR H4625
JSR H45BE
JMP H30D6

H4256 LDA #0
STA H4277
STA H4278
LDY #$38
H4260 LDA HB500,Y
LDX #8
H4265 ASL
BCC H4270
INC H4277
BNE H4270
INC H4278
H4270 DEX
BNE H4265
INY
BNE H4260
RTS

H4277 BRK
H4278 BRK

H4279 LDA #1 ;next operation by RWTS is read
STA H3805
LDA #0
STA IOB
LDA #$0A
STA IOB+1
LDA #0 ;pointer
STA $F2
JSR H380E ;read vtoc into $B500
JSR H4256 ;calculate # of free sectors
H4290 LDA HB500+1 ;track # of first catalog sector
BEQ H42DB ;is it a zero (yes! got problems)
STA H37FD ;store it here (IOB table)
LDA HB500+2 ;sector # of first catalog sector
STA H37FE ;store it in IOB table
JSR H3820 ;go get the sector
LDX #$0B ;get file descriptive entry
H42A3 STX H4383 ;store it for future fooling

LDA HB500,X ;get the track of first T/S list
BMI H42D0 ;greater than $7F, then deleted file
BEQ H42DB ;empty file entry (must be last file!)
JSR H42E1 ;go create entry in $A00 table
LDX $F2
LDA IOB
STA H0900,X
LDA IOB+1
INX
STA H0900,X
INX
STX $F2
TYA
CLC
ADC IOB
STA IOB
LDA IOB+1
ADC #0
STA IOB+1
LDA $F2 ;are we done?
BEQ H42DB ;yes, goto the end
H42D0 LDA H4383
CLC
ADC #$23 ;set up the pointer to next file
TAX ;description
BCC H42A3 ;everything is OK, get next FDE
BCS H4290 ;everything is NOT OK, reread
H42DB LDA $F2
LSR ;multiply by dec 10
STA $F2
RTS

H42E1 LDY $F2 ;file #
STA H0800,Y ;store it someplace safe
LDA HB500+1,X ;get sector of first t/s list
STA H0800+1,Y ;store it at $801, indexed with Y
LDA #$AA ;char for "*"
LDY HB500+2,X ;get file type and flags
BMI H42F5 ;oops, must be locked, use a "*"
LDA #SPC ;a space will do...(unlocked)
H42F5 LDY #0 ;store it in the $A00 buffer
STA (IOB),Y
INY
LDA HB500+2,X ;get the filetype & flags
AND #$7F ;chop off locked flag if set
LDX #$18 ;index to length of file type t
H4301 ASL ;shift, is it that type of file?
BCS H4309 ;yes, go label it in $A00
DEX ;nope, make the x-reg point at
DEX ;the next 3 letter file type
DEX
BNE H4301 ;if tried all, loop back...
H4309 LDA TYPES,X ;now, move the 3 letter descr
STA (IOB),Y ;downto the catalog buffer
INX
INY
CPY #4
BLT H4309

LDA #SPC
STA (IOB),Y ;put a space in buffer after
INY ;the file type (whew!)
LDX H4383 ;get multiple of this file
LDA HB521,X ;get lo byte of file length
STA H461F ;store it here
LDA HB521+1,X ;get hi byte of file length
STA H4620 ;store it here
JSR H45DA ;break up the file length into

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```

;decimals in $6F,X
LDX #2
H432D LDA $6F,X
ORA #$B0
STA (IOB),Y ;put broken up file length into
INX ;$A00 buffer as decimal file
DEX ;length
BPL H432D

LDX H4383 ;get multiple of file we're on
INX
INX
INX
STX H4384
TXA
CLC
ADC #$1D
TAX
LDA #SPC
STA (IOB),Y ;put another space before file name
INX
H434A CMP HB500,X ;do we have a spc at the end of
BNE H4352 ;the filename? no, part of filename
DEX ;no, decrement it, keep looking for
BNE H434A ;length of filename
H4352 INX
STX H4385 ;x is the length of filename
LDX H4384
H4359 LDA HB500,X ;now, fetch chars to $A00 until
STA (IOB),Y ;you reach the length of the
INX ;filename
INX
CPX H4385 ;have we reached the end?
BLT H4359 ;no, go get another char

LDA #0
STA (IOB),Y ;store a $00 as a marker...
INX ;return to sender
RTS

TYPES ASC "TXTINTBASBIN S R A B "

H4383 BRK
H4384 BRK
H4385 BRK

H4386 STA H4444 ;current highlighted file here
LDA #0 ;zero this out
STA H4443
LDA $F2 ;how many files do we have?
CMP #9
BLT H43B2 ;less than 9! don't bother with
;scrolling...
LDA H4444 ;is the highlighted item < 5?
CMP #5
BLT H43B2 ;yes, go print 'em
SEC
SBC #4 ;no subtract 4 to find #'s of the
STA H4443 ;filenames to be on screen

CLC ;is the next filename at the bottom?
ADC #9
CMP $F2
BLT H43B2 ;yes, print 'em
BEQ H43B2 ;yes, print 'em
LDA $F2 ;no, print the last 9 files.
SEC
SBC #9

STA H4443
H43B2 LDA H4444 ;# of file to be highlighted * 2
ASL
STA H4444 ;store it
LDA #9 ;file count starts at 9 works down
STA H4445
LDA H4443 ;are there any files above display?
BNE H43D0 ;yes, print "[more]"
JSR DISPLAY ;no, dash out the [more] if there
HEX 810C11
HEX 82AD06 ;print 6 dashes
BRK
JMP H43DD

H43D0 JSR DISPLAY ;stick it onscreen...
HEX 810C11
ASC "[more]"
BRK

H43DD LDA #13
STA CV
JSR VTAB
LDA #0
STA CH
H43E8 LDA H4443 ;get the # above the screen
ASL ;multiply by 2
TAX
LDA H0900,X
STA IOB
LDA H0900+1,X
STA IOB+1
CPX H4444 ;is this the one? (highlighted?)
BNE H43FF ;no, don't set inverse
JSR SETINV ;yes, invert it
H43FF JSR H44A7 ;print the file description!
JSR SETNORM ;normsl printing
JSR CLRCR
DEC H4445 ;the number to print becomes -1
BEQ H4422 ;down to 0? yes, go check [more]
INC H4443
LDA H4443 ;have we done the last filename?
CMP $F2
BLT H43E8 ;no, go print another
LDX H4445 ;have we printed last 9 filenames?
BEQ H4422 ;yes, write [more] if needed
H441C JSR CLRCR
DEX
BNE H441C
H4422 LDX H4443 ;how many filenames above display
INX
CPX $F2 ;if less than total # of files,
BLT H4435 then print [more]
JSR DISPLAY
HEX 811611 ;vtab 22, htab 17
HEX 82AD06 ;print 6 dashes over [more]
BRK
RTS

H4435 JSR DISPLAY
HEX 811611 ;vtab 22, htab 17 print "[more]"
ASC "[more]"
BRK
RTS

H4443 BRK
H4444 BRK ;current highlighted file #
H4445 BRK ;9 downto 0 # of filenames so far

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DISPLAY PLA ;get where we came from
STA IOB ;put it in there
PLA ;hi byte of where we were
STA IOB+1
TYA
PHA ;save the y-reg as well
H444E LDY #1
H4450 LDA (IOB),Y ;get next character in sequence
CMP #0 ;is it a $0?
BEQ H4494 ;yes, leave print routine
CMP #$81 ;is it a $81?
BEQ H4467 ;yes, continue normally
CMP #$82 ;is it an $82?
BEQ H447B ;yes, print a lot o them
JSR H44CD
H4461 JSR H44A0 ;increment the return pointer
JMP H4450 ;go get the same char, print it

H4467 JSR H44A0 ;increment the return pointer
LDA (IOB),Y ;next char is vert cursor pos
STA CV
JSR H44A0 ;increment the return pointer
LDA (IOB),Y ;next char is htab
STA CH
JSR VTAB ;go set the vtab
JMP H4461 ;check the next sequence of chars

H447B JSR H44A0 ;inc pointer to next character
LDA (IOB),Y ;grab next char-save it on stack
PHA
JSR H44A0 ;increment the pointer
LDA (IOB),Y ;get the next char
TAY ;# of these chars to print
PLA ;get the char to print
H4488 JSR H44CD ;mask it, then print it
DEY ;clear from right to abs left
BNE H4488 ;are we done? no, do another...
JSR H44A0 ;increment the pointer again
JMP H444E ;reset the y-reg, keep moving...

H4494 JSR H44A0 ;set it to go past the zero...
PLA ;get the y-reg off the stack
TAY
LDA IOB+1 ;get high byte of where we must
PHA ;return to, push it
LDA IOB ;get lo byte of return address,
PHA ;push it (becomes return address)
RTS ;go to the address we just pushed
;in this case, address after the
;00 end-of-message marker

H44A0 INC IOB ;increment the next character
BNE H44A6 ;pointer so we get the right
INC IOB+1 ;chars and return properly to
H44A6 RTS ;right after the hex 00.

H44A7 LDY #0
H44A9 LDA (IOB),Y ;get another character to print
BEQ H44B3 ;have we reached the $00 yet?
;if so, print it...
JSR H44CD ;mask it, then print it
INY ;get next character to print
BNE H44A9 ;go print it
H44B3 RTS ;leave

H44B4 ASL
TAY
LDA H32D1,Y

STA IOB
LDA H32D1+1,Y
STA IOB+1
LDY #0
H44C2 LDA (IOB),Y
BEQ H44CC
JSR H44CD
INY
BNE H44C2
H44CC RTS

H44CD CMP #$E0 ;is it already capital?
BLT H44D4 ;yes, go print it
AND H391B ;no, hopefully make it caps...
H44D4 JMP COUT ;gp print it!

H44D7 JSR H44F8 ;wait for a key press...
BCC H44D7 ;nope, none pressed...
RTS ;yes! wow!

H44DD TYA
PHA
LDY CH
LDA (BAS),Y
PHA
AND #$3F
STA (BAS),Y
JSR H44D7
STA H44F7
PLA
STA (BAS),Y
PLA
TAY
LDA H44F7
RTS

H44F7 BRK

H44F8 LDA KEY ;was a key pressed?
BMI H4511 ;yes! bly me!
INC H4516 ;no...
BNE H450F
INC H4517 ;every ($FF-$F8)*256 checks,
BNE H450F ;flash them symbols...
JSR H4564 ;keep flashing those symbols...
LDA #$F8 ;reset the counter
STA H4517
H450F CLC
RTS

H4511 STA STROBE
SEC
RTS

H4516 BRK

H4517 SED
H4518 LDX #0
H451A JSR H44DD
JSR H3CC1
CMP #CR
BEQ H4549
CMP #BS
BEQ H454F
CPX #$19
BGE H451A
CMP #CTRLJ
BNE H4534

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LDA #$DB
BNE H4540
H4534 CMP #$8C
BNE H453C
LDA #$DC
BNE H4540
H453C CMP #SPC
BLT H451A
H4540 STA H4710,X
JSR H44CD
INX
BNE H451A
H4549 LDA #0
STA H4710,X
RTS

H454F CPX #0
BEQ H451A
JSR H44CD
LDA #SPC
JSR H44CD
LDA #BS
JSR H44CD
DEX
JMP H451A

H4564 PHA ;here begins the routine central
TXA ;to the moving of characters
PHA ;across the screen...
LDX #$10
H4569 LDA $0401,X
STA $0402,X
LDA $0601,X
STA $0602,X
DEX
CPX #1
BNE H4569
LDA #":" ;left scrolling character
LDX H45BD
CPX #3
BLT H4585
LDA #SPC
H4585 STA $0403
STA $0603
LDX #$16
H458D LDA $0400,X
STA $03FF,X
LDA $0600,X
STA $05FF,X
INX
CPX #$26
BNE H458D
LDA #":" ;right side scrolling character
LDX H45BD
CPX #3
BCC H45A9
LDA #SPC
H45A9 STA $0424
STA $0624
DEC H45BD
BPL H45B9
LDA #3
STA H45BD
H45B9 PLA
TAX
PLA
RTS

H45BD HEX 03

H45BE JSR DISPLAY ;put this on screen
ASC " <press a key>"
BRK
JSR H44D7 ;wait for a keypress,then return
RTS

H45DA LDA #0
LDX #4
H45DE STA $6F,X
DEX
BNE H45DE
LDX #4
BNE H45E9
H45E7 INC $6F,X
H45E9 LDA H461F ;get lo byte
STA H461D
LDA H4620 ;get hi byte
STA H461E
H45F5 SEC ;what this routine does is this:
LDA H461D ;takes a 2 byte hex # contained
SBC H4613,X ;in $461F and $4620 and converts
STA H461F ;it to a 5 digit decimal #
LDA H461E ;contained in $6F to $73
SBC H4618,X ;each hex digit in these memory
STA H4620 ;addresses represents a decimal
BCS H45E7 ;number, though...
DEX
BNE H45F5
LDA H461D
STA $6F
RTS

H4613 HEX 01 ;table for hex to dec conversion
HEX 0A ;10
HEX 64 ;100
HEX E8 ;1000
HEX 10

H4618 BRK
BRK
BRK
HEX 03
HEX 27
H461D BRK
H461E BRK

H461F BRK ;lo byte of file length
H4620 BRK ;hi byt of file length

H4621 LDX #2
BNE H4627
H4625 LDX #3
H4627 LDA $6F,X
JSR PRHEX
DEX
BPL H4627
RTS

H4630 TAX ;put device (0 or 1) in A
LDA H4684,X ;get the required slot
ASL ;now, multiply our choice by 16
ASL
ASL
ASL
STA H37FA ;store in RWTS table for slot
LDA H4687,X ;get drive

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STA H37FB ;store in RWTS table for drive
LDA H468A,X ;get volume
STA H37FC ;store in RWTS table for volume
JSR H466D ;display source over target
TXA ;is it $0 (source) we want?
BNE H465B ;no! (rats) go see if it's for
JSR DISPLAY ;the target, else display source
HEX 811102 ;inverted
INV 'SOURCE'
BRK
RTS

H465B CPX #1 ;is it for the target drive?
BNE H466C ;nope, just return
JSR DISPLAY ;yes, invert it.
HEX 811202
INV 'TARGET'
BRK
H466C RTS

H466D JSR DISPLAY ;display "SOURCE:" over "TARGET"
HEX 811102
ASC "SOURCE"
HEX 811202
ASC "TARGET"
BRK
RTS

H4684 HEX 06 ;source slot
H4685 HEX 06 ;target slot
HEX 00
H4687 HEX 01 ;source drive
H4688 HEX 02 ;target drive
BRK

H468A HEX 00 ;source volume
H468B HEX 00 ;target volume
BRK

H468D BRK ;1=one drive - 0=more than one
H468E BRK
H468F BRK

H4690 LDA H468D ;do we have more than 1 drive?
BEQ H46B1 ;yes, return
JSR DISPLAY ;no, display this...
HEX 810C0A ;htab 12, vtab 10
ASC "Insert "
INV 'SOURCE'
ASC " disk"
BRK
JMP H46D0 ;go get a keypress, then return

H46B1 RTS

H46B2 LDA H468D ;do we have more than 1 drive?
BEQ H46B1 ;yes, just return
JSR DISPLAY ;nope, display this on screen
HEX 810C0A
ASC "Insert "
INV 'TARGET' ;next, get a keypress,
ASC " disk"00 ;continue on, then return

H46D0 JSR H3CF2 ;go turn off the drive
JSR H44D7 ;check for keypress, move stuff
JSR H3CC1 ;check for escape, if so, menu
JSR DISPLAY
HEX 810C05 ;vtab 12, htab 5, print

HEX 82 ;39 spaces to wipe out the line
DCI " '"
BRK
RTS

H46E4 LDA H468D
BNE H4690
JSR DISPLAY ;stick this on the screen
HEX 810C05
ASC "Insert "
INV 'SOURCE'
ASC " and "
INV 'TARGET'
ASC " disk"
BRK
H470D JMP H46D0

H4710 HEX 0000000000000000
HEX 0000000000000000
HEX 0000000000000000

LST OFF

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At the main menu, the available options are displayed. Most of these will require no explanation. Others will be briefly explained.

- OPTION 1: Pack a disk. This will create a single file version of the disk you wish to send over the phone. It will be compatible with Dalton's 2.1 file, and follow the same naming format (i.e. Filename<XXX>).
- OPTION 2: Unpack a disk. After selecting this option, you will be shown a portion of the Catalog on the disk in the source drive (as many files as will fit on the screen). A light bar can be moved up and down until you reach the file you wish to unpack. If there are more files than can be displayed on the screen, the message "[more]" will be displayed above and/or below the files on screen to indicate the location of the remaining files. When you reach the file, hit [RETURN] and the file will be unpacked. Hitting ESC will bring you back to the main menu.
- OPTION 3: Catalog a disk. After selecting this option, select the drive to Catalog. Free space will be displayed at the bottom.
- OPTION 4: Format a floppy disk. You may initialize the target disk using this option.
- OPTION 5: Change the source and target disks. These default to slot 6, drive 1, volume 000. If these are satisfactory, no changes will be needed.
- OPTION 6: Reconfigure. This option will allow you to configure DDD 2.1E to your own needs. Here is where lower case can be disabled, and more importantly, the buffer size can be changed. The default size for the buffer is the maximum memory available (unless previously configured to a different size). There are two main reasons for changing the buffer size. The first is that, if your DOS is residing in the language card, you will not want to use the language card's memory, or DOS will be overwritten, and you will have a headache instead of a packed disk. The second, real reason for this option is to allow people with Siders to disable auxiliary memory. We can hear the Sider owners chanting in unison, "Why would I want to do something like that?" Unfortunately, since no one donated a Sider to the Assembly Line, we can not figure out a way to make DDD 2.1E work with both a Sider and auxiliary memory. If you wish to donate a Sider or information on how to make it work, see the number at the bottom of this doc. Remember: if you wish to use DDD 2.1E and a Sider, you MUST disable auxiliary memory.
Note: After re-configuring DDD 2.1E, if you save it to disk, it MUST be saved to the same disk it was loaded from.
- OPTION 7: Reboot. You must reboot to leave the program, since DOS has been clobbered. After selecting this option, you can either boot from the source or target slot (it will always boot from drive 1). This is convenient if you wish to boot your hard drive instead of your floppy drive.

Error Codes:

Since DOS is not active, if a DOS error occurs, instead of receiving a DOS error message, you will receive an RWTS error. Here is a summary of the error codes and what they mean:

Error #:	Cause of error:
\$08	Error during initialization
\$10	Write protect error
\$20	Volume mismatch error
\$40	I/O error

Notes to hard drive owners:

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DOCUMENT ddd.2.1e

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Disk Disintegrater [sic]][.1 Enhanced Docs

Disk Disintegrater][.1 Enhanced By Ziopoth

Docs written by Data Latch & Edited by M. Hata

The History of Packing:

In the beginning, most Apple programs were single files. In those days, all pirates had to do to upload and download programs was to call up an AE line and send the program across. But as software became more sophisticated, programs began to require full disks. To send an entire disk just could not be done with AE! So pirating software had to get more sophisticated to keep up with the new programs. At that point, the Stack (of Corrupt Computing) wrote his first Disk Splitter, which was a program that split a full disk into a sector map and 1-6 binary files. This made it possible to upload a full disk with AE by first splitting it, then unsplitting it back to its original state after downloading. Although this program ignored unused sectors, it did no data compression. Thus began the succession of programs that ultimately led to Disk Disintegrator][.1 Enhanced.

Disk Splitter worked, but it was unfriendly and the files it created took up a lot of disk space. It was followed by a number of similar programs which began to use various data compression methods. First there was Disk Rigger 1.0 and the its modifications (none of which were successful). Although it did compression and some fancy tricks, it simply did not work. Other programs were Disk Slicer by the Rocker and Disk Divider by M. Hata. Disk Rigger 2.0 was the next widely accepted program after Disk Splitter, but it had been the standard for only a short period when Dalton came out with his revolutionary Dalton's Disk Disintegrator 1.0. This program had a bug when working with][e's with one drive, so DDD 1.1 was released. Because its data compression techniques created files which were smaller than those of any other splitting/packing program, Dalton's set a new standard which lasted for quite some time. The better the compression, the less space was required to store the split files and the faster they could be transferred. Then a challenger invented a new technique: instead of splitting a full disk into several binary files, it combined these files into one long file. Dalton incorporated this idea into his next major revision: DDD 2.0. DDD 2.0 had another big bug. It would not compress a disk if the end of track \$22 was blank (the most common reason being a TSL on that track). The bug was fixed in DDD 2.1, which is the current standard. Everyone is happy with this version--unless you own a hard drive, and can not use your volumes conveniently. To correct this problem, the Shadow wrote a program called Disk Cruncher (current version 1.1) which is a nice program (much like Dalton's in many respects), that has light-bar file selection and volume support, but a less efficient packing routine. The next entry into the field was Krackerjack's Fireworx. Krackerjack has shown his programming expertise through Krackerjack's Autograph, but his packer simply doesn't stack up against Dalton's in speed, data compression, and reliability. It took about six and a half minutes to unpack a fairly full disk, and the disk in question did not work after unpacking!

Finally, then, we are up to the present moment, as The Assembly line proudly unveils: Disk Disintegrater][.1 Enhanced. The screen has vaguely the same look as Dalton's Disk Disintegrater 2.1, but the only internal similarity is the incredibly efficient packing packing algorithym written by Dalton.

Actual Docs:

This program will probably benefit you more than anyone else. All possible efforts were made to accommodate you. The light-bar file selection and volume support make it a breeze to use with your hard disk. Sider owners: make sure to read the above note, and do not rant and rave about a bug in DDD 2.1E that does not exist. You were informed here! Also notice also that this program does work correctly with large volumes, unlike DDD 2.0+.

Things not to do with your hard disk:

- 1) Do not use the Format option on a volume.
 - 2) Do not unpack a disk to a volume.
- This will not make you or your users very happy.
- 3) Do not pack a large volume (you CAN pack a small volume!).

Credits:

Dalton, for the original programs, and the packing routine in DDD 2.1E.
 Snowman Inc., for the disassembly of DDD 2.1.
 Wozniak and Jobs, for you-know-what.
 The Assembly Line, for giving us something else to give credit to.
 The authors, for giving credit where credit is due.

If you wish to contact the Assembly Line, call:
 The Third Dimension : 10 meg AE/Cat-Fur/BBS
 [214] 296-3660

Another ware from: The Assembly Line:

Copy][+ HD. Supports volumes for you hard drive owners.

In the process from: The Assembly Line:

Cat-Fur X.0. If you wish to help with this enormous task, please contact Ziopoth or Data Latch on the Third Dimension. It is disassembled, but we need additional help in commenting.

Members of the Assembly Line:

(in alphabetical order)
 Data Latch
 M. Hata
 Spectre

Ziopoth

* Note: Dalton misspelled "Disk Disintegrator" as "Disk Disintigrater," and since this is a modification to his program, we maintained his misspelling.

Distributed by The Watcher
 (official distributor for the Assembly Line)

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DOCUMENT ddd.2.5r

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File and Docs written by: The Screamer

April 4, 1987

Explanation:

This file will point out the differences between the many packing programs and hopefully introduce the new STANDARD in packing, DDD 2.5R.

Here's a list of the current (most recent) packers:

DDD 2.1E - Enhanced DDD makes use of 128k and lightbars
 DDD 2.5 - Further enhancement of 2.1E which includes a Digi-Check
 DDD 2.5R - The most recent packing program, is EXACTLY the same as DDD 2.5 except that it creates an "R" type file, not a "B".

As many of you know when DDD 2.5 or DDD 2.1E (referred to from now on as DDD 2.5) pack they create a Binary or "B" type file. However, DDD 2.5R creates a Relocatable or "R" type file, but this is done for a reason. With the advent of the IIGS many people have been purchasing 2400 baud modems or simply buying full duplex 1200 baud modems (such as Hayes and USRobotics). Well the standard transferring program is Ascii Express (AE) which uses XMODEM protocol. There are a number of ProDOS compatible XMODEM transfer programs which are compatible with AE, including DOS. What this means is that let's say you are calling a board using AE:MOUSETALK under ProDOS and the board you are calling is running AE (DOS) remotely. Well once you enter AE you can still download or upload even though you are in ProDOS, you see all of the ProDOS XMODEM transfer programs automatically convert the file you are sending/receiving to ProDOS or to DOS. So once you got all that let's go on to say that you see something that you want to download, like Defender of the Crown, but it is packed using DDD 2.5. Well as I stated above, even though you are in ProDOS you can still transfer with DOS boards because of the built in converter in the ProDOS transfer programs. But, there is a problem as many of you know not all the files that are in DOS can convert to ProDOS perfectly or vice-versa. Well the Binary or "B" file is one such file, and this is what DDD 2.5 packs files into. So even though you COULD download it into ProDOS the file would be garbled as a result of the bad converting. This may seem very complicated but I will go over it again near the end of this file.

This problem has been solved, but only partially. You see, there has been a new packer created DDD 2.5R which creates "R" type files which can be converted back and forth between DOS and ProDOS without any mess ups, but not many people realize this problem and are thus not using the new DDD. Well if everyone would begin to use the new DDD 2.5R then anyone using a ProDOS transfer program could download any ware packed with DDD because the built in converter in the transfer program would no longer mess up the packed files like it used to with the "B" type files.

Whew! Well the point is simple, DDD 2.5R should become the new standard, not because I say so or anyone else - simply because it is better. DDD 2.5R is no different from DDD 2.5, the ONLY difference between the two is that 2.5R creates a Relocatable (R) filetype instead of the normal Binary (B) filetype. The "R" filetype allows users of either DOS to download/upload any ware without worrying whether it will convert correctly or not, as it converts perfectly.

Along with this file I am going to re-upload DDD 2.5R in case some people over looked it as I did at first and I am also going to upload a DDD CONVERT UTILITY program which will be explained in detail a little later.

People who own Apple IIGS's and are planning to buy any external modems are "stuck between a rock and a hard place." Because everyone knows that the IIGS has a built in Serial port for external modems, but the only XMODEM

programs to support this are all written in ProDOS and none for DOS are planned in the future. This means that even though the IIGS has a built in Serial port for modems, IIGS user's would have to purchase a Super Serial Card and use this instead simply because AE (DOS version) only works with the Super Serial Card and not the built in port. Not only is this dumb it's also costly. An approximate cost for a Super Serial Card is \$120.00 and plus a cable for around \$20.00. Well if they used the built in port it would only require a \$35.00 cable instead of \$140.00 for a card and cable. Now, on the other hand, if people started to use DDD 2.5R then IIGS user's who are using a ProDOS XMODEM program and the built in port (remember the only XMODEM transfer programs who recognize the built in port are all in ProDOS) can still be able to download and upload all packed files because they can be converted perfectly.

Now let's make up two examples to further illustrate what I am trying to point out.

Ex.#1:

Jim owns a IIGS, and a USRobotics 2400 Courier modem connected to his IIGS via the built in port. Well Jim calls up Wares Palace, the nation's #1 wares board, and decides to download BUREAUCRACY, the hottest new ware out in the country. Jim goes to the transfer section, finds BUREAUCRACY on a volume and then decides to start downloading. Well unfortunately since Wares Palace is using AE (DOS) and Jim is currently in AE:MOUSETALK he cannot download it because it was packed with DDD 2.5 (not R). If he had downloaded it not only would he have his copy not have worked, but he also would have wasted his last remaining xfer credits. What can Jim do? Not much of anything unless someone sends it to him packed with DDD 2.5R or with a "R" filetype (more later).

Ex.#2:

Jake (Jim's brother) is now using the IIGS and calls up Wares Palace East Elite because Jim is not cool enough to get on. So then Jake decides to take a shot at downloading BUREAUCRACY, I mean it's already been out for 4 hours and he doesn't even have it. So he enters the transfer section and as before the board is in AE (DOS) whereas he is in AE:MOUSETALK, but this time he sees that some nice fellow has packed it into an "R" filetype so quickly without wasting anymore time to think Jake starts to download it to his unidrive. After 800 blocks he is relieved to have the ware, so he hangs up and now has to unpack it. Well, the packed file is in ProDOS how can it be unpacked? The Answer: Boot up Copy][+ 6.x+ and convert the file to DOS by copying it from the unidrive to any DOS disk. Now Jake has the packed file in DOS so he boots up DDD 2.x (any version of DDD 2.x even DDD 2.1 can unpack DDD 2.5R files as well as DDD 2.5R itself). After unpacking Jake is thoroughly enthralled with his Gnu ware and decides to upload it to Wares Palace Southeast but he has deleted his packed file of it, so he boots up his only DDD, version 2.1E. (Jake never needed 2.5R because he only downloads, he doesn't ever pack wares!) Well Jake has packed the ware and he now uses Digi-Check // to tack the Digi-Check onto the end of the filename. Now Jake has a packed file which looks exactly as if it were packed with DDD 2.5. Jake now decides he needs it to be a "R" filetype so he uses DDD CONVERT UTILITY to change the filetype from "B" to "R". Jake now has gone through a long ordeal which noone should have to, because Jake could have used DDD 2.5R to accomplish all of the above. Now Jake can upload the ware.

The end result is this: From now on pack all files using DDD 2.5R and if you are a sysop and someone uploads a packed file that is a "B" filetype the sysop then uses DDD CONVERT UTILITY to change its filetype to "R". The following are docs to DDD CONVERT UTILITY.

DDD CONVERT UTILITY is a program which was written in order to help DDD 2.5R become more popular and the current standard. The program is very straightforward and when run it prompts you for the appropriate Slot, Drive, and Volume to use. After this it will ask you for the entire filename, if you are not sure press [RETURN] and the current catalog will be displayed. When you know the name type it in exactly and DDD CONVERT UTILITY will find the file, change it's filetype to "R" and exit you to DOS. Very simply, this program changes a files filetype from "B" to "R", but since I did not know of any simple programs that do this I decided to write one, besides it only took around 2 hours. After the file has been converted to "R" filetype it can be

converted back and forth between DOS and ProDOS without fear of messing it up as it remains intact throughout all of the conversions. To exit the program press [ESCAPE] at any time and to re-enter press "&". The program works great with hard drives as well as normal drives, simply press [RETURN] when prompted for the appropriate volume if you are using a floppy.

Closing Comments:

The filetype does not matter at all to DDD 2.1E, DDD 2.5, or DDD 2.5R - they can unpack any filetype, which means that they all can unpack each others packed files. With DDD 2.5R and the DDD CONVERT UTILITY there is no reason why there should ever be a "B" type packed file on any board, as they can easily be

changed. From now on I hope that everyone understands and decides to use DDD 2.5R to pack files and in the future I plan on writing a universal converter for any filetype, like Text and Applesoft, which will also convert back as well.

If you do not understand this then please contact me on any board I am on or specifically:

Apple Tree //.....305/556-6858
Rock'n Roll Harbour.....305/821-2232
Capital Connection][.....716/473-8051

The Screamer.

Also if it matters, Apple Tree // will begin to support DDD 2.5R and the "R" packed files shortly so I hope all other boards contend as well. And this file did not mention DDD 2.6 or DDD ProDOS because I do not have either one of them, but the point stands that from now on all packed wares should be in the "R" filetype.

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DOCUMENT ddd.2.7

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Disk Disintegrator Version 2.7 Release Notes

New Features:

FORMAT: A new format option now supports 35, 36, and 40 track disks. The 40 track option frees up 608 sectors, but will only work correctly on Non-Apple drives. Most Apple drives do, however, support the 36 track option which formats 544 sectors. If those two fail (I/O Errors) then you can use either of the 35 track formats. The first of these formats a disk with the standard 528 sectors, while the second formats a 528 sector disk, but uses 14 sectors usually allocated to the catalog, giving you 542 sectors. The second format only allows you 7 filenames on the disk.

DELETE: This option is selected from the main menu, and simply lets you delete files. You will be prompted for source or target, and then can select the files to delete with the lightbar. Press <ESC> when you are done.

FASTLOADER: DDD 2.7 is now equipped with a fastloader and reads itself in much faster than the old version. This loader will work in Diversi-DOS,

Standard DOS 3.3, Sider DOS, and probably all other versions of DOS 3.3 available.

FILETYPE: To make ProDOS conversions of packed files easier, DDD 2.7 now writes its object file to disk as an "R" filetype (Relocatable). This originally appeared in The Screamer's DDD 2.5R, and was done in good taste, and for a good reason.

Apology:

We would like to apologize for the little bit of protection added to the code for DDD. The reason for adding this protection is all the people with sector editors who think releasing a new version of a program means changing the version number and names on the title page.

If you want to make any modifications to DDD, contact Radioactive Snail or Data Latch on the Last Dimension and we will see about getting you the source code so you can do it right.

The Last Dimension AE

10 meg, 1200/2400 baud, 24 hours

214/827-5249

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DOCUMENT ddd.2.plus

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DDD][+ DOX

PATCH BY: DON KOENIG!

BECAUSE OF THE PROBLEM DDD][PRESENTED TO HARD DRIVE SYSOPS WHO USE THE SLOT/VOLUME METHOD, DDD][BY DALTON WAS PATCHED SO THAT AT BOOT UP, YOU CAN DEFINE THE SLOT/VOLUME OF THE SOURCE AND TARGET. THIS IS EASY, BUT THERE ARE A FEW NOTES YOU SHOULD REMEMBER BEFORE USING DDD][+.

[1] WHEN DDD][+ ASKS YOU TO INPUT THE VOLUME FOR EITHER THE SOURCE OR TARGET, IT MUST *ALWAYS* BE THREE CHARACTERS LONG. EXPAMPLES:

VOLUME 1 = 001

VOLUME 10 = 010

VOLUME 100 = 100

[2] IF YOU ARE NOT USING A HARD DRIVE, AND WANT TO USE DDD][+ , AT THE VOLUME PROMPT FOR THE SOURCE AND TARGET, JUST TYPE "000". THIS WILL ALLOW NORMAL DDD][USE.

[3] BECAUSE OF HOW HARD DDD][WAS COMPACTED, AND THE LACK OF ADEQUETTE PROGRAMMING TIME, THE OPTION FOR "CATALOG TARGET" HAS A FEW BUGS IN

IT. IT WILL NOT CATALOG THE TARGET SPECIFIED BY THE PATCH. IT WILL DO WHAT IS WAS ORIGIANLLY MADE TO DO, CATALOG DRIVE 1 OR DRIVE 2. THIS IS NO BIG PROBLEM, IF YOU NEED TO CATALOG YOUR TARGET, JUST USE THE "DOS COMMAND" OPTION.

THAT'S ABOUT IT! PLEASE DISTRIBUTE DDD][+ TO ALL THE HARD DRIVE SYSOPS YOU KNOW, SO THERE WILL BE NO MORE PROBLEMS.

DOX WRITTEN BY: THE FIEND

THE LAZY DRAGON BBS

(312) 728-4069

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DOCUMENT ddd.4.2a

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DISK DISINTEGRATER DeLUXE V4.2a (TM)

(C) Logix Innovations
Written by Louis Roy

Release date: July 10th, 1988.

Here is the last update of Disk Disintegrater DeLuxe: Version 4.2a.
In this update, there is no additionnal feature than V4.2. For more features,
wait for version 4.3.

D.D.DeLUXE V4.2a correct a little bug of version 4.2 when you unpack a DDD
file and format the target disk. Now, the bug is fixed in V4.2a. This bug was
NOT present in earlier versions (lower than 4.2). All DDD files packed with
compatible packers or D.D.DeLUXE (any versions) are all good. The bug was
present only in certain rare conditions and when you unpack a file while
formating the target disk with D.D.DeLUXE V4.2. So all your D.D.DeLUXE packed
files are good.

Also in V4.2a, a little modification has been made to distinguish between
the two partial catalog modes in PACK and UNPACK options:

- a) In PACK option: when you ask for a partial catalog, D.D.DeLUXE print
PARTIAL2 and show only sub-directory filenames.
- b) In UNPACK option: when you ask for a partial catalog, D.D.DeLUXE print
PARTIAL1 and show sub-directories, \$DD type files and REL or TXT files if
you have configured your D.D.DeLUXE to show them.

Please DISTRIBUTE this version on many Apple BBS boards as you can, it's
very important to use V4.2a rather than V4.2 (when you unpack a DDD file).
Thank you.

Louis Roy,
The author of D.D.DeLUXE.

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DOCUMENT ddd.5.0

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ABOUT
DISK DISINTEGRATER DeLUXE V5.0 (TM)

(C) Logix Innovations
Written by Louis Roy

Release date: June 19th, 1989.

Here is the last update of Disk Disintegrater DeLuxe: Version 5.0.
You will find many new features in this version, here is a list of what have
been added or modified since version 4.2a:

- o If you have a mouse, you can use it (//gs).
- o D.D.DeLuxe remembers your last drive access so you can call back the last
catalog you made.
- o You can quit quickly, anywhere in the program by pressing CTRL-Q.
- o There are more ways to quit the program.
- o When you format a disk, you can specify a volume name and also, the disk is
now prodos bootable.
- o When you format a 3.5 disk on a //gs, you can now specify the interleave
you wish to use to get a faster 3.5 disk (to know more about interleave
please read notes about interleave in the D.D.DeLuxe documentation...).
- o There are more options to configure.
- o Each time you use the CTRL-I (insert on/off) in the mini-editor or at
others places, the insert on mode remain on even if you use arrows.
- o The size of the D.D.DeLuxe buffer is now displayed on the main menu screen.
- o The time of day is always displayed on screen (//gs).
- o You can configure the program to show TXT, REL or/and APW files in partial
catalog mode.
- o You can now rename a prodos volume.
- o When you ask to view DDD info, you can now save the info-file or you can
print it on your printer.
- o You can now view on screen or print on your printer normal text files,
appleworks APW files or any other prodos files (view hex bytes).
- o In catalog mode, you can execute a SYS program directly.
- o You can now analyze a DDD file without unpacking it to check if the file is
good.
- o Now, D.D.DeLuxe can use your full 128k on a //e or //c as buffer when
packing and unpacking.
- o On a //gs, D.D.DeLuxe can now use //gs memory as buffer.
- o Each time you pack a 3.5 disk, you can specify a suggested interleave for
the disk you pack.
- o There is now a "buffer meter" when you pack/unpack. With this meter, you
can see D.D.DeLuxe put or remove bytes to the buffer.
- o You can now pack/unpack new 3.5 1.44M disk.
- o When you run the program an a //gs and you pack/unpack a 3.5 disk,
D.D.DeLuxe eject the 3.5 disk automactically and also, detect when you put
a 3.5 disk in the drive (1 drive operation).
- o The program, in general, is faster.
- o And many others littles modifications you will discover...

To know more about all these features, read the documentation on the side 2 of
the D.D.DeLuxe disk.

NOTES:

- a) When will run D.D.DeLUXE V5.0, you will have to re-configure it because
V5.0 do not use the same configuration file as previous versions.

- b) If you use the loading file "D.D.DELUXE.LOAD", you must replace it by the new one.
- c) All DDD files packed with V4.0, V4.1, V4.2, V4.2a are compatible with D.D.DeLUXE V5.0.
- d) To unpack old DDD 2.1 files (disk packed with PBH, DDD Pro, and other DDD 2.1 comptabile program), you proceed the same way you do with D.D.DeLUXE DDD files.
- e) When you unpack an old DDD 2.1 file, there is no guarantee the unpacked disk is exactly the same as the original disk because there is no checksum in the old DDD file. But if you unpack a new DDD file (type \$DD, with message in the file), if D.D.DeLUXE unpack without checksum error, you can be sure your unpacked disk is exactly the same as the original disk.
- f) The documentation has been updated for V5.0 now.
- g) If you have an Apple //gs, please replace your old icon file by the new one (DDDELUXE.ICONS) in the ICON folder.

Please DISTRIBUTE this version on many Apple BBS boards as you can (distribute both sides !). Thank you and have fun with this new version of Disk Disintegrater DeLuxe !!

For your pleasure only,

Louis Roy,
The author of D.D.DeLUXE.

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DOCUMENT ddd.pro
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DDD Pro

Version 1.0

Written by: Dr. DX

Prelude:

Dalton's Disk Disintegrator (DDD) has remained the standard packer for Apple II disks for a number of years. It has suffered recently because of poor attempts to create a ProDOS version of the packing program. Thus, the rationale for DDD Pro, the ProDOS version of DDD. (No, the "Pro" does NOT stand for "Professional," it stands for "ProDOS")

The History of Packing:

"In the beginning, most Apple programs were single files. In those days, all pirates had to do to upload and download programs was to call up an AE line and send the program across. But as software became more sophisticated, programs began to require full disks. To send an entire disk just could not be done with AE! So pirating software had to get more sophisticated to keep up with the new programs. At that point, the Stack (of Corrupt Computing) wrote his first Disk Splitter, which was a program that split a full disk into a sector map and 1-6 binary files. This made it possible to upload a full disk with AE by first splitting it, then unsplitting it back to its original state after down loading. Although this program ignored unused sectors, it did no data compression. Thus began the succession of programs that ultimately led to Daltons Disk Disintegrator][.1 Enhanced.

Disk Splitter worked, but it was unfriendly and the files it created took up a lot of disk space. It was followed by a number of similar programs which began to use various data compression methods. First there was Disk Rigger 1.0 and the its modifications (none of which were successful). Although it did compression and some fancy tricks, it simply did not work. Other programs were Disk Slicer by the Rocker and Disk Divider by M. Hata. Disk Rigger 2.0 was the next widely accepted program after Disk Splitter, but it had been the standard for only a short period when Dalton came out with his revolutionary Dalton's Disk Disintegrator 1.0. This program had a bug when working with][e's with one drive, so DDD 1.1 was released. Because its data compression techniques created files which were smaller than those of any other splitting/packing program, Dalton's set a new standard which lasted for quite some time. The better the compression, the less space was required to store the split files and the faster they could be transferred. Then a challenger invented a new technique: instead of splitting a full disk into several binary files, it combined these files into one long file. Dalton incorporated this idea into his next major revision: DDD 2.0. DDD 2.0 had another big bug. It would not compress a disk if the end of track \$22 was blank (the most common reason being a TSL on that track). The bug was fixed in DDD 2.1, which is the current standard. Everyone is happy with this version--unless you own a hard drive, and can not use your volumes conveniently. To correct this problem, the Shadow wrote a program called Disk Cruncher (current version 1.1) which is a nice program (much like Dalton's in many respects), that has light-bar file selection and volume support, but a less efficient packing routine. The next entry into the field was Krackerjack's Fireworx. Krackerjack has shown his programming expertise through Krackerjack's Autograph, but his packer simply doesn't stack up against Dalton's in speed, data compression, and reliability. It took about six and a half minutes to unpack a fairly full disk, and the disk in question did not work after unpacking!"

--The Watcher of The Assembly Line

And, then, after the "Enhanced" version of DDD 2.1 came out, it was successfully followed by version 2.5, which was written by Tom E. Hawk. Tom E. Hawk added some new features to DDD, most notable of which was the "#XXXX" we all saw mysteriously appended onto DOS 3.3 filenames. The mysterious lettering, was, of course, a checksum that had been calculated on the disk as it was being packed. This helped with transfers with AE, because AE Pro uses a checksum variety of xmodem to transfer files. Checksum xmodem is inherently unreliable because it does not check the ORDER of the bytes in a file, it just checks the values. So, DDD 2.5 filled a very necessary gap.

Even though ProDOS had been around since 1984, no one hardy ever used the OS for bulletin boards and file transfers because there was not a decent packing program for packing disks or files. Then came Propacker. ProPacker ended with version 5.3c written by Randall Banning, who now makes his residence in Canada. (as does Dalton). ProPacker ushered in the era of ProDOS boards, because now files could be packed into an efficient format for use in transferring.

However, the number of pirate boards that used ProPacker could be counted on the fingers of one hand. The reason: DDD was king, and so was DOS 3.3. Everyone was happy until Apple Computer, Inc. unveiled a little monster called "The Apple IIgs." You see, the IIgs could use these 3.5 inch drives that held 800k of data. Could DDD handle a 3.5" drive? No. The reason: DOS 3.3 could only handle up to 400k volumes, and even then, it had to be "forced." ProDOS was the answer. Apple's ProDOS operating system for our II's meant that we had a fast OS, and a lot more power because now we could use devices that could hold as much as 32 megabytes. So, ProDOS was the answer. But, the problem had not yet arrived... when the IIgs came out, we had a problem, and a BIG one.

The initial question that everyone asked was "what types of disks will we be transferring if we own IIgs's?" Apple made that abundantly clear when we were told that the new operating system, the native mode version of ProDOS, ProDOS/16, would only FIT on a 3.5" disk. And, when the first IIgs ware came out, the size of the executable file itself almost exceeded the capacity of a 5.25" disk. So, we had our problem, and we had the solution at hand: ProPacker.

ProPacker was (and still is) a nice nifty little program written to pack BOTH 3.5" and 5.25" disks. As a bonus, it could tell if you had packed a 3.5" disk, and would tell you if what you were unpacking was a 3.5" disk. ProPacker was NICE. ProPacker was reasonably fast, and it worked well as long as you hadn't gotten a bad transfer, in which case, it would crash while unpacking. But, on the whole, a decent packing program.

Then, after a bunch of DOS 3.3 based pirate boards decided that they would convert to the ProDOS format because of the increased demands for space, there quietly came a ProDOS compatible type of DDD. It was called PBH Pack. (PBH for "Pretty Boy Hackers") Essentially, if you made a DOS 3.3 DDD file an "R" file. (a RELative file), and then converted it to ProDOS, his packer could then unpack the disk. This made the conversion to ProDOS a little easier; however, ProPacker 5.3c was still king in ProDOS land. It stayed that way for good reason: the earlier versions of PBH Pack were awful. They were bug-ridden, and for the most part, just DID NOT WORK. We were finally given a decent version of PBH in PBH version 2.0e, which was written by Major Disaster. PBH 2.0e made life a little easier because of one other MAJOR innovation on the terminal program front.

ProTerm 1.2 became THE standard for Apple II telecommunications among pirates during the summer of 1987. ProTerm 1.2 had the capability to send files using many different protocols, among which was a "different" style protocol whereby it would pack a whole disk "on-the-fly" and send it... the packing algorithm that Greg Scheafer uses in Proterm is compatible with DDD and PBH pack. Great, we finally have some sort of standard emerging.

Now comes the advent of DDD Pro. For the first time, someone has taken a great deal of time to re-write DDD for ProDOS the way it SHOULD have been done in the first place. DDD Pro features high-lighter bar option selection, optional CRC generation on disks or files, an "Optimization" utility for ProDOS disks, Disk AND FILE packing built-in, and many other "nice" features that make this packer stand out as an exceptional program. Read on...

Commands:

Upon entering DDD Pro from your file-selection utility (such as ECP8, ECP16, ProSel, or any number of other ProDOS file selection utilities), you will see a menu of options containing the following commands:

```
Set Prefix
Set Device
Format a Disk
Pack Disk/File
Unpack Disk/File
Catalog
Optimize a Disk
Generate a CRC
Delete a File
About DDD Pro
Quit
```

SET PREFIX: This selection will allow you to set the current ProDOS prefix to a certain volume or subdirectory. Once prompted for the prefix, you can either enter the entire path for the prefix, or a partial pathname. If you use a partial pathname, the additional path data will be appended to the original path to produce a full pathname.

Pressing ? at the prompt will show a list of on line volumes. Pressing ! at the prompt will show you a catalog of the current prefix.

SET DEVICE: This selection allows you to select the drive and slot of the ProDOS device that you want packed. DDD Pro currently only supports 5.25" drives, and 3.5" drives. DDD Pro will "assume" that if the device does not have the signature bytes for a 5.25" drive, you are using a 3.5" drive. This may change in the future as different devices are supported, and different search mechanisms are implemented.

By using the left and right (or up and down) arrow keys, you can select the proper slot and drive combination for use as the source device to pack. After you hit return to actually select the slot and drive, DDD Pro will check to make sure there is actually a ProDOS disk device at that slot and drive. If there isn't, you will be alerted, and the previous slot and drive will be retained.

FORMAT A DISK: This selection will first prompt you for the device that you want formatted by a ProTERM style selection box. If the media in the device has been formatted before by a ProDOS formatter, you will be prompted as to whether or not you actually want to format the media. This was added as a safeguard so that people do not go accidentally formatting their hard drives by mistake because they chose the wrong slot and drive.

If you answer affirmatively, the program will format the media in the device in ProDOS format, and write an empty directory onto the volume. The name of this volume will always be /BLANK. Jerry Hewett's Hyper-Format routines were used to add speed to the formatting of 5.25" disks.

PACK DISK/FILE: This selection will allow you to pack the media in a device into a DDD file, or the contents of a file into a DDD REL file.

You will first be prompted for the type of pack procedure to make. Moving the left-right arrow keys will allow you to select the type of pack you wish to make ala ProTERM.

If you selected "DISK" in the pack-type selection, you will be prompted for the name of the output file. This is the DDD file that will be created by packing the disk. The output file will be placed under the filename you choose. DDD Pro will then pack the disk in the current device that was selected from the main menu. You may hit ESCape while packing if you wish to abort, in which case the destination file will be deleted.

If you selected "FILE" in the pack-type selection, you will first be prompted for the file that you want to pack. You will then be prompted for the pathname of the file that you wish to pack TO. Once provided, the program will pack the file, attaching a 100 byte header onto the front of the packed file which includes some vital information. The format of the info in the header packet is as follows:

Offset	Length	Data Byte(s)
+0	1	\$0A / ID byte #1
+1	1	\$44 / ID byte #2
+2	1	\$42 / ID byte #3
+3	1	Access code
+4	1	File type code
+5	2	Auxiliary type code
+7	1	Storage type code
+8	2	Number of 512 byte blocks used by the file
+10	2	Date of modification
+12	2	Time of modification
+14	2	Date of creation
+16	2	Time of creation
+18	3	EOF position
+21	2	CRC-16 of file
+23	2	Read count (# of 16 page reads to make)
+25	1	Length of filename
+26	64	filename, or pathname of file, possibly including up to 64 characters.
+91	9	Reserved for future expansion (Should be 0)
+100		Packed data

As noted in the header info, DDD Pro runs a CRC-16 (not CRC- CCITT, for those interested) on the source file while it is compacting its data. The CRC checks the ORDER AND CONTENT of the data to make sure that the file's integrity is not damaged during a transfer.

UNPACK DISK/FILE: The selection does the exact opposite of pack a disk/file. It will prompt you as to whether you want to unpack a disk or a file. Once answered, DDD Pro will prompt you for the name of the disk or file to unpack. If you select disk, DDD Pro will check to see if the target disk has already been formatted. If not, DDD Pro will format the disk and start unpacking. If the disk has already been formatted, you will be asked if you want to overwrite it. If you answer yes, DDD Pro will start unpacking immediately instead of unnecessarily reformatting the disk.

Since the filename is already stored in the header of a DDD packed file, there is no need to provide an output filename for a packed file.

If you have a DDD packed file, and try to unpack it to a disk, you will be told that it is "Not a DDD format file." Simply choose the "File" option in the select box, and the file will unpack correctly.

CATALOG: This selection acts as advertised in that it allows you to get a catalog of the currently prefixed volume, or subdirectory.

OPTIMIZE A DISK: This selection will allow you to "zero-out" the contents of the unused blocks on a ProDOS disk. You will be prompted for the device whose unused blocks you wish to clear.

You will want to "zero-out" the blocks on a disk that you are about to pack if and ONLY IF it is a ProDOS disk. This option can save a LOT of space in packing because when ProDOS deletes a file, it does NOT place all zeros (0's) in the blocks that the file was using. Whenever a file wants some more space on the disk, it will simply place itself over top of the old data. (after all, why spend more zeroing out something if more data is going to be placed there anyway?) But, since the DDD packing algorithm works on the principle of repeated bytes packing more efficiently, you will want to remove all the data from these blocks. So, that's why you would want to "optimize" them. The procedure just makes a disk have less data to pack because you removed the

unused data.

GENERATE A CRC: This selection will allow you to generate a CRC-16 on a whole disk, or on a file. Why would you want to do this? If you need a quick way to tell if 2 files are different, then the CRC's of the files will be different. If two disks are different, even by so much as 1 bit, the CRC's will be different. So, you could have a friend run a CRC on a disk before he sends it to you, and after it is unpacked, you could run a CRC on the disk to find out if the transfer was successful without line noise.

Note, however, that a CRC-16 for files is built-in to the DDD packed file format. If the file somehow got scrambled, DDD Pro will tell you so by a subtle warning message.

DELETE A FILE: The selection will allow you to delete a file from the currently prefixed volume/path.

ABOUT DDD PRO: This will show you current information about the version of DDD Pro you are using. It will also give credit where credit is due.

MISC:

Before formatting any device, if the disk in that device has been formatted before, you will be prompted as to whether or not you actually want that disk formatted. This is provided for your protection if you have any valuable disk you don't want accidentally formatted.

If you press ? at any filename prompt, you will be given a list of the currently on line volumes, and if you press ! you will be given a catalog of the current prefix.

CREDITS:

Dalton, without whose packing algorithm, apple pirating would be going nowhere. Ziopoth, for writing the first "enhanced" version of DDD. Tom E Hawk, for writing the second "enhanced" version of DDD, DDD 2.5. The Nybbler, for writing that wonderful/awful DDD compacter, PBH Pack 1.0-2.1 Major Disaster, for writing PBH Pack 2.0e, and providing the source to PBH. Mountain Man, for his INCREDIBLE disassembly and translation of the DDD packing algorithm.

Dr. DX, for writing the first credible translation of DDD for ProDOS.

Me, for writing the docs for this thing.

All the sysops who run a ProDOS board, without whose pushing, this program would not exist.

And everyone else who has had anything to do with making any of the many versions of DDD and PBH Pack.

POSTLUDE:

Because he has a penchant for this type of thing, Dr. DX will be making better and improved version of DDD Pro. The next MAJOR revision should support the 65C02 and have 80-columns, mousetext, and ProTERM-style file selection. The packing algorithm will be enhanced ever so slightly by the additional support of the 65C02's extra opcodes.

If I ever get time, I will be writing a ProDOS/16 version of DDD Pro... It will use pull-downs and SuperHires for file selection, etc. The algorithm will be tweaked some more by the use of the 65816's 16-bit opcodes.

And, while on the subject of algorithms, we will probably be "enhancing" the DDD algorithm in the not-so-near future to include additional packing algorithms. We will try to remain completely compatible with the existing DDD standard for

packed files, and just increase the effective compaction.

--Sound Wave

-END-

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DOCUMENT deadline.1
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DEADLINE DOCUMENTATION #1
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Physical Evidence:

Tag reads "A" in-circled Words

Tablets found Near the Body Initials- GRA. 7/8/82

Plastic Bag Contains - 3 white pills (no writing on pills)

Picture - Blk&Wht-- Chalk Outline of body

Pill Bottle with 3 pills lying on carpet

Two Chairs - Buttoned-Leather puffy chair with arms Leather with wooden arms

Tea/Coffee cup with saucer lying on carpet near wooden/armed chair

Flower type section rug

Desk with Drawers, Lamp on top, & some kind of paper

Large round white table or pill or something like that, lying near left knee of victim

Something in the upper right of picture near victims head (pointy wooden? picture?)

Two official short memo's:

Yellow - LAB REPORT
Lakeville, CT Police Department

Case: Robner, Marshall
File#: H657/SJ43.1
Officer of Record: Detective G.K. Anderson

Mat'l(s) analyzed: Porcelain teacup
Analyzed for: Fingerprints, foreign substances
Date: 7/8/82

Laboratory findings:
The teacup was analyzed. The cup contained tea only. No trace of Ebullion or other substance was found. Fingerprints on the cup belonged to the deceased and Ms. Dunbar.

Signed -?? Btmorose

White - OFFICIAL MEMO
Chief Examiner
Lakeville, CT Police Department
Lakeville,CT Police Laboratory

File # H657/SJ43.1
G.K. Anderson, Detective 1st Class
July 8, 1982
RE: Robner Case

Although it appears that at least one member of the Robner household

had a reason for wishing Mr. Robner dead, the findings of the Medical Examiner and evidence gained from interviews with the family and family associates are only consistent with the conclusion that Mr. Robner died of a self-administered overdose of Ebullion.

Gk Anderson

G.K. Anderson

CORPUS DELICTI- Union Memorial Hospital, Lakeville, CT

Summary of findings from Coroner's Examination:

Name - Robner, Marshall File No - H657/SJ43.1 Date - 7/8/82 Sex - Male /Race - Caucasian /Color of Eyes - Brown /Color of Hair - Gray /Ht- 5' 11 /Wt - 192 lbs. /Distinguishing Marks - None Apparent Cause of Death - Drug overdose (Ebullion)

Front and Back outline of body Small "x" written on left side of head in Front View of Body

Explanation: There were no injuries or marks of a suspicious nature, except a small bruise on the left temple (consistent with falling to the floor from a chair).

Analysis of the blood of the deceased revealed a blood level of 27mg% for Ebullion. The therapeutic range of this drug is normally 4 to 6 mg%. A fatal dose, while not specified by the manufacturer, has been found to be in the 10-20mg% range. A routine analysis for other common drugs was unproductive.

Findings were unremarkable except for massive liver damage consistent with overdose of Ebullion, and 10mg of Ebullion recovered from the stomach. Death occurred at 1 AM, plus or minus one hour.

The blood level of Ebullion and the massive liver damage consistent with Ebullion toxicity lead to the inevitable conclusion that the deceased died of an overdose of that drug.

Xaviera Hockmuller md.

Medical examiner

July 9, 1982

Chief of Detectives
Edindale Police Department
Edindale, CT 06103

Dear Chief:

I must once again ask for your assistance on a case involving one of my clients.

As you are no doubt aware, Mr. Marshall Robner, the industrialist and philanthropist, was found dead yesterday morning in his home. As far as I can determine, he was found dead on the floor of his library, the victim of an overdose of Ebullion, a medicine which he had been taking lately for severe bouts of depression. He had been alone during the night, and the door to his library had been bolted from the inside. Police had to break the door down with axes, I'm told, to get inside.

While I am completely convinced that there was no foul play involved in Mr. Robner's death, it is disturbing that Mr. Robner had called me only three days earlier for the purpose of informing me that his will was to be altered. In fact, I was expecting to hear from him this week so that he could deliver the papers to me. Given the size of the

Robner estate, I feel that a more complete investigation should be undertaken, if for no other reason than to quash the suspicions which are inevitable in these circumstances.

I have sifted through the evidence gathered by the local police authorities and am passing it along for your inspection I phoned Mrs. Robner this morning and informed her of my intention of having you take on the case. She was reluctant to be of assistance, but I convinced her to allow you to come around at eight o'clock tomorrow morning and spend the day.

I will be at the house at noon tomorrow for the reading of the current will, which Mr. Robner wrote a few years ago. I hope to see you then.

Sincerely yours,

Signed- Warren Coates

Coates, Shavely & Coates * Attorney at Law * Suite 1327 * Excelsior Tower * Hartford, CT 06101

Interviews - Excerpts--

Mrs. Robner

Detective Anderson : How did you come to find Mr. Robner?

Mrs. Robner : When I woke up this morning, I noticed that Marshall was not in bed. I wasn't alarmed, really, as it was not unusual for him to work late at night in the library and fall asleep there, I went down the hall to the library and knocked on the door. Hadn't answer, so I knocked even harder. When that didn't work, I started calling his name loudly. So loud, actually, that I woke up Ms. Dunbar and George. We all were gathered there, knocking and yelling, and finally Mrs. Rourke, our housekeeper, was alarmed enough to come upstairs. She suggested calling the police, which we did. They arrived about twenty minutes later, and started breaking down the door with axes. When we entered the room, we found Marshall lying on the floor, face down.

Anderson: Did he usually keep his door locked when he worked?

Robner: Almost always. He was pretty secretive about his work and he liked to be alone when he worked.

Anderson: Do you know of any reason why your husband might have wanted to take his own life?

Robner: He's been very depressed lately, you know. His business, Robner Corporation, is not doing well, and there is talk of selling out to a larger firm. Marshall founded the company, what, about twenty six years ago, and he has been desperately trying to find some way of saving it.

Anderson: The pills we found by his body, do you know what they are?

Robner: Yes. They were Ebullion tablets. It's an anti-depressant his doctor prescribed for him just last week.

Anderson: Had he been acting less depressed since then?

Robner: I really don't know. I haven't noticed much change.

Anderson: Did your husband ever talk of suicide?

Robner: He did, actually, though I never took it seriously. He would talk about how everything would be easier if he were dead, but then he would start again talking about how he was going to have to keep the

business going. I'm... I'm stunned, really.

Anderson: Mrs. Robner, do you know of anyone who might have wanted to kill your husband?

Robner: Why, no. Of course not. He wasn't a very friendly man, he was very quiet. But he was a great philanthropist, you know, and everyone that knew him respected him. I can't imagine anyone wanting to hurt Marshall. Do you really suspect he didn't commit suicide?

Anderson: I don't suspect anything. I just want to understand what's happened.

FINGERPRINTS ON BOTTOM OF PAGE --L & R THUMB/L & R INDEX/L & R MIDDLE/L & R RING / L & R LITTLE

Interview-- Ms. Dunbar

Detective Anderson: You were Mr. Robner's personal secretary, is that right?

Ms. Dunbar: Yes, sir.

Anderson: I understand that you were the last person to see Mr. Robner alive. Could you tell me about that?

Dunbar: Why, yes. I brought him some tea at about 11 PM that night. On nights when he expected to work late, he would always expect tea at that hour. I brought him the tea and he asked me to leave. That's all.

Anderson : Did Mr. Robner seem at all upset?

Dunbar: He did appear quite nervous, but he had been upset for some time, as you know.

Anderson: Do you know what he was working on that evening? Dunbar: No. I wasn't with him, except for that one time.

Anderson: Do you recall whether the pills, the Ebullion pills, were on the desk when you came in?

Dunbar: No, I don't remember that.

Anderson: Ms. Dunbar, were you with Mrs. Robner when the door was opened by the police?

Dunbar: Yes

Anderson: Do you remember her reaction? Anything she might have said?

Dunbar: She didn't really react much. I don't think she said anything except "He's dead." or something of that sort. She just stood there with the rest of us until you people arrived.

Anderson: How were the Robners getting along? I mean, were they happily married?

Dunbar: I don't thing so, really. He was so quiet and, well dreamy. She was always scolding him for paying too much attention to the business and to his "good works". They rarely went out lately, which seemed to upset Mrs.Robner quite a bit. She had friends of her own that she used to visit. I think she would have gone insane, otherwise.

Anderson: Thank you, Ms. Dunbar. Oh, one last thing. You prepared the tea for Mr. Robner?

Dunbar: Yes, I started the water boiling about a quarter of, and then poured the tea when I heard the whistle from the living room.

Anderson: You weren't in the kitchen during the time?

Dunbar: I just told you, no.

Anderson: Was anyone else awake in the house while you were waiting?

Dunbar: Yes, I believe that both George and Mrs.Robner were awake. I remember George coming down, reading for a bit, then retiring.

Anderson: Do you believe anyone might have a reason to kill Mr. Robner?

Dunbar: No, I can't imagine it.

Anderson: Thank you, Ms. Dunbar. Oh, Ms. Dunbar, were you at home all night, last night I mean?

Dunbar: Well, no, actually. I was out with a friend last night and we didn't get back until about 10:30 or thereabouts.

Anderson: Thanks again, Ms. Dunbar.

FINGERPRINTS ON BOTTOM-- L.THUMB/L.INDEX/L.MIDDLE/L.RING part of R/L.LITTLE part of R

Interview - Mr. Baxter

Detective Anderson: You were Mr. Robner's business partner, is that correct?

Baxter : That's right.

Anderson: How long have you and Mr. Robner been partners?

Baxter: For about twenty five years now. I was his partner almost from the start of the business.

Anderson: Mrs. Robner tells me that there have been problems lately with the business. Could you tell me what that's all about?

Baxter: Yes, the business has its problems, some of them quite large. Marshall and I were working on a plan to solve those problems and get the company back on its feet again before we would be forced to take drastic action. I hope that I can hold things together now that Marshall is dead. He was the founder of the business and controlled many things by himself.

Anderson: Did Mr. Robner ever talk to you about personal problems, or how he felt?

Baxter: No, we were business partner, not intimate fiends. I don't think he really had any close friends. I know he has gotten himself very upset about the business, but that's the extent of it.

Anderson: When was the last time you saw Mr. Robner?

Baxter: Yesterday afternoon, at our office in town.

Anderson: And where were you after work?

Baxter: Last night was my concert night at the Hartford Symphony. I go there quite regularly. After the concert, at about 10 o'clock, I went home. I received a call from Ms. Dunbar this morning telling me of the tragedy, and I arrived here just a few minutes ago.

Anderson: Were you at the concert alone?

Baxter: Quite alone.

Anderson: Do you know of anyone who might have wanted to harm Mr. Robner?

Baxter: No. Except for George, of course. During some of their shouting matches I've heard George threaten Marshall, but I don't really think he ever would have followed through.

Anderson: Shouting matches?

Baxter: George and Marshall were always at odds. You see, George has been living like a spoiled child all of his life. He's twenty five now and has never held a job. Just spends money, or gamble it away. Being the Robners' only child, he gets away with murder. Marshall would lecture him and threaten to cut him, off without a cent, and then the yelling would start. Eventually Marshall would give in.

Anderson: When was the last time you heard this?

Baxter: Actually, I heard it again just last week. strange, now that I think of it, they went at it just last week. I hear that Marshall told George that he had decided to disinherit him. He even mentioned it to me at the office the next day. He seemed pretty serious. I suppose that the financial troubles at the company may have been responsible for his attitude.

Anderson: Are you at the house often? You say you have heard some of these "shouting matches".

Baxter: Well, I'm not here often. Only on occasion. I have heard it once or twice and have been told of other times.

Anderson: Thank you, Mr. Baxter

FINGERPRINTS - L.THUMB/L.INDEX/L.MIDDLE/L.RING part of R/L. LITTLE part of R

Interview-- George Robner

Detective Anderson: Mr. Robner, I have been told by Mr. Baxter that you and your father had some serious arguments lately. Could you tell me what they were about?

George Robner: I don't think that's your business.

Anderson: I'm told they had to do with your habit of wasting or gambling away your father's money.

Robner: So?

Anderson: I've even been told that he threatened to disinherit you.

Robner: Yeah. He said he was going to. I'll bet he didn't though. He never has.

Anderson: Mr. Robner, let me be frank. I'm, told that you threatened violence against your father as recently as a week ago, and now he's dead.

Robner: Look, I don't get what you're driving at. You find the poor guy dead in his room. The room is locked. His bottle of medicine is nearly empty. What sort of detective are you, anyway?

Anderson: I'm doing th asking, if you don't mind.

Robner: The ask someone else.

Note: G.R. left abruptly at this point.

FINGERPRINTS ON BOTTOM OF PAGE -- L&R T HUMB/L&R INDEX/ L&R MIDDLE/ L&R RING/ L& R LITTLE

Interview - Mrs. Rourke

Anderson: Mrs. Rourke, how long have you been working as housekeeper for the Robners?

Rourke: Ever since the house was built, six years ago.

Anderson: Tell em all you remember from the night of the murder.

Rourke: I remember that by about 10:30 or so..

Anderson: You mean 10:30 PM.

Rourke: Yes. By 10:30 when I went to my room to do some reading, everyone was upstairs excepting Ms. Dunbar, who had just returned home. She went upstairs about 11, bringing Mr. Robner his tea. He almost always takes his tea at 11. I remember saying good night to here on her way up, and that's the last I heard until this morning, with all the shouting and banging going on upstairs. No, that isn't right. George was downstairs also fr a while, only about 10 minutes or so.

Anderson: Could someone have gone upstairs during the night?

Rourke: I don't rightly think so, as least not before 3 or 4. You see, I like to do some reading late at night, and I was reading this really exciting mystery story, and, lord, I was up until nearly 4 o'clock before I finished. And who do you think the murderer was?

Anderson: Really, Mrs. Rourke, let's stick to the matter at hand. Do you keep you door closed at night when you are reading?

Rourke: Yes, sir.

Anderson: So then it's possible that someone might have entered the house and gone upstairs without your knowledge.

Rourke: No, sir. I don't believe so. Why don't you try the stairs yourself? For a new house, these stairs are the noisiest I've ever heard. My door's right beside it, too. When the Robners owned a little cat, I can remember hearing every footstep creaking up the stairs. Don't know why they don't ever fix it up. I guess it don't bother them any.

Anderson: But it is possible that someone might have entered after you went off to sleep.

Rourke: Well, I suppose it might be, but not before.

Anderson: How long has Ms.Dunbard been living here?

Rourke: Ever since the place was built. She does an awful lot of work for Mr. Robner, you know. I don't think he could have gotten along without her, although that's not my business to say. He was always so nervous, fretting about everything, and forgetting to this and that. It seemed that she was always covering his tracks, if you get my meaning.

Anderson: Do you have any reason to suspect anyone of wanting to harm Mr. Robner?

Rourke: Well, of course I've heard all of the screaming and fussing with George and Mr. Robner. That's been going on for years, now so I don't make much of it anymore. No, I can't imagine anyone wanting to hurt poor Mr. Robner. He was such a sweet man.

Anderson: Thank you, Mrs. Rourke.

FINGERPRINTS - L&R THUMB, INDEX, MIDDLE, RING, LITTLE

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DEADLINE DOCUMENTATION #2
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CHAPTER I

Investigative Techniques for Cases of Suspected Homicide----

The detective investigating a possible homicide is much like a person piecing together a puzzle. In both endeavors, the participant must weigh each inconsistency, and ultimately determine how all the parts fit together as a logical whole. Here, then, are some considerations to bear in mind as you attempt to solve this puzzle.

The Time Element:

It is usually necessary to conduct your investigation as expeditiously as possible. You have a deadline of 12 hours, make proper use of your time, it's important. Most actions you perform will take about one minute of investigative time, some actions, such as examinations done CAREFULLY, may take longer. If you wish time to pass without actually doing anything, you can say WAIT FOR some number of MINUTES...OR... WAIT FOR some person...OR... WAIT UNTIL a specified time. In any case, you will see events occurring while you are waiting and always have the opportunity to change your mind about sitting idly should an interesting event take place.

Evidence:

During your investigations, you will uncover pieces of physical evidence found in your vicinity. While this evidence may be vital in itself to reach a proper conclusion to the case, it may also be of great interest to one of the principals in the case. Therefore, showing pieces of evidence to others (even suspects) may have a useful effect. Other people may make discoveries of their own which they may relate to you. It is altogether proper to ask to be shown such findings.

Suspects:

It is possible to ask people for information. However, be aware that their answers, while often helpful, may be self-serving, false, or contradictory. Remember at all times that you are dealing with people----some of whom are under great pressure or emotional strain. The most extreme care must be exercised when your ACCUSE people.

The Police Laboratory:

The facilities of the nearby police laboratory are always available to you. Fingerprints found on objects can be compared with those of the principals, which are on file at the lab, simply by instructing the lab to FINGERPRINT the object in question. you can ANALYZE an object in a routine manner or FOR a specific substance. Sergeant Duffy, as diligent an assistant as can be found in the annals of criminology, will take objects to the lab for you and return with the results, usually within half an hour.

Procedure for Making Arrests:

When you feel that you have established a convincing case against one or more people, you may decide to ARREST them. (A single individual must be in your presence to be arrested; two or more accomplices need

not be.) After some soul-searching, you may realize that you haven't nearly enough evidence to substantiate the charge, and may hold off at the last moment. Otherwise, Sergeant Duffy will arrive with the handcuffs and take the accused into custody. Your role in the case will then be concluded, and you will receive a letter from your superiors indicating the outcome of the grand jury investigation, and if all goes well at that level, the trial itself. Should the grand jury fail to indict or the trial jury fail to convict, your superiors will try to indicate the reasons for the failure of the state's case. (Since guilt must be established beyond a reasonable doubt, it is important to demonstrate the three crucial elements; means, motives and opportunities.) But take heart from any failures you may have--the sleuth who learns from his mistakes will sleuth all the more effectively his next time on the trail. There are many possible endings to your case, each determined by your handling of the case and the conclusions you draw from the evidence you gather. But just as there exists the perfect crime, there is also the perfect solution to a crime.

Strategies for Novices:

Many detectives start an investigation by "casing" the scene of the crime. This facilitates movement as the case proceeds. In this regard, it is useful to draw a map or blueprint indicating the directions of travel between the various places in the area. It is especially important to examine potentially important pieces of evidence. Be liberal in the use of the police laboratory in FINGERPRINTING or ANALYZING laboratory's findings.

Ask people questions about the crime itself, other people involved in the case, or unusual words which may turn up on evidence or in conversation. Often, this will uncover contradictions or lead to new evidence.

Pay attention when people's behavior changes. It may be that they have learned something which will affect their actions. FOLLOWING them may be helpful, but often it is better to observe at a safe distance. Show relevant evidence to interested persons. They may learn something which could cause them to react in a helpful manner. If another person has found something, ask to see it. Although care should be taken in making accusations, especially without sufficient evidence, a timely accusation can lead the presumed criminal to make careless mistakes.

CHAPTER II

How to Use Computers in Detective Work-

It is possible to conduct an entire investigation without leaving one's computer, here are some useful pointers on dealing with our new environment.

Doing the Legwork:

To walk from place to place, say WALK and the direction in which you wish to proceed. There are ten possible directions: NORTH, SOUTH, EAST, WEST, NORTHEAST, NORTHWEST, SOUTHEAST, SOUTHWEST, UP & DOWN. Each of these directions can be abbreviated to one or two letters (e.g.-N, SE, D). When you enter a particular place for the first time, survey it in detail. Note its name (e.g.-the living room), its layout, and all objects located there which might be of interest. Whenever you return, you will instantly recall the name of the place and your eye will catch any significant object. In order to examine the place more fully, you have only to say LOOK AROUND (or something similar).

Handling Evidence:

To handle any of the various pieces of evidence, simply refer to the

object by its name. Should there be several objects of same type (e.g.-two tables), just add a descriptive word (e.g.- THE LONG TABLE). Here are some ways in which other investigators have handled evidence:

TAKE THE PENCIL
PUT DOWN THE CUP OF COFFEE
SIT DOWN ON THE SOFA
EXAMINE THE DETECTIVE MAGAZINE
LOOK BEHIND THE PAINTING
SEARCH NEAR THE SCUFF MARKS
TAKE EVERYTHING EXCEPT THE FISH BOWL AND THE ANTIQUE ROCKING CHAIR

Don't hesitate to handle more than one object at a time. Just be sure to separate their names by a comma or the word AND:

PUT THE WRAPPER, THE TICKET, AND THE NAIL FILE ON THE DRESSER

Dealing with Suspects and Other People:

The best authorities recommend courtesy as a key to winning the confidence of those you encounter while conducting police business. For instance, speaking to people from a distance is strongly discouraged. If you need to get the attention of someone who is, say, down a hall or corridor, simply remark, MRS. JONES! If you cannot resist the urge, you may even say HEY, MRS. JONES!

Once you and another person are in the same place, you can ask questions or ask that person to do something for you. However, there are "only two" types of questions that will be answered; those dealing with information about someone or something, and those concerning the whereabouts of person and objects. Again, courtesy is the key. When addressing someone, precede your statement or question with that person's name and a comma:

MR JONES, TELL ME ABOUT MRS. JONES
JIM, WHO IS THE BUTLER?
SALLY, HAVE YOU SEEN MR. BRADY?
FRED, SHOW ME THE BULLET HOLES
MR. GILES, GIVE ME THE GUN

Once you are engaged in conversation with someone, you can skip the formality and simply state requests. However, when your the person with whom you are speaking moves to a different place, it is proper to re-initiate your interview by using the individual's name.

Avoiding Tedious Interrogations:

It is considered extremely poor form to ask interrogative questions which have already been asked by other police officials. Therefore, you are supplied with any relevant interviews obtained from other police officials. Also, as noted in the preceding section, only a few types of questions will receive a response. When is it impossible to elicit a response to a question that seems vital to your investigations, the needed information will often be found in your dossier. If not, you can assume the information is not important.

Communication Your Intent:

Clarity of speech is as important as clarity of mind in detective work. At times, you may happen to specify an action incompletely. For example, you might say KILL THE SUSPECT without indicating the weapon you wish to utilize. In such cases, you may be asked to make a clarification (e.g.- WITH WHAT?). Should this occur just answer the question (e.g.- WITH THE REVOLVER). If you specify an action incompletely in a situation where one thing may be assumed (e.g.- there is only one weapon), you will be informed of that assumption (e.g.- WITH THE REVOLVER). If you say something which cannot be

understood because it is either too complex or improperly stated, you will be told of the problem.

Flatfoot Computer Lingo:

The police have only limited resources and it computers often use words which they cannot understand. Such words are used only to enhance your imagery and focus your deductive powers.

Ending an Investigation:

If you wish to terminate your investigation and not come back to it at a later time, you can type QUIT. Since a decision of this kind is irreversible, you will have to confirm your decision.

If you want to terminate your investigation by starting over from scratch, you can type RESTART. You will again be asked to confirm your decision.

Continuing an Investigation at a Later Time:

If you wish to suspend your investigation midway and continue it from that point at a later time, type SAVE and answer the question as described on your Reference Card. To return to your investigation at another time, type RESTORE and answer the question as described in the Reference Card. You may want to use this feature when you are about to try something dangerous or irrevocable.

Utilizing Stenographic Services:

Depending on you hardware, you may be able to obtain a typed transcript of your activities using the SCRIPT command. The transcript may be stopped with the UNSCRIPT command. Consult reference card for availability of this service on your system.

CHAPTER III

Commonly Encountered Terms in Criminal Investigations----

ACCUSE (someone) OF (something)-- Makes an accusation against someone. (In this regard, "something" is usually murder.)

AGAIN -- Causes the last action you preformed to be repeated.

ANALYZE (something) -- Asks the police laboratory to perform a routine analysis (including fingerprints comparisons) of something.

ANALYZE (something) FOR (something specific)--Asks police laboratory to analyze something specifically for something in particular

ARREST (someone or someones)--If there is considerable amount of evidence against an individual or individual, this command ends the case and describes the result of the prosecution.

ASK (someone) ABOUT (something or someone)--An impersonal form of the expression "(someone), TELL ME ABOUT (something or someone)," it can be used as an abbreviated form of questioning.

BRIEF -- Causes a place to be described completely only on your first visit there. On subsequent visits, only the name of the place and the important objects present there will be described. (This is the normal situation.)

EXAMINE (something)-- Looks at something with an eye toward detail.

FINGERPRINT (something)-- Asks the police laboratory to compare fingerprints on (something) with those on file at the lab.

FOLLOW (someone)-- Does the obvious.

INVENTORY -- Lists your possessions. This can be abbreviated to I.

LOOK AROUND -- Provides a complete description of your surroundings. This can be abbreviated to either LOOK or L.

QUIT -- If confirmed, terminates the investigation. If you wish to continue the investigation at a later time, use the SAVE command first.

RESTART -- If confirmed, terminates the investigation and starts it over from the beginning.

RESTORE -- Restores a previously suspended investigation. Consult Reference Card for the procedure on your system.

SAVE -- Suspends your investigation for completion at a later time. Consult Reference Card.

SCRIPT -- Starts a transcript (if you have a printer). Consult Reference Card.

SEARCH (something or someone) -- Does the obvious.

SEARCH NEAR (something) -- Looks closely at the area immediate to something, possibly providing more information than simply examining it.

SHOW ME (something) -- A request to another person to show you or lead you to something.

SHOW (something) TO (someone) -- Does the obvious, possibly eliciting an interesting reaction.

TIME - Displays the current time. This can be abbreviated to T.

UNSCRIPT -- Stops the transcript that started using the SCRIPT command.

VERBOSE -- Causes a complete description of a place to be displayed every time you enter that place. Compare with BRIEF.

VERSION -- Displays the version and serial number of you copy of DEADLINE.

WAIT FOR (number) MINUTES -- Causes time to pass without you taking any particular action.

WAIT FOR (someone) -- Causes time to pass until someone arrives at the place you are in. Every so often you will have the opportunity to stop waiting for the person if he/she hasn't yet arrived.

WAIT UNTIL (time) -- Causes time to pass until the desired time arrives. As with the other WAIT command,s interesting events happening in your environs will give you the option of terminating your idle state.

WHATS WRONG -- A request to another person to discuss what's on his mind.

WHERE IS (something or someone) -- A request to another person to help you find something or someone.

WHO IS HERE -- Describes other people who are in the same place that you are. This is done implicitly during a LOOK AROUND.

REFERENCE CARD:

Talking to the Game--

When ever you see the prompt (>), the game is waiting for you to type up to two full lines of text at a time. If you make a mistake, use the left-arrow key to erase the error. When you have finished typing in your instructions, press the RETURN key. The game will respond and then the prompt (>) will reappear.

If a description will not fit on the screen all at once (MORE) will appear in the bottom left portion of the screen. After reading the part on the screen, you will need to press the space bar to see the rest of the description.

The Status Line at, the top of the screen, you will see a status line. The line is updated after every move to show you current where about in the game. Depending upon the type of game. it may also show other information.

Score --

In game that keep score, (e.g.-ZORK) the right side of the status line will show something like this:

SCORE: 245/920

The first number is you score and the second is the total number of moves you have made. In the example, you have 245 points in 920 moves.

Time--

In games that keep track of the time (e.g.- the mystery thriller DEADLINE), the right side of the status line will look something like the following:

TIME: 9:22 AM

This show the current time of day in the game.

SCRIPTing--

The SCRIPT function is an optional feature which is not necessary to play the game, and may not be available with certain hardware. If the SCRIPT command works with your hardware configuration, you may make a transcript of the game as you play it.

1. Turn on Printer
2. Load Game
3. Use SCRIPT command to start transcript
4. To stop transcript use UNSCRIPT command

SCRIPT & UNSCRIPT may be used as often as desired as long as the printer is left on-line.

Saving a Game Position--

WARNING*** The diskette used for SAVE and RESTORE is maintained in a special format and should not be used for any other purpose. Files of any other kind stored on the diskette will be destroyed by the SAVE command.

To SAVE current position use SAVE command.

You can SAVE eight different positions on each disk and RESTORE them in any order.

To keep track of these different positions, each is assigned a number (from 0 -7). Each time you SAVE a game position, it will overwrite any position that is already on you storage disk with the number you specified. If you want to SAVE more than one position, you must use a different position number for each one.

Prompt-- PLEASE INSERT SAVE DISKETTE

POSITION (0-7) (DEFAULT=0)
type number between 0-7

Follow prompts for 1 or 2 drives and when to insert disks.

Restore a Saved Game Position--

To restore a previously saved game position, enter the RESTORE command, then follow save steps for SAVE instructions.

STORAGE, OR SAVE DISK ARE MADE USING THE STANDARD APPLE DISK INITIALIZATION PROCESS....SEE DOS MANUAL FOR FURTHER HELP

Trouble shooting--

If the game fails to SAVE/RESTORE:

1. Check to see if drives are connected properly
2. Check to see if disk was inserted properly
3. Inspect disk for damage (visible damage)
4. Be sure disk is in proper drives
5. SAVE- be sure disk is not write-protected
6. " - be sure disk has been initialized properly, as last resort try a different disk
7. If you turned off the Apple or hit RESET, reload game

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DOCUMENT dearc.v1.2

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DE.ARC2GS v1.2 10/6/87
 The original ARC is (c) Copyrighted 1985 by: Thom Henderson of
System Enhancements Associates

The modifications to his program to make it work on the Apple //GS are
 (c) Copyrighted 1987 by Tim Swihart, P. O.Box 26303, Fort Worth, TX 76121

WHAT'S NEW IN VERSION 1.2?????

All previous version of this program were unable to extract files that had been 'squeezed'. I fixed one of the three bugs preventing unsqueezing in version 1.1 (last month), but there were two more bugs waiting to be discovered and eliminated. As far as I know, this version will handle all types of ARC'd files that were created using a standard version of ARC. There is a new type of compression out called 'squashing' that I have not seen the source code for. If I can get the source code (LEGALLY), then I will try to include it in a future version.

If I understand the original source code for this program correctly, then it will abort if it reads a file header that contains an unknown compression method. I have added a couple of lines that should tell you the number that describes that compression. If you encounter this sort of a problem, then send me a letter with that number (a copy of the file would be VERY helpful also) and I'll see what I can do.

This program will allow you to extract archived files that were compressed by a program known as 'ARC'. There are versions of 'ARC' that run on the IBM PC, the AMIGA, the ATARI ST, the 8-bit ATARI's (800xl, etc), and many other personal computers. 'ARC' has been widely accepted by those 'other' users as a standard for compressing files that will be uploaded and downloaded. These compressed file therefore contain a wealth of source code for programmers, a multitude of computer art, etc.

Prior to the release of this program, the only way an APPLE II user could utilize the contents of an ARC'd file was to get someone with another brand of computer to de-ARC it for them. While many of us probably did that (that's how I got some of the source code used to write this program), it was slow and inconvenient.

Now, thanks to yours truly (me), APPLE //GS users can de-ARC those files themselves. This program will only run on either a //GS or a //E that has had its motherboard upgraded to that of a //GS. I will attempt to create a version of this program that will work on the 8-bit //E's, //C's, II+'s, etc in the future.

To use this program, simply copy it to the directory that contains the ARC'd file and double click on its icon. You will be presented with a menu that contains four options. The menu is presented here to make this discussion easier for both of us:

```
[L]ist contents of an archive
[E]xtract contents of an archive
[S]et name of archive to work with
[Q]uit this program
```

The choice is yours =>

It will be easier to start from the bottom ([Q]uit) of the list. To select any of these options, simply type the letter that is within the square brackets and press the RETURN key. If you want to quit, the type the letter 'Q' (upper or lower case, it doesn't matter) and press RETURN. The "[Q]uit" option allows you to leave this program and return to the Finder (or where ever else you launched this program from).

"[S]et name of archive to work with" allows you to change the archive you will be listing or extracting from. This allows you to extract files from several different archives without having to re-start this program for each archive. To select this option, simply type 'S' (upper or lower case, it doesn't matter) and press RETURN. You will be prompted to enter a file name. Make sure you spell the file name correctly. After having set a file name, you will see it listed on the line under the "[S]et name of archive to work with" option. If you want to list or extract from another archive or you want to correct the file's spelling, simply re-select this option.

You are allowed up to fifty characters when you type in the file's name. Obviously this is well in excess of PRODOS' limit of fifteen. However, you can use the remaining thirty-five characters for a partial or full pathname for the target file. This is handy if you want to place the extracted files into a directory OTHER than the one your ARC'd file is in. To do this, simply copy this program into the directory that you want the EXTRACTED files to be in, launch the program, and type the full pathname of the target file.

"[E]xtract contents of archive" option will allow you to extract either some or all of the files that are contained in the archive you are currently working with. If you have not yet set a file name to work with, you will automatically be prompted for one.

Next, you will be asked if you want to extract some or all of the files. If you only want some of them, simply type an 'S' (upper or lower case, it doesn't matter) and press RETURN. You will then be prompted BEFORE each file is extracted. If you want to skip a file, then simply type 'N' or just press RETURN (the default is 'NO'). If you want to extract it, then type 'Y' and press RETURN.

If you want to extract all of the files in an archive, then either answer 'A' or just press RETURN (the default is 'ALL') when asked whether you want to extract all or some of the files.

"[L]ist contents of an archive" option allows you to see the names of the files that are contained in the archive, how much room they will take up when extracted, the compression method used to pack them, and some other information as well. Please note that the names presented to you when 'L'isted may contain characters that PRODOS considers illegal for file names (things like '&' and '_'). Do not let this concern you. The program is smart enough to detect garbage like this and, when extracting those files, will change all illegal characters to periods.

Also, some files may start with a number. If this is detected, then the number will be changed to a 'Z'. This substitution will ONLY take place if the FIRST character in the file name is a number.

After each option is completed, you will be asked to press RETURN to continue. This was added so that any error messages you may have received will still be visible before the screen is cleared. Simply press the RETURN key and the program will continue.

This program is intended to be used from the GS's FINDER or the older Mousedesk v1.1. However, for those of you who would prefer to use it from a shell (such as APW, ORCA/M GS, or ECP16), all you have to do is change the file type from \$B3 to \$B5. Then just treat it the same as you would any other shell command.

If you are using APW or ORCA/M GS, then you should note that you can no longer pass the file's name from the command line. This was done to make way for the menu. Future items intended for inclusion in this program include true directory "walking", the ability to catalog the current prefix, and, one of these days, a desktop (super hi-res) mouse-based user interface.

You can find ARC'd files to download in the ATARI ST, IBM, and AMIGA Round Tables of GENie, or from local BBS's that cater to those computers. To use de-ARC'd ATARI pictures, you will need a special program that can handle them. I recommend Jason Harper's program known as: SHRconvert. It can be found in the GENie downloads as file #1766.

If you have any problems using this program then contact me at:

Tim Swihart
GENie address: TSWIHART
or
P. O. Box 26303
Fort Worth, TX 76121

This program is considered FREeware, however, if you feel like sending me money for it, I will gladly accept it. I intend to make some revisions to this program in the future so that it will be easier to use, have more features, and keep me busy. If you would like to receive those updates directly, then send \$15 to me at the address listed above.

Thank you very much.

Tim Swihart

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DOCUMENT deluxe.v4.1
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DISK DISINTEGRATER DeLUXE V4.1 (TM)
(C) Logix Innovations
Written by Louis Roy
Release date: April 3rd, 1988.

Here is the last update of Disk Disintegrater DeLuxe. What it have more than V4.0? You can now unpack old DDD files. A few changes have been made in "Pack" option, in "Unpack" option and also in "Prodos commands" option.

Notes:

- a) You can keep your configuration file of D.D.DeLUXE V4.0 without any problem.
b) If you use the loading file "D.D.DELUXE.LOAD", you must replace it by the new one.
c) All DDD files packed with V4.0 are compatible with D.D.DeLUXE V4.1 (in both ways).
d) To unpack old DDD files, you must proceed the same way you do with D.D.DeLUXE DDD files.
e) When you unpack an old DDD file, there is no guarantee the unpacked disk is exactly the same as the original disk because there is no checksum in the old DDD file. But if you unpack a new DDD file (type \$DD, with message in the file), if D.D.DeLUXE unpack without checksum error, you can be sure your unpacked disk is exactly the same as the original disk.
f) Last note: For the moment, the documentation has not been updated to V4.1. The present documentation is for D.D.DeLUXE V4.0.

For your pleasure only,
Louis Roy,
The author of D.D.DeLUXE.

===== DOCUMENT deluxe.v4.2 =====

DISK DISINTEGRATER DeLUXE V4.2a (TM)

(C) Logix Innovations
Written by Louis Roy

Release date: July 10th, 1988.

Here is the last update of Disk Disintegrater DeLuxe. Version 4.2 is much easier to use and much faster. Many improvements have been made to D.D.DeLUXE:

- 1) Now, D.D.DeLUXE can pack the track volume # of 5.25" disks. Note: the volume # is not the prodos volume, it's the track volume (the track volume is an old technique used by DOS 3.3 to format tracks of 5.25" disks, but not used by prodos).
- 2) In partial catalog mode, you may configure D.D.DeLUXE to show not only DIR and DDD files, but also REL and TXT files.
- 3) You can configure your D.D.DeLUXE to scan or not, your 5.25" drives (scan = search for a prodos disk volume).
- 4) You can also configure it to scan or not, all your devices connected to your Apple //.
- 5) When you unpack a DDD file and format the target disk, D.D.DeLUXE unpacks it much faster than V4.1 or V4.0. Take note when you unpack a DDD file type ".A " (5.25" disk), D.D.DeLUXE will format your target disk automatically (it's necessary because of the track volume #).
- 6) You can now use all the prodos commands in pack and unpack option.
- 7) In the main menu, you can quit D.D.DeLUXE quickly by pressing CTRL-Q.
- 8) Like version V4.1, V4.2 can unpack old DDD 2.1 files.
- 9) There are also many other modifications you will discover using this program.

Notes:

-
- a) When will run D.D.DeLUXE V4.2, you will have to re-configure it because V4.2 do not use the same configuration file as V4.1 or V4.0.
 - b) If you use the loading file "D.D.DELUXE.LOAD", you must replace it by the new one.
 - c) All DDD files packed with V4.0 and V4.1 are compatible with D.D.DeLUXE V4.2 (V4.2 can unpack V4.0 and V4.1 DDD files).
 - d) To unpack old DDD 2.1 files, you proceed the same way you do with D.D.DeLUXE DDD files.
 - e) When you unpack an old DDD 2.1 file, there is no guarantee the unpacked disk is exactly the same as the original disk because there is no checksum in the old DDD file. But if you unpack a new DDD file (type \$DD, with message in the file), if D.D.DeLUXE unpack without checksum error, you can be sure your unpacked disk is exactly the same as the original disk.
 - f) Last note: For the moment, the documentation has not been updated to V4.2. The present documentation is for D.D.DeLUXE V4.0.

For your pleasure only,

Louis Roy,
The author of D.D.DeLUXE.

===== DOCUMENT design.addendum =====

Eamon Dungeon Designer 6.0 Differences

The Newest version of the Eamon Dungeon Design System has the following new features:

1. New types of artifacts are available. The old versions had only treasures (of fixed value and variable value) and weapons. (Standard and odd.) The new version allows all sorts of new types of artifacts with the code already installed to handle them. In addition, you may create your own types of artifacts.

2. The Dungeon Edit program has been completely re-written to allow easier entry of data. The new program now allows default data for all fields for rooms, artifacts and monsters. This makes it faster to key in data when you want most fields to be the default. You can also change the defaults within the program. A list of improvements is given here:

- a. Defaults for fields
- b. Defaults can be changed
- c. Field labels may be changed
- d. New fields may be added to rooms, artifacts or monster definitions.
- e. Fields definitions may be saved to and reloaded from disk
- f. New types of artifacts may be added dynamically
- g. Artifact formats may be defined or redefined

3. The dungeon list program has been modified to accept version 6.0 data and describe it during the list process.

4. The base program has been enhanced to allow the new artifact types including the commands to activate the new artifacts. Some previous bugs have been corrected.

5. The base program has had a read effects routine added that can be performed by the designer to read and print effects.

6. Embedded artifacts have been installed. Embedded artifacts are those that are not listed as being in the room, although they can be acted upon by the adventurer. For example you could code the description of a room to describe a large statue in the room and then create an artifact for the statue. The description of the statue will not be listed when the adventurer enters the room. This makes it easier to hide things from the adventurer.

7. Locked doors and gates may be set up with no special programming. Simply put the door or gate in the room and set up the data for it. The gates or doors will automatically block the way until they are unlocked or broken down. (yes, they can be attacked and broken with sufficient power.)

8. Bound monsters can be simulated automatically. The programming required is already set up. Simply code the data required.

9. Secret Passages are handled automatically.

On the following pages are some additional details regarding these new features and how to use them.

ARTIFACTS

The new types of artifacts that have been added are listed below:

Old		New		Format Ptr
0	Gold	0	Gold	0
1	Treasure	1	Treasure	0
2	Weapon	2	Weapon	1
3	Odd Weapon	3	Magic Weapon	1
		4	Container	2
		5	Light	3
		6	Healing	4
		7	Readable	5
		8	Door/Gate	6
		9	Key	7
		10	Bound Monster	8

Because these new artifact types must supply the base program with additional information, the designer will have to code this additional information when setting up the adventure. To assist the designer in this task, there have been groups of labels and default data set up for each general purpose. These are called formats. There are eight different formats available as the standard ones. In addition, the designer may set up his own formats using functions in the dungeon edit program. Each artifact type has a format pointer that tells the program which format will be used for fields 5 thru 8. The format pointers for a particular artifact type may also be changed by the designer, although this is probably not ever necessary. The formats available are:

Format 1	Format 2	Format 3
Fld 5 = Weap. Type	Fld 5 = Key #	Fld 5 = Counter
Fld 6 = Compl.	Fld 6 = Strength	
Fld 7 = Dice		
Fld 8 = Sides		
Format 4	Format 5	Format 6
Fld 5 = Chances	Fld 5 = 1st Eff.	Fld 5 = Room#
Fld 6 = Heal Amt	Fld 6 = #Eff.	Fld 6 = Key#
Fld 7 = Nbr Uses	Fld 7 = Read Flag	Fld 7 = Strength
Format 7	Format 8	
none	Fld 5 = Monster#	
	Fld 6 = Key#	
	Fld 7 = Guard#	
	Fld 8 = Att.Flag	

The new artifacts are explained in some detail below:

Magic Weapons - These weapons are locally magical. That is, they are magic weapons within the scope of the current adventure. If they are taken out of the adventure, they will revert to standard weapons. While they are magic, they cannot break except by magical means. This is the extent of their natural magic power. If you want other magic effects, you will have to program them.

Container - This type of artifact can contain other artifacts. The artifact may be opened at which time, the program searches the artifact table looking for any artifact having a room number of 100 plus the number of the artifact being opened. Any artifact meeting this criteria is moved into the room by the program and the message YOU FOUND SOMETHING. is printed.

Light - When rooms are coded in version 6.0, a code for light is included. If the room is too dark to see in without artificial light, you code a 0. If there is a normal amount of light, a 1 is coded. A light artifact is lit using the LIGHT command. This will activate the light so that all rooms entered are lit up. A light will expire after awhile. There is a field coded to indicate how long a light will last. When this number is exceeded, the light will go out never to work again. (There is currently no way to reactivate a light without special programming.)

Healing - This type of artifact will heal the user by the amount specified at the time the artifact was set up. It may be used only a limited number of times before being exhausted.

Readable - This type of artifact will allow the user to read it. The program will automatically read the effects from the effects portion of the EAMON.DESC file. These effects must be added by the designer and the pointers established according to the prompts given by the readable artifact format.

Door - A door has a 'room into' and a strength factor. The 'room into' code is very important, since it takes the place of a room connect code where the door is located. The strength factor is how strong the door is. Doors may be broken down by beating on them.

Key - A key artifact is used for opening containers, doors or freeing bound monsters. The artifacts they are used on will indicate which key works on it, so no additional data is needed currently. Keys point to format 7 which contains no useful prompts. This may be changed if you wish, however.

Bound Monster - This type of artifact is used to simulate a bound monster. The key number needed to free the bound person, the monster guarding the bound monster and a pointer to the monster being bound makes up the data fields of this artifact type.

Location of Artifacts

Version 6.0 also allows artifacts to be in special places. Artifacts are normally coded with room numbers ranging from 1 to the number of rooms in a dungeon. There are now additional codes recognized by the program.

- +100 Inside a container artifact
- +200 Embedded in a room description
- +300 Hidden in a room

For example, if you want to place an artifact inside artifact #9, code it's room code as 109. If you want an artifact to be in room number 17, but not be listed as a separate artifact, code it's room code as 217. If you want an artifact to be hidden in room number 25 (so you have to look to find it), code it's room code as 325.

The dungeon edit program will also allow you to build your own artifact types, or modify existing artifact types, formats, or even monster or room data. This was done to prevent the need for a custom edit program when special fields are needed by an adventure.

ROOMS

The Eamon.Rooms file contains the rooms that you can move into. This file now has the ability to contain new codes that permit the ability to have automatic secret passages, and locked doors. Before this was installed, you had to program these manually for every adventure you wrote.

Room numbers from 1 to 99 are normal.

Room number -99 means exit to the Main Hall.

Room numbers less than 0 and greater than -99 are secret passages. The absolute value of the number is used for the pointer to the room when the passage is discovered. Passages are discovered by using the LOOK command. If you want them discovered by other means, you will still have to program it.

Room numbers greater than 100 are locked doors. The difference between 100 and the room code is used to point to an artifact. This artifact must then be a door or gate. The artifact will specify the room to be moved into, the key number, the strength of the door necessary to enter the room.

MONSTERS

Monsters have not changed from previous versions of Eamon, but the ability to add fields or modify field labels has been added. This allows you to more easily put special programming into your base program when this programming may require additional data to be on the Monsters file.

ADDITIONAL ARTIFACT TYPES

Additional artifact types may be added, using the functions in the dungeon edit, but these additional artifacts will have to be supported via changes you must make to the base program.

Customized fields added or changed from the standard may be difficult to remember and duplicate when you go back to edit a dungeon a second or third time. For this reason, the ability to be able to save and restore these parameters to disk has been installed. The data that is saved off for parameters is listed below.

You should decide before starting your adventure what changes will be made (if any) to the standard layouts, since these changes must be made before any fields are defined. If this is not done, you will end up with monsters or artifacts with the incorrect layout. If you are not adding any fields, it will not make any difference, but if you are the program could bomb while trying to read data from the disk that does not exist.

The file that stores the parameters is sequential and contains the following data.

```
AF - # fields in an artifact (not counting last 4 variable fields)
Field Name 1
Field Name 2
... af
```

```
Default 1
Default 2
... af
```

```
NF - # of Formats
Format Label $ (F,1)
Format Label $ (F,2)
Format Label $ (F,3)
Format Label $ (F,4)
Default (F,1)
Default (F,2)
...
```

```
MF - #monster fields
Monster Label 1
... mf

Default Monster 1
... mf
```

---End of Parameters File---

=====

DOCUMENT designer.manual

=====

A MANUAL FOR EAMON ADVENTURE DESIGNERS

By Donald Brown

EAMON is the computerized fantasy role-playing game developed by Donald Brown. This manual has been written for those stalwart people who are tired of having their characters killed in the many adventures written for the system, and want revenge by creating their own death traps. It is assumed that you are already familiar with the gaming system and the information included in the Player's manual.

Most of the adventures that are written for the Eamon system have been similar to the "Adventure" game that was created by Don Woods and Willie Crowther of MIT, such as the Beginner's Cave included on the master diskette. This manual will both help you design your own scenarios in that type of game but will also permit you to meld any other type of game with the system that you wish.

HOOKING UP WITH EAMON

or

SENDING ADVENTURERS TO THEIR DEATH FOR FUN AND PROFIT

Under the Eamon rules, it takes only a few numbers to completely describe a character. Between adventures, all of the player characters, (or adventurers) that the Master system knows about are stored in a file on the Master that is called "CHARACTERS". It is a random-access file with a length of 150. Record 0 holds the number of records used in the file, and all subsequent records may hold one character. If the first string in the record is null ("") then the character in that record has been deleted and the record may be reused to store a new character. The data held in each record is :

A string that has the name. The next numbers stored are (in order) player Hardiness, Agility, Charisma, the four spell abilities (Blast, Heal, Speed, and Power), the five weapon abilities (Axe, Bow, Club, Spear, and Sword), the player's Armour Expertise, the player's sex as a string ("M" or "F"), gold pieces carried, gold pieces in the bank, the player's armour class (Leather=2, Chain=4, Plate=6, with one added for a shield), then for each of a player's four weapons the name of the weapon, the weapon type, the weapon

complexity, the weapon dice, and the weapon's sides per die. If a player does not have four weapons, his weapons will be first, and all other weapon weapon names will be "NONE". Except for name, sex, and weapon names all of the information is stored as an integer number, with all probability numbers stored as percentages (perfect=100).

When a player leaves the Main Hall to go on an Adventure, first his character is deleted from the CHARACTERS file, and then the player is prompted to change diskettes. The program then tries to read a program name from the file EAMON.NAME on the adventure disk. If this name is found, a file called FRESH MEAT is opened on the disk and the data that was in the record of the CHARACTERS file is written into that file, preceeded by the record number that the character previously resided in. Finally, the program given in the EAMON.NAME file is run.

Once the adventure is over, control must be returned to the main Eamon programs. If the adventure ended in the character's death, all that must be done is deleting a file called "THE ADVENTURER" from the master diskette and running MAIN HALL. (You may instead directly run THE WONDERFUL WORLD OF EAMON and then do not need to delete the file. If you do want to go the MAIN HALL route, it might be advisable to open THE ADVENTURER before deleting it, to make sure it will really be there.)

If the character survives your adventurer, you will have to recreate him into the CHARACTERS file. The Main Program logic is already writing the character his own character record now, but you may want to change this if you have a special reason for it. Normally this is simply writing in the new information of the character into the old record given in FRESH MEAT. However if your program has the ability to quit for a while and come back later, it is possible for a new character to be stored in the old record. In this case you should search the CHARACTERS file for a free record to store the character, and write it in there (for an example of how this is done, list the NEW CHARACTERS program on your master diskette).

Once you have stored the character into the CHARACTERS file, you must re-create a file called THE ADVENTURER which has two pieces of data in it-- the name of the character, and the record he resides in of the CHARACTERS file. This too, is already done by the logic of the Main program, but it may

be necessary for you to know what is being done, in case you want to change it. Once this is done, run MAIN HALL to finish. (Also currently done.)

USE OF THE DUNGEON DESIGN DISKETTE

The Dungeon Design Diskette is designed to make the job of entering new Adventure-like scenarios much easier. It includes a base to work from for your program, as well as a simple means of entering the data into the text files needed by that base program.

Version 5.0 of the Dungeon Designer Diskette will contain two versions of the Main Adventure program. One is called MAIN PGM (or BASE PROGRAM 2.0) and the other is MAIN PGM 10 (or BASE PROGRAM 10).

Version 6.0 will only contain MAIN PGM, but will contain an extra file called CONVERT MAIN>MAIN 10. This is a text file that can be executed (using the DOS EXEC command) to convert MAIN PGM to a ten direction version. To do this simply load in MAIN PGM and type EXEC CONVERT MAIN>MAIN 10. You will see some Applesoft prompts. When it stops, you will have a ten direction version of the MAIN PGM. You may then save this on your adventure diskette.

The first step in creating your adventure is initializing the diskette. The program on the DDD (Dungeon Design Diskette) will do several things for you--it will INIT the diskette, put your program's name into EAMON.NAME, and put in the starting data needed for the dungeon editing program to work. It also creates a boot program that identifies this diskette as an Eamon adventure by you! You will be asked for an adventure number, this must be an integer from 1 to 254, since it is used as the disk volume. It is not important what number you assign, it will be assigned to the next valid number - once you have submitted it to the library.

When you have initialized your diskette, you should delete the text file SAVE LEADIN PROGRAM HERE. Then re-insert the DDD and load LEADIN PROGRAM. The diskettes should be switched again and you will type in SAVE (your adventure name). You must spell the name to be saved -in () above exactly as you did when you typed in the name of the adventure during the initializing process. Then re-insert the DDD and type LOAD MAIN PGM or LOAD MAIN PGM 10 (depending on whether you

answered 6 or 10 directions during the initialize process. The MAIN PGM 10 should be used if you answered 10 to the number of directions. Otherwise, use MAIN PGM. Now re-insert your new adventure diskette and type SAVE MAIN PGM. Note --- here you use 'MAIN PGM' regardless of which program you loaded. You are now ready to begin entering data for the adventure. Insert the DDD and run the program 'DUNGEON EDIT'. This program is the one that puts your basic dungeon design into the files.

A few general remarks are in order now--First of all, you should always have your dungeon designed before entering it. Decide what rooms you have, how they connect, what monsters inhabit those rooms (and what their attributes are), and what treasures are sprinkled about.

For each of the four things you can enter (ROOM, ARTIFACT, EFFECT, and MONSTER), you can either add a new one onto the end of the list, or edit one already there. You cannot delete a thing already there (though you can replace it through editing). You also must not go beyond 100 of any of the things (though the total can go over 100). Actually you will run out of disk space long before you hit the limit of 100 on these items. The more practical limits of the system are: (-in general-)
 Rooms: 50-85 Artifacts: 35-50;
 Effects: 0-25; Monsters: 12-35.
 If you do go over the 100 limit on anything you will not be warned of your error, but you will not get the results you wanted.

Adding and Editing will be almost identical for all four data types, except that in 'editing' your old entry will be placed after the cursor at the start of entries. Every time you are to do more entry than just hitting one key, the entry will be done with a special input routine. It appears to be the standard Apple input on first glance, but it has many significant differences. First of all, the old Escape-key editing features do not work. Instead, the following control keys do things--

ESC--this returns, accepting both what is before and after the flashing cursor. It is very useful while editing since if you simply hit ESC no change will be made.

RETURN--this also does a return, except only accepting what is before the cursor.

CTRL-B--this moves the cursor to the first character of your input.

CTRL-E--this moves the cursor to the last character of your input.

CTRL-D--this deletes the character that the cursor is sitting on, bringing the characters after the cursor forward one space.

CTRL-I--this inserts a space where the cursor is, moving all characters after the cursor back one space. This is good if you are entering a line that you want to look good as it wraps around your 40-column screen.

<-,> (FORWARD & BACKWARD ARROWS)-- these move the cursor back or forward by one character.

Your entries cannot go over 250 characters, and you should not use quotation marks ("). You may use commas and colons in descriptions only. Do not have any trailing spaces on the names of items. (Applesoft regards "LION" as being different from "LION ", though your player may not recognize the difference. Additionally, if you are entering a number, enter only a number, do not include any leading or trailing spaces or other extraneous characters. The program won't like them and will simply spit them back at you.

Another thing to watch out for is names on artifacts that begin with a number. The program will accept them and you can use them, but when you try to give the item to a monster the program will not understand. For example assume you want to put an 8 inch knife in your adventure. When adventurer picks it up and tries to give it to his friend the Doctor, the Doctor will think he is being given 8 gold pieces. That is because the program looks at the artifact name and because it begins with a number, it mis-understands.

For every room, you will need to give eight pieces of data. First is the room name, which cannot go over 39 characters. In the program it will be printed as: "YOU ARE (room name)", so you should use names like, "AT THE CAVE ENTRANCE". Secondly you will need to give a room description. It is not preceded by anything, so it must be a full and complete description. If your description is longer than 40

characters, you must pad it with spaces so that when the description wraps around the Apple's 40-column screen, the breaks are between words. Finally, you will have to give the room numbers that you can get to from that room in each direction. A special code has been developed--if you give a room of 0, you can never move that direction. If you give positive direction, there's an open connection. Negative numbers are special and usually indicate a secret passage. Another special code is -99 which indicates the exit to home. Negative numbers can be easily made to have special results by altering the base program (see below).

Artifacts are somewhat similar. An artifact is any non-living thing that is in the dungeon. In addition to what you might normally think of as the artifacts you want to include: (gold, silver, statues), you must also have as an artifact all weapons used by your monsters, as well as a dead body for every monster.

For each artifact, you will again need a name (this time just the normal name, such as "GOLD COINS") and a full description. You will also need to give the item's room that it starts in, its value in gold pieces, its type and its weight. The room is usually a positive number, however if the item isn't in the dungeon yet (such as a dead body) you should assign a room of zero, and if the item starts by being carried by the player, its room is -1.

There are four types of artifacts. Type 0 is a treasure with a value that will not change with the player's charisma, such as a pile of gold coins. Type 1 is a treasure whose value will vary with the player's charisma, such as a Persian rug. Types 2 and 3 are weapons, with 2 being a weapon that can be bought at the Main Hall, and 3 a special weapon.

If your artifact is a weapon (type 2 or 3), you will also have to enter some more information on it. First is the weapon complexity, then is the weapon type (1=axe, 2=bow, 3=mace, 4=spear, 5=sword), then the weapon's damage with first the number of 'dice' thrown for that damage, then the sides per die.

The other major type of data to be put in your files is monsters, which are any living (or animate) things in the dungeon. Monsters are similar to characters, however they are assumed to have their full armour expertise and

know all weapons equally well. For each monster you will need the name, the description, then hardness (as with a player), agility, friendliness (the percentage chance of making friends with a character of a charisma of 10), courage (will flee from a fight after he has received that percentage of his hardness in hits, on the average), room starts in (may be zero if in a chest or other special thing activates him), his body weight, his special defensive odds (normally 0, but magic or size/speed may make some monsters harder to hit), defensive odds are a %. Armour (hits absorbed or stopped - per blow. This may be things such as a furry skin or magical effects), and the weapon number (a pointer to some artifact. If the weapon number is 0 it is assumed natural weapons: claws or teeth. If the weapon number is -1 then the monster isn't carrying a weapon). You will then have to give for that weapon the monster's complete chance to strike a blow with it, and its sides and dice of damage. These numbers do not have to be consistent with the numbers given in the artifact list; a monster may know how to use his weapon better than someone who doesn't know some secret, and the chance of hitting is of course affected by the monster's weapon expertise and other information not stored.

There is a fourth thing that can be entered called an "EFFECT". It is there for your own special use--it permits you to store some strings on disk so that it can be called in quickly. The code to read effects is not in place in the base program (Main Pgm). To read an effect (number E, for example) use a routine such as:

```
PRINT DK$;"READ EAMON.DESC,R";E+200
: INPUT A$: PRINT A$: PRINT DK$.
NOTE: This routine also prints the
effect (A$) that it reads. For further
examples of its use you might want to
check out The Beginners Cave. It is
also included as room for expansion of
the DDD.
```

Once you have put all of your data into your files, you will probably want to see what you entered, to catch errors and get a good overview. There is a program included on the DDD that will list all of your data in a simple, organized fashion. It will list all of your rooms, artifacts, and monsters in order, also pointing out what sort of "links" have been set up (what is the room name you are moving into, what is the name of the artifact that the monster uses as a weapon, etc.) If one of these links goes to the wrong

thing, there's an error! If you want to put this output to a printer, you must modify lines 9000-9999 of the program DUNGEON LIST to start your printer and set the value of PL to the line length of your printer, less one (39 for the Apple's screen).

There is also a program included called DUNGEON LIST (OLD) which was written to work with the older system of files where EAMON.MONSTERS and EAMON.ARTIFACTS were sequential files. Although it might be very useful to examine other people's dungeons after you have played in them to learn how to design your own, it goes without saying that only a cur and a scoundrel would list someone's dungeon before playing to avoid dangers!

ADAPTING THE BASE DUNGEON PROGRAM

All of the work above was to put your dungeon into a format that the computer can use. It couples with a program called the BASE DUNGEON PROGRAM (or on later versions called MAIN PGM or MAIN PGM 10). If no sliding doors, things hidden inside of other things, etc. are needed, and you are using the original DDD, you can simply save the base program on your diskette and have a program that prints the explanation or mission run this program. If you have a newer version of the DDD and have already saved the MAIN PGM and your (name of adventure) program, you are all ready to go.

However, if you want special effects such as a sword that teleports the user to another room at random times (gee, I may use that) these explanations should help you.

Lines 100-999 are the main loop. Every time a command is gotten, those lines are run through. If you want to have something done (or checked for) every turn, it should be put in lines 500-900.

Lines 1000-1999 reads in monsters and artifacts from disk, as well as doing other initializing. If you want to add a new command, you will have to change line 1910 (increase the number in the DATA statement), 1920 (add the new verbs--no spaces are permitted), and line 290 (add the line numbers to go to). If you want special things to happen at the start, such as a fee from the player's gold for some item, do it in lines 1150-1890

Lines 2000-2999 are the closing routines. When this is entered, if

the variable DIE has a non-zero value the player didn't survive. Lines 2100 thru 2290 are for your additions.

Lines 3000-3999 are the movement commands. If you want to magically move the player, set R2 to the number of the room to enter and go to 3500. If something happens so as to make the monsters reconsider their reactions to the player, a GOSUB 3600 will check the reactions of all monsters who are unaligned (see below). If you have special results and/or conditions for movement and have thus given negative room numbers in the editor, the place to check is in lines 3050-3490

Lines 4000-4999 are to get things. Lines 4200-4899 are the place to add special results when getting some artifact. You may place synonyms in lines 4030-4110 (such as, 4030 IF S\$="BAT" THEN S\$="VAMPIRE BAT"). Finally, if a command MUST have a subject, GOSUB 4900 will ensure one is gotten.

Lines 7000-7999 are the attack commands and subroutines. Lines 7700-7999 are to kill monster M. If things happen when a monster dies (such as dropping something from the body), it should be put in this section.

Lines 13000-13999 are the Power Spell. As told in the Players manual, this spell can do anything at all--feel free to through out this section and add your own.

Lines 16000-16999 are the say command, which is very useful for 'words of power' or some other strange effects.

Most of the variables are self-explanatory and also can be changed locally if desired, but a description of some of the others are--

AC - Armour class of player
AD%(*,*) - Artifact data

The first subscript is the number of the artifact, and the key for the second is:

- 1=Value
- 2=Type
- 3=Weight
- 4=Room
- 5=Complexity
- 6=Weapon Type
- 7=Dice
- 8=Sides
- 9=Flag if seen

AE - Armour expertise
AN\$(*) - Name of artifacts
BANK - Gold player has in bank
C - Holds number of command given
C\$(*) - Verbs program responds to
CH - Player charisma

CZ\$ - last command given
DF - defender
DIE - Logical flag, 1=player died
DK\$ - holds CTRL-D for disk commands
DR%(*) - room moved in each direction
EA - effect of armour on odds-to-hit
FD%(*) - full damage of side in combat
FR - fumbler roll/friend rating
GOLD - gold player has on person
HIT - logical flag if hit in combat
INC - logical flag if ability increased
LK - logical flag if 'looked' already
MD%(*,*) - monster data

First subscript is monster number, second key is:

- 1=Hardiness
- 2=Agility
- 3=Friendliness
- 4=Courage
- 5=Room
- 6=Weight
- 7=Defensive odds (%)
- 8=Armour
- 9=Weapon #
- 10=Odds to hit (%)
- 11=W Dice
- 12=W Sides
- 13=Damage
- 14=Reaction
- 0-not met
- 1-unfriendly
- 2-neutral
- 3-friendly

MN\$(*) - Name of monster
MR - Monster morale
NA - Number of artifacts
NBTL - logical flag if in battle
NC - Number of commands
NM - Number of monsters
NW - Total count of weapons in game
NZ - Number artifacts not player weapon
OF - Number of offensive monster
RAISE - logical flag if power raised
REC - Player record in char file
RL - Random number 1-100
ROOM - Room player currently in
RR - Random number 1-100 for power
S\$ - Subject of command given
S2%(*) - Current spell ability
SA%(*) - Total spell ability
SEX\$ - Holds 'M' or 'F' for player
SPD - Number of turns speed spell to go
SUC - logical flag if spell succeeded
TD%(*) - Damage taken for side
TP - Total price of treasure
V\$ - Verb of command
V%(*) - Flags if player been in room
WA%(*) - Player's weapon ability
WD%(*) - For weapon, dice of damage
WN\$(*) - Name of player's weapon
WO%(*) - Weapon complexity
WP%(*) - Weapon pointer (in close)
WS%(*) - Sides/die of damage for weapon
WT - Weight player carrying
WT%(*) - Weapon type
WZ - Number of weapons player brought

Once you have "played-out" other

people's adventures, it would definitely be a good idea to tear it apart to see how other people have adapted this program to their own use. Also, if I might give a few suggestions to new Eamon dungeon designers-

1. Be fair to the adventurer. Don't try to stack the odds totally against him. A good rule of thumb is that an adventurer can lick about five times his own Hardiness in opponents, with allies Subtracting their Hardiness from the opposition. If you continually design pure death traps (and don't reward the successful outrageously), people aren't going to want to send their carefully-built up characters through your dungeons. On the other hand, if your dungeons are just big give-aways, they will quickly become boring.

2. You can place one or two traps of the zap-you're dead type (such as the book in the Beginner's Cave) so long as they are not overdone and are not required to survive them to get out. Thus, if your only way out of the tunnels is drinking a potion that half of the time teleports you away, the other half poisons you, it isn't fair.

3. Particularly to those who have designed dungeons for non-computerized role-playing games, remember that there is only one adventurer going in, not an army! No matter how great a character is, he cannot by himself handle a dozen thugs.

4. Last but not least, don't be afraid to break any of these rules. If you truly believe that your dungeon will be better, do anything you please. The worst that will happen is that people will not play in it and you'll have to change a few things.

.FF
The process of creating your own adventure in Eamon will require that you have a basic knowledge of programming in Applesoft and in operating your system as far as being able to load and save programs as well as copying files and diskettes. If you are unfamiliar with these operations, you should review them until you are comfortable doing these functions.

The following is a summary of the steps to follow to create an adventure of your own. This summary is provided to allow you an easier step-by-step method of creating your scenario.

1. Be sure you have everything you need

The things you will need are:

- a. A theme for the adventure. This is usually the hardest part.
- b. A map of the setting for the adventure
- c. A list of all the monsters that will appear.
- d. A list of all the artifacts you will need.
- e. The DDD (Dungeon Designer's Diskette)

2. The next step is to initialize your adventure diskette. This is done by booting on the DDD and selecting the initialize function. You will be requested to replace the DDD with a blank diskette. Then you will be asked for the name of the adventure, the adventure number and the author's name.

THE DISKETTE THAT IS SITTING IN THE DISK DRIVE AFTER THESE QUESTIONS ARE ANSWERED WILL BE INITIALIZED. FOR THIS REASON, YOU SHOULD ALWAYS KEEP YOUR DDD WRITE PROTECTED.

3. When the diskette has been initialized, you'll need to copy two programs from the DDD to your adventure diskette. The first one that should be copied is LEADIN PROGRAM. Copy this one by:

- a. Insert the DDD and type in:
LOAD LEADIN PROGRAM
- b. Insert the adventure & type
DELETE SAVE LEADIN PROGRAM HERE
- c. Now type: SAVE (whatever you called your adventure)

The name that you use in the save command must be the exact name that you used when you initialized the diskette.

The second program that you have to copy from the DDD to the adventure diskette is the main adventure program. The name that this program goes by on the DDD may be one of the following:

BASE DUNGEON PROGRAM
BASE PROGRAM 2.0
MAIN PGM

This will depend on which version of the DDD that you have. If you answered the question "six or ten directions" as 10, then you will have to use the ten direction version of the main program.

Some versions of the DDD do not have

Des Moines, Ia 50316

It will then be an "official" Eamon Adventure and may be distributed.

If you have any questions or problems designing an adventure, write to the above address. We will do our best to help you get back on the right track.

THE END

this capability. However, if you did get a question on how many directions you wanted, your designer does have this capability. If you are using version 6.0, and you want to use ten directions, you have to create a ten direction version of the main program. This is a very simple process. Simply load the MAIN PGM program into memory, and type : EXEC CONVERT MAIN>MAIN 10.

When the process is complete, you will have a ten direction version in memory. You may then save this on the adventure diskette. When you have the appropriate program in memory, insert the adventure diskette and save it under the name MAIN PGM.

4. The next step is to add the data or information about your adventure. All items are added using the DUNGEON EDIT program. Boot on the DDD and select modify an adventure. The edit program is run and then requests you to insert your adventure diskette. You will then add all of your rooms, artifacts, effects and monsters. This may take several days, so whenever you get tired of entering, select quit option. All of your items will be saved and you can pick up where you left off.

5. After all your rooms, artifacts, etc have been entered, you may make your program changes to MAIN PGM. These will be all of the things that you want to be special about your adventure.

6. The next phase will be to test your adventure. The best way to do this is to be sure the PRINT DK\$"DELETE FRESH MEAT" statement has been deleted from the MAIN PGM, (..try line 1055 or 1050) and that your main program has been saved to the adventure diskette after making your changes. Then boot the Eamon Master diskette. Select the character to be used to test with and take him into the Main Hall and select adventure. Insert adventure diskette and you should now begin your test. From that time on, to repeat a test you should be able to simply run MAIN PGM. (Or if MAIN PGM is already in memory, simply type RUN)

Another helpful hint: to restart an adventure if it bombs off you should be able to type GOTO 210.

7. When you are sure your adventure is ready you could have a friend test it. When the adventure is completely ready, send a copy of it to:

John Nelson
1226 E. University

=====

DOCUMENT deskcolor.hist

=====

+ DeskColor Control Panel History +

v3.1 Update Pattern selector, auto-update to new desktop when closing
 - Changed pattern selection from a dialog to the active Control Panel to allow for a more logical interface. Includes Delete and Insert pattern.
 - Automatically updates desktop to current pattern/graphic when closing.

v3.0 Complete TuneUp to prepare for System 6.0
 - Fixed some quirks, more user friendly and smaller.
 - Changed interface to popup menus.
 - Added save as a Binary PTRN file.
 - Changed Pattern Editor to allow "Painting".
 - Added a "None" desktop type command which updates the Finder.Def file.
 - Available as a Temporary Init file that can be updated with the CDev to save much space on your boot disk (2.5K vs 15.5K)

v2.5 Bug Fix
 - Changed the handle size so that the resource and message will always be the correct size. This used to work automatically. Apparently something with the DMA SCSI card System Software and System 5.03 changed that.

v2.4E Bug Fix
 -Changed some code in Desk Color and LoadPic to more effectively handle errors. This should eliminate all problems that have been experienced, especially with desktop pictures.
 -Compiled with the release version of ORCA/C v1.1 instead of a beta.

v2.2E Bug Fix
 - Changed one line of code to correct a bug "I" introduced that prevented reloading of a picture during a boot.

v2.1M Pattern and Picture loader without Editor
 - "M" version saves space and time, but must use patterns already created.

v2.1E Bug Fix and improvement
 - "E" version includes built-in pattern editor
 - Modified Interface (buttons) slightly
 - Fixed a few minor bugs and improved efficiency
 - Added more error trapping
 - Added ability to load any pattern from a multiple pattern file
 - Added ability to save multiple pattern filled files

v2.0 Major Revision
 - Changed interface drastically
 - Added pattern editor with load and save capability
 - Added compression routine for saving pictures to save disk space

v1.1 First major release
 - Added Standard File Dialog to find the picture to load to the desktop.
 - Cleaned up some more "ORCA/C" bugs
 - Polished 320 mode button sizes

v0.32b
 - Still a beta test version, but I haven't heard any complaints
 - Cleaned up buttons display in 320 mode
 - Cleaned up save file routines so no errors will occur
 - Cleaned update desktop routine to recognize last color used
 - Added ability to load a picture to desktop

v0.24b
 - This is a beta version and the first release, it can't be absolutely guaranteed to work in ALL circumstances.

=====

DOCUMENT deskcolor3.1

=====

+ Documentation for DeskColor Control Panel v3.1

Here is a Control Panel that allows you to change the color of the IIGS desktop from the old periwinkle blue to any pattern or to a picture. Whatever pattern or picture you choose or create becomes the new desktop the next time you power up the computer, close the Control Panel, or launch another application.

I want to thank Vince Cooper for reinspiring me to complete this project. His article in Call A.P.P.L.E. got me back on the ball. Look for the source code for this utility.

Catch me as:

America Online: DAVE L32
 GENie: D.LEFFLER
 Snail Mail: Dave Leffler
 14 I Cape Drive
 Fort Walton Beach, FL 32548

+ Distribution:

This product is classified "Jesus-A-ware". It is the equivalent of FreeWare. It is distributed the same as God's Love. That means it's free to anyone who'll accept it. It will be given to anyone, regardless of who or what you are or have been. It's not where you've been, but where you're going!

Everyone is free to use the "JesusAware" name. Spreading the Gospel message through Software. This product is free. Give it to everyone, even if they don't have a computer! This work is a labor of love for my Lord and Savior Jesus Christ! Just as knowing Christ gives you a colorful background, this Control Panel gives your IIGS desktop a colorful background.

+ How to Install:

Copy the file "Color.CDev" to the "CDEVs" folder in the "SYSTEM" folder of your boot disk. You MUST do this with the Finder or another GS/OS compatible utility program or it will not copy correctly. It is an extended file. The NEXT time you open the Control Panel NDA, you'll see the "DeskColor" icon. You do not have to reboot your computer! If you experience problems with the Control Panel NDA, you might want to delete the "CDEV.DATA" file found in the "CDEVs" folder, since the NDA sometimes has problems when a new Control Panel is installed.

To keep the same pattern/picture you are using now, (i.e., you're updating to this new version) just open this Control Panel after you've installed it (select the DeskColor icon), then select another Control Panel or close the Control Panel NDA. Your pattern/picture is saved painlessly. Again, if you experience problems with the Control Panel NDA, you might want to delete the "CDEV.DATA" file found in the "CDEVs" folder, since the NDA sometimes has problems when a new Control Panel is installed.

+ How to Use it:

Fairly Simple! The type of background can be found in the right hand menu, just select the type you'd like to use for a desktop background. You'll notice the current desktop type is displayed as the menu choice. The three types of backgrounds are Pattern, Graphic, and None. "None" is fairly self-explanatory. It removes any desktop messages from the system, and also updates the "FINDER.DEF" file on your boot disk to clean up the Finder's desktop.

Selecting the "Pattern" menu will display a pattern editor, if it was not already active. The pattern editor is divided into the following areas:

Upper Left: Current pattern display Upper Right: Grid to design pattern
Lower Left: Current color Lower Right: Color selection area

The scroll bar and two buttons below the current pattern display allow you to move between multiple loaded patterns, insert a new pattern, or delete the displayed pattern.

Please try not to confuse loaded patterns and the file from which they came from, and the system pattern. There is only one system pattern and it is saved (attached) to the Control Panel file whenever you close the Control Panel. Pattern files are only saved/updated when you select the "Save As .." commands.

To change the current color, click in the color selection area in the color you'd like, you'll see the current color change.

To fill in the pattern grid with the current color, click in the current color area, you'll notice the grid fill with that color and the pattern area will also update to reflect this.

To change the pattern, click the the appropriate block on the grid, you'll notice that block change to the current color and the pattern area will show the updated pattern. You may also drag here to "paint".

To temporarily change the current desktop to the current color, click in the current pattern display. I wouldn't suggest doing this in the Finder, because it will cover up ALL the icons. No big loss, just close all the windows, press "Open Apple A" to select all icons and it will pull them back to the top. This will not actually send the new pattern into the system, but just change this desktop. Unless you select "Revert" before you close the Control Panel, this temporary desktop will be replaced by the currently selected desktop.

If more than one pattern is currently loaded, the scroll bar can be used to move between and select the different patterns.

If you would like to insert a new pattern, click in the "Ins" button or press the "clear" key. A periwinkle blue pattern is inserted before the currently displayed pattern. You now have one more pattern contained in the loaded patterns. The pattern file is not updated until you use a "Save As .." command.

If you would like to delete a pattern, use the scroll bar to select it, then click in the "Del" button or press the "delete" key. The currently displayed pattern will be deleted from the loaded patterns and you'll be moved to the previous pattern. If only one pattern was loaded, it will be cleared to periwinkle blue. The pattern file is not updated until you use a "Save As .." command.

When you get a pattern you like, you can do several things with it. You could see it temporarily on the screen (try it out) by clicking the current pattern display. This will not actually send the new pattern into the system, but just change this desktop. If you don't do anything, your pattern will be sent to the system becoming the system pattern and saved when you close the Control Panel NDA or DeskColor Control Panel. You should see the new pattern on your desktop immediately. If you were just editing a pattern, you could save it to a pattern file. Again a reminder, the pattern files are ONLY updated/saved when you use a "Save As .." command. The system pattern is updated when you close the Control Panel.

To load a picture, select the "Graphic" menu item. You'll be presented with a Standard Get File Dialog. The file may be of any SHR type; i.e., Screen (PIC, \$C0), PackBytes (PNT, \$C1, aux \$0000), PaintWorks (PNT, \$C1, aux \$0001), Apple Preferred (PNT, \$C1, aux \$0002), or PaintWorks 640 mode (PNT, \$C1, aux \$8000). You must keep in mind that the picture will be used for both 320 AND 640 mode, so it should be one that looks okay, even when the colors change. I would suggest using my ShowPic NDA to see the pictures and/or modifying them first if you don't know what they'll look like. A pattern or some sort of design/logo would work very well, but a portrait won't. The new picture will be drawn to the screen after you close the Control Panel.

The left hand menu is the command menu and it may not be needed. The first command "Open" will open a pattern or graphic file depending on the selected desktop type. This command is automatically selected when you select 'Graphic' from the type menu. When you load in the saved patterns, the file you choose will be loaded. You'll then see a dialog asking whether you want to cancel loading the pattern file, replace the loaded patterns with the patterns from the pattern file, or add the new patterns to the end of the currently loaded patterns.

The "New" command erases all patterns from memory except the one that is displayed. When you next save, it will be a file with only one pattern. This command will not change the pattern currently displayed. You would use this command if you load a pattern file of 60 patterns just to get one of them and then you want to save only that one pattern to a new file. This command also reverses the effect of the 'Revert' command (works for graphics also). You will notice this displayed with there is only one pattern loaded.

The "Save APF" and "Save PTRN" commands work similarly. They each save the currently loaded pattern(s) to a file. You will get a Standard Dialog for saving a file. If you loaded your patterns from a PaintWorks Graphic or other file, please don't replace it. The preferred method of saving is in Apple Preferred Format (APF), however the PTRN option saves it as a binary file with the "PTRN" and number of patterns header (like Pattern // and Desktop Lord use).

Use the "Revert" command to prevent your new pattern/graphic from being sent to the system. Normally every time you close the Control Panel NDA or DeskColor Control Panel, the selected desktop is sent to the system and saved on disk. The Revert command can be used for backing out of an experimental editing session or any time you change your mind. HOWEVER, if you go back and continue editing the pattern or select a new background type, you'll notice the "Revert" command goes away. The newly updated desktop will be then sent to the system. To reverse the effect of "Revert", you could select the "New" command.

The "Update Init" command is used to save the currently select desktop to the DeskColor Temporary Init file. The init file is much smaller to use, but doesn't provide any way to edit the desktop. I would suggest using it only after you have decided which desktop you want to live with. The first desktop loaded will be the one used. I would suggest only having the Control Panel or Init active on your boot disk. If you don't have enough space on your boot disk, get the Control Panel up running first (even if you have to leave off all your favorite NDA's and Control Panels), select DeskColor Control Panel, choose a desktop, then Update the Init. You may then remove the Control Panel from your boot disk and use the Init file. The "Color.Init" file should be placed in the "SYSTEM.SETUP" folder in the "SYSTEM" folder of your boot disk. Depending on the catalog order (not alphabetized order) of the "SYSTEM.SETUP" folder, the Control Panel (CDEV.INIT) or Init (Color.Init) whichever is first, will be the desktop used. DeskColor DOES NOT update the desktop when booting if another utility has ALREADY set the desktop. However, the desktop WILL be updated everytime you close the DeskColor Control Panel, unless you have selected the "Revert" command.

The menus should be fairly accurate. The type menu ALWAYS displays the current background type or the one you've requested. The command menu will display "Revert" until you select "New" or "Open" or draw in the pattern. If you close the Control Panel with either "New" or "Open" displayed, the new desktop is sent to the system. If "Revert" is displayed, the desktop is not changed. If you have selected "Pattern", "Open" means more than one pattern is loaded, and "New" means a single pattern is loaded.

Keep in mind that a picture message takes up 32K of memory and will also take up almost as much disk space when saved. This makes the Control Panel file grow up to 50K when you have selected a picture. A pattern/color is 1000 times smaller to store. To be honest a graphic desktop takes up over 64K of memory, so if you have memory shortage problems, use a pattern instead.

+ Known Quirks:

There is a big difference between the way 320 and 640 mode work. You'll notice that the colors change on pictures, but the shapes stay the same. There are 16 colors in 320 mode and 4 colors and some mixes in 640 mode. Patterns are also different. In 320 mode a pattern is 8 points by 8 points with 16 colors. In 640 mode a pattern is 8 points by 8 points with 4 colors, but to get 16 mixed colors it goes to 4 points by 8 points. You'll notice the different displays when you bring up the editor in 320 mode and 640 mode. The 640 mode pattern is always the top half of the 320 mode pattern when switching. Meaning, a box pattern drawn in one mode will be a uniquely odd pattern in the other mode with different colors. When editing a pattern in 640 mode a copy is placed in the bottom half of the pattern for 320 mode to create a symmetrical pattern. You may modify the bottom four lines of the 320 mode pattern WITHOUT affecting the 640 mode pattern. I personally first create a good looking 640 mode pattern, save it, go to 320 mode and edit the bottom 4 rows for a good 320 mode pattern.

To obtain a consistent pattern in both 320 AND 640 mode (like Graffiti), use your favorite paint program. Select your pattern and fill the full screen, then save that file. You can then load that graphic file into DeskColor. That's basically how Graffiti does it, not with patterns, but with graphics.

Earlier versions of ProSel 16 (pre-8.54?) wipe out the desktop message when launching a ProDOS 8 program. Glen mistakenly used the same message number as the desktop uses. I would suggest updating to the most current version of ProSel 16 anyway, especially if you are experiencing any problems.

The Finder draws it's own desktop. To get it updated, you may have to select, then close DeskColor up to three times. This should work with graphics, but it is pretty picky when it comes to updating to a new pattern. The easiest way is to click in the current pattern area, which covers all the icons, then Close All windows, then Select All to bring the icons to the front.

AppleWorks GS seems to have problems sometimes if you are using a picture. I don't know if this only affects ROM 03 machines or other also. I have never had a problem with this myself.

+ Look for the source code somewhere nearby. It's in ORCA/C v1.3 with APW v1.1 Rez files and ORCA/M for the picture loading routines.

This program contains material from the ORCA/C Run-Time Libraries, copyright 1987-1989 by Byte Works, Inc. Used with permission

+ Future Additions:

- Ask! You've got my addresses.

===== DOCUMENT dg.important =====

** Importanta Read ** Jan. 13,1991

DreamGrafix is a Copyrighted program. If you give anyone a copy, you are breaking the law. If you give anyone a copy and we find out, we will not send you anymore updates to the program. DreamGrafix has your name and a serial number encrypted within the program, so we can identify whose copy everyone has. There are under 10 copies in circulation. Depending on the severity, we may prosecute you to the fullest extent of the law. I wish I didn't have to include this, but this is our bread and butter, and if you give away copies, you are stealing from us.

On a brighter note.

What's New?

After about two weeks of work, we have what is dubbed DreamGrafix v.5. We call it v.5, but our version numbers are always up to date with the status of our program. First, you may notice we have a new look. A couple of items have been added to the bar, and some deleted. DG now supports 4 levels of magnification in fatbits, and two grid modes. The SBC 3200 (full color) has been redone, and now works perfectly with TWGS and ZIP GS. SBC 3200 fatbits are in full color and this mode currently works, the other 3200 color fatbits is almost completed. The palettes now follow in 256 and 3200 color modes, and hopefully, the current palette selected will stay on the screen more often. We are very pleased with the progress made on the project, and have pushed back the final release date about a month. We estimate the program will be done by the end of February or the beginning of March.

Docs

The docs are formatted with AppleWorks v3.0. They aren't totally complete, but they will give you an idea of what functions work, and what we will include in v1.0. The quickreference basically describes the tool bar, and the buttons. The current docs are 26 pages long. If you are having problems reading the file into AppleWorks, try updating the ProDOS on the disk to the current revision, v1.9, which can be found on the System Disk in the System folder, and it is called p8, which must be renamed to prodos.

Tech Support and updates

You can call either Jason Andersen or I (Steve Chiang), if you need help. Jason's number is 319/354-7959 and mine is 212-853-5235. You can also reach us on America On Line. DWS Jason and DWS Steve. Or on the internet. jgandersen@icean.uiowa.edu or stc7@cunibx.cc.columbia.edu . If you want the current update, give us a call or leave us mail.

DreamGrafix

We will be adding several options to DreamGrafix. This includes a 640 mode, and support for larger than the screen images. There are a few other commands we will be adding, resize, grid, etc.

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DOCUMENT diamond.mine

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DIAMOND MINE DOCUMENTATION

BLACK BAG SOFT-DOC

-> DIAMOND MINE <-

FROM ROKLAN CORP.

CRACKED 1984

THE INTERN AND THE CHIEF SURGEON

OF

> BLACK BAG <

THANK ALL AE SYSTEMS!

REQUIREMENTS: 48-K APPLE][

1 APPLE][DRIVE

OPTIONAL

EQUIPMENT: JOYSTICK

* GAME NOTES *

OBJECT:

TO COMPLETE ALL LEVELS WITH HIGHEST POSSIBLE SCORE

GAME CONTROLS:

CTRL-B = RESTART WITH NEW OPTIONS

CTRL-R = RESTART

CTRL-C = ALTER KEYBOARD CONTROL

CTRL-J = JOYTICK

CTRL-K = KEYBOARD

CTRL-S = SOUND TOGGLE

CTRL-[= 'ESC' = PAUSE

- DEFAULT CONTROL KEYS -

PLAYER 1	PLAYER 2
-----	-----
I	W
J L	A D
K	S
(SPACE)=FIRE	(1)=FIRE

PLAYING MODES: 1 PLAYER

2 PLAYER COOPERATIVE

2 PLAYER COMPETITIVE

NOTE:

THE DIFFERENCE BETWEEN THE TWO TWO-PLAYER MODES IS THAT IN THE

COOPERATIVE VERSION, THE BULLETS FIRED BY ONE PLAYER WILL NOT AFFECT

THE OTHER.

* GAME PLAY *

MOVE YOUR VEHICLE ON THE ELEVATOR TO THE DESIRED MINE SHAFT. ENTER THE

CAVE. AS YOU MOVE, YOU DIG THROUGH THE DIRT. YOU MOVE FASTER IN

PATHWAYS THAT ARE ALREADY CLEARED. YOU MAY SHOOT THE MONSTERS, WHO

ATTEMPT TO HAMPER YOUR PROGRESS. HOWEVER, THEY WILL REAPPEAR IN A FEW

SECONDS. THERE ARE EIGHT DIAMONDS IN EACH LEVEL. YOU MUST TAKE EACH

DIAMOND, PROCESS IT AND BRING IT OUT OF THE MINE. AS YOU TAKE A

DIAMOND, IT WILL FOLLOW BEHIND YOU -- KINDA LIKE SERPENTINE. THE

MONSTERS CAN EAT YOUR DIAMONDS ONLY WHEN YOU ARE CARRYING THEM. BUT

YOU CAN'T TAKE DIAMONDS IMMEDIATELY OUT OF THE MINE! YOU MUST PROCESS

THEM FIRST. THE PROCESSING BOX LOOKS LIKE THIS:

```

!-----! BRING DIAMONDS
!
!
! <<<<
! <> # ! -----
!
!
! !----! TAKE DIAMONDS
!
!
!(WAITING! <> = DIAMOND STORAGE
! AREA! # = NUMBER OF DIAMONDS IN
! ! STORAGE AREA
!-----!
    
```

```

!
!
! / \
! / \
EXIT & LEAVE
DIAMONDS
    
```

TO TAKE THE DIAMONDS OUT OF THE MINE FOR THE MOST POINTS, YOU SHOULD

QUEUE THEM UP; THAT IS, MOVE ALL EIGHT TO THE STORAGE AREA AND THEN

MOVE THEM OUT. THE UPPER RIGHT IS AN ENTRY/EXIT AREA. DIAMONDS CAN BE

BROUGHT IN OR REMOVED FROM THIS AREA. THE BOTTOM IS AN EXIT TO LEAVE

THE DIAMONDS IN THE PROCESSING AREA.

YOU WILL FIND TWO "U" SHAPED, HEAVY BORDERED SQUARES. THESE ARE

TELEPORTERS. MOVING INTO ONE WILL TRANSPORT YOU TO THE OTHER.

IF YOU COMPLETE FIVE DUNGEONS WITH LESS THAN FIVE DIAMONDS LOST AND

STILL ARE ALIVE, THE GAME WILL GIVE YOU A PASSWORD. USE THE PASSWORD

LATER TO SKIP BEGINNING LEVELS. THERE ARE SEVEN LEVELS IN ALL.

>>>> SPECIAL NOTES <<<<

*> A KEY IN THE LATTER DUNGEONS IS TO BE PROCESSED LIKE A REGULAR

DIAMOND.

*> MONSTERS ARE SHY WHEN YOU HAVE A KEY

*> THERE ARE SPECIAL TRANSPORTERS THAT REQUIRE A KEY -- THEY WILL

TRANSPORT YOU TO ANOTHER AREA OF THE SHAFT.

* SCORING *

AT LEVEL ONE (SCORE INCREASES LATER):

PICKING UP DIAMOND.....25 PTS
 PROCESSING DIAMOND.....25 PTS
 KILLING MONSTER.....75 PTS
 GETTING DIAMOND OUT.....100 PTS

-- BONUS POINTS --

LEAVING W/4 DIAMONDS.....300 PTS
 LEAVING W/5 DIAMONDS.....500 PTS
 LEAVING W/6 DIAMONDS.....600 PTS
 LEAVING W/7 DIAMONDS.....800 PTS
 LEAVING W/8 DIAMONDS.....1000 PTS
 LEAVING W/8 DIAMONDS & KEY....1200 PTS

EXTRA VEHICLE AT 20,000 POINTS

HAVE FUN!

THE INTERN
 THE CHIEF SURGEON

===== DOCUMENT diced.rev =====

===== Diced v1.2 release notes DAL Systems
 P.O. Box 287
 by David A. Lyons 25-Feb-89 North Liberty, IA 52317
 =====

[CompuServe 72177,3233; GENIE D.LYONS2; AppleLinkPE Dave Lyons]

----- Changes in Diced v1.2: -----

- o Edit Attributes now knows about all the new filetypes and auctypes defined in the January 1989 Filetype Notes.
- o The menus are prettier. (Separate dimmed-out dividing lines appear between groups of items.)
- o When you Save an icon file window and there are Edit Icon windows belonging to it that have not been saved back to the main window, a dialog appears and asks if it's okay to save the icons back to the main window before saving the file.
- o When you Save an icon file window and there are Edit Icon windows belonging to it that have not been saved back to the main window, a dialog appears and asks if it's okay to save the icons back to the main window before saving the file.
- o If there is no FONTS folder in your SYSTEM folder, Diced asks for permission to create one. The FONTS folder is required for the Font Manager. (Diced uses the Font Manager even though it doesn't use any fonts other than the system font (Shaston 8). But Diced's clipboard can display pictures, stored in PICT format, and this requires the Font Manager to be active.)
- o No changes have been made to Save As Source yet. Sorry.

----- Bug fixes in Diced v1.1.1: -----

- o Using New (or Apple-N) to create an empty icon file from scratch in previous versions _seemed_ to work okay, but it resulting in a file that was ignored by the Finder. (Diced was not storing a \$0001 at offset 4 in the file.)
- o The correct parts of an Edit Icon window are now redrawn if color replacement (option-click) or icon repositioning (shift-drag) were done while the window was not scrolled to the top-left position.
- o Diced no longer reports fatal errors if a toolset returns an error when it is shut down. This is not the ideal solution, but it should clear up the Fatal Error \$0002 problem many users have been having when using the Show Text NDA, v1.2.

----- New features in Diced v1.1: -----

- o The Edit Attributes filetype window knows about some new special filetypes used under Finder 1.2 on System Disk 4.0

(GS/OS).

- o The Help and view-text-file windows are 4.7 zillion times faster now.
- o Four sizes of fat pixels are available in Edit Icon windows (see View menu).

Bug fixes in DIcEd v1.1:

- o Clicking in the icon area of an icon file window while the Edit button was disabled (when positioned at icon #0, before all the icons in the file) would let you edit this nonexistent icon, possibly leading to a crash.
 - o Some users have had DIcEd 1.0 crash while quitting. I believe this was because of some buggy code in the TML Pascal 1.50A library, and I now bypass that code. If you still get crashes, I want to hear about it.
 - o The rectangle around the sample icons will always be redrawn properly now.
 - o Bogus redrawing of the fat-pixel images used to happen after drawing pixels and releasing the mouse if the window was scrolled vertically by a sufficient amount.
 - o The hot spot of the Pencil cursor has been moved down and right by one pixel.
 - o The Watch cursor is displayed while printing a text file to the printer.
-

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DOCUMENT dig.em

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DIG EM'

"I" MOVES UP
"M" MOVES DOWN
"J" MOVES LEFT
"K" MOVES RIGHT
"RETURN" FIRES

PLAYED ALMOST EXACTLY LIKE "DIG DUG"

DIFFERENCES: WHEN MONSTERS PASS THROUGH WALLS THEY GO AT AN INCREDIBLY FAST RATE ON A BEELINE STRAIGHT FOR YOU. WHEN DOING THIS, YOU MUST DIRECTLY HIT THEM. IF YOU JUST LEAVE YOUR NOZZLE HANGING OUT, THEY WILL BE ABLE TO PASS THROUGH THE NOZZLE AND GET YOU. ALSO, WHEN HIT THE MONSTERS BLOW UP IMMEDIATELY.

THE MONSTERS BECOME PROGRESSIVELY HARDER TO DEAL WITH. BY THE TIME THE 10TH ROUND OCCURS, THREE MONSTERS WILL IMMEDIATELY SPRING FROM THEIR STATIONS AT ONCE. CONSIDERING THE RATE AT WHICH THEY TRAVEL THROUGH THE ROCK, THIS SITUATION IS ALMOST IMPOSSIBLE TO DEAL WITH.

HINT: BY DROPPING 2 ROCKS(they don't have to hit anything), A PRIZE WILL APPEAR IN THE MIDDLE OF THE SCREEN. THE PRIZES BECOME PROGRESSIVELY WORTH MORE AND MORE.

YOU GET A FREE MAN AT 10,000 AND ONLY AT 10,000

YOU START OUT WITH 4 MEN.

=====

DOCUMENT dino.eggs

=====

Dino Eggs docs by:

Mini Appler

There are 9 levels to DINO Eggs. Once you get to level 9, it just loops back there again.

How to complete a level:

The first thing you must do is build a fire. this is done by picking up one piece of wood and putting it on top of another piece. To pick up an object stand above it and press the top button. To drop an object stand above nothing and press top button. Once the fire is started Dino Mom will not come. (till the fire is out again) Now you have to run around and pick up eggs. You can only carry 3 eggs at a time unless you pick up a power. (it looks like a purple-green sun). When you have eggs and want to tele port them to the 21st century, walk into your time machine and press top button. This gives you points for your eggs. There are eggs hidden underneath the rocks. First drop the rock by trying to pick it up, then see whats during the course of the game, you may notice these sexy creatures peeping at you. Don't get excited, they are only dinosaurs! To get points for dinos, you must jump over them, (bottem button), and while above their heads, press the top button. This drops a cage on them. you get more points for caged Dino's than eggs when you warp. Once you have cleared all the eggs and Dinosaurs, then leave to the next level!

Scoring and other stuff:

When warping- 6, 8, 12 pts for Dinosaurs caged. 1st, 2nd, 3rd 2pts for each egg carried.

When warping to next level-

-1 for each egg left.

-10 for each Dino left. (ouch!)

+10 bonus for perfect level!

+50 bonus for perfect level 9!

To kill spiders, walk or jump over their threads. To kill fast and slow bugs drop rocks on their heads. To warp to next level, try to drop nothing into your time machine two times in a row! Note*: On level 9 you need 2 fires to keep Dino ma off yer tail!

Mini Appler=,d2

=====

DOCUMENT dirmap

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--[DirMap v1.0 Copyright 1989 Jason Harper CompuServe 76703,4222]--

STATUS:

Freeware: distribute but do not sell.

PURPOSE:

To show the directory structure of any GS/OS-readable disk in a graphical format in which the displayed width of each directory is proportional to the amount of disk space taken by files in that directory, including all files in subdirectories. This makes it easy to locate any directories that are taking up more disk space than expected, perhaps due to some large files that were placed there and forgotten.

REQUIREMENTS:

Apple IIgs.

512K memory should be sufficient for handling any reasonable disk structure.

GS/OS (System Disk 4.0 or higher).

Optional (needed only for alternate methods of use):

APW or Orca/GS command shell (text based, not Orca/Desktop).

LIMITATIONS:

The amount of disk space taken by the directories themselves isn't included in the displayed directory sizes, since GS/OS doesn't support any file system independant way of determining it (some file systems don't store directories as separate entities, therefore the size of a directory on such a file system isn't a meaningful concept). The effects of this should be negligible.

Any directories that contain less than 1/320th of the total disk space used on the volume probably will not appear in the display at all.

Disks or directories with a name longer than 32 characters will cause DirMap to abort. This can't happen with any current or expected GS/OS File System Translators, but may be a problem in the future.

DirMap probably won't work on a network file server volume unless you have at least read access to every directory on the volume. It would be possible for the program to skip over directories it can't access, but I don't think that the display resulting from such an incomplete mapping would be useful.

When used normally, you can only select from the first 21 GS/OS disk volumes. If this becomes a problem for you, let me know and I can produce a version of DirMap that has a higher limit for no more than a few thousand dollars (which should be pocket change to anybody who can afford to put more than 21 devices on one IIgs).

You can easily capture the generated directory map screen with any of the various screen grabber desk accessories available, but it is unlikely to do you any good since the program uses 640 multi-palette mode graphics. Not all screen grabbers can properly capture such an image, no currently available programs can edit them, few programs can even view them, and nothing that I'm aware of (other than perhaps the Fingerprint card) can print them.

USAGE FROM A PROGRAM SELECTOR:

Just run DIRMAP like you would any other program. You'll get a screen with a button for each GS/OS-readable disk you have online: click on the one for the disk you want to map. After the mapping is complete, you'll be returned to this screen. There will also be buttons to reread all disk volumes (in case you forgot to put the desired disk in a drive, or have to remove the disk containing DirMap to do so), and to quit the program. You can also perform these functions from the keyboard by pressing 'R' or 'Q', respectively.

After you've selected a disk to be mapped, there will be a short delay while

the disk's directory structure is being read into memory. When the map is displayed, there will be a box across the top which represents the disk's volume directory and all the files on the disk. Underneath it will be a row of boxes representing the directories contained in the disk's volume directory: underneath each of them will be the directories they contain, and so on. The width of each directory's box is proportional to its size: a box that is 1/4th of the width of the screen represents a directory that contains files that total to 1/4th of the total space used on the disk (NOT 1/4th of the total space available for use on the disk). Any white space under a directory box, not filled by boxes representing subdirectories, represents the space taken by individual, non-directory files in that directory. If you map a disk containing no subdirectories at all, the entire screen will be filled with a single box representing its volume directory.

Each directory box contains the name of the directory it represents, if it will fit. If not, just point the mouse cursor at the box and its full name and exact size in disk blocks will appear at the bottom of the screen. Clicking the mouse or pressing any key will return you to the list of online disks, from which you can choose another disk to map or quit back to your program selector. If you click in a directory box and then immediately quit, the prefix will be set to the directory you clicked in: this has no effect with most program selectors, but with those that do make use of the prefix (such as the APW or Orca/GS command shell) this feature can be used to quickly examine directories that seem to be taking up more disk space than they should. If you're using such a program selector, and don't want to change the prefix from what it was on entry to DirMap, make sure you always exit the map view mode by pressing a key or clicking the mouse outside of any directory.

USAGE FROM THE APW OR ORCA/GS COMMAND SHELL:

If you use APW or Orca, you can still use DirMap as described above, but it will be more convenient to use if you install it as a shell command. Just follow these steps:

1. Copy DIRMAP into your Utilities (prefix 6) directory:
PREFIX (wherever dirmap currently is)
COPY DIRMAP 6/
 2. Change its filetype to EXE so the shell doesn't have to reload after use:
FILETYPE 6/DIRMAP EXE
 3. Add an entry for it in your commands table:
EDIT 4/SYSCMND
- insert the line (in alphabetical order):
DIRMAP U ;disk directory mapper
- Save the file back to disk, then exit and reenter the shell.

You can now call up DirMap by typing DIRMAP, no matter what the current prefix is. You can also tell DirMap to immediately map one or more disks by typing their names (or the name of the device containing the disk, or the name of a file or directory on the disk) after the DIRMAP command. Each requested disk will be mapped in turn: press the mouse button or any key to go on to the next. When all have been mapped, you'll be at DirMap's disk listing screen and can click on Quit to return to the shell. An example:

- ```
DIRMAP /HARD1 .APPLEDISK3.5A */ 6
```
- will map the following four disks:
1. the one named /HARD1,
  2. whatever disk is in the device named .APPLEDISK3.5A,
  3. the boot disk, and
  4. whatever disk contains prefix 6 (the APW/Orca utilities directory).

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=====
DOCUMENT disk.fer
=====
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#### DISK-FER TERMINAL SOFTWARE WRITTEN BY THE REDHEADED FREAK

THE MAIN POINT OF THIS SOFTWARE IS TO MAKE THE WORLD OF PIRACY A WHOLE LOT EASIER AND MORE EFFICIENT OF THE COMPUTERS TIME OF DISK-SPACE AND OF YOUR TIME. YOU NEED NOT BE PRESENT DURING THE X-FER WHICH CAO AND HAS LASTED UP TO 1 HOUR AND 10 MINUTES. YOU DONT NEED TWO EXTRA DISKS FOR ANY ]PARTS OR ANYTHING OF THE SORT. INSTEAD YOU NEED DISK-FER AND A BLANK DISK.

OPERATION OF DISK-FER IS AS FOLLOWS. WHEN YOU BOOTUP THE PROGRAM YOU MIGHT BE CONFRONTED WITH ONE OF MANY THINGS.

1)- IT COULD BE IN LOWERCASE (IF YOU CAN'T READ LOWERCASE) IN WHICH CASE YOU HIT 'F' TO CONFIGURE THE SYSTEM.

2)- THE SLOT COULD BE CONFIGURED WRONG IN WHICH CASE YOU NEED TO HIT 'C' TO CHANGE THE SLOT. IF IT HANGS THE SYSTEM AS A RESULT OF A BAD SLOT # YOU NEED TO MOD THE PROGRAM BEFORE YOU RUN IT.

TO MAKE THIS MOD FROM THE MONITOR TYPE:

\*905:N0 (WHERE 'N' IS THE SLOT #)

IF YOUR SLOT # IS 2 THEN THERE SHOULD BE A \$20 THERE.

3)- IT COMES UP DISK-FER WITH THE RIGHT SLOT AND ALL!!!!!!!!!!!!!!

AFTER YOU GET IT CONFIGURED FOR YOUR SYSTEM YOU SHOULD SEE A BUNCH OF COMMANDS STARING BACK AT YOU!

P)-  
TOGGLES BETWEEN ON HOOK AND OFF HOOK. AN INVERSE PHN ON THE STATUS BAR WILL BE LIT WHEN THE CAT IS ONLINE.

V)-  
TOGGLES BETWEEN MODEM AND VOICE MODE. MODEM MODE WILL BE FORCED AT THE BEGINING OF A X-FER. AND VOICE MODE WILL BE FORCED AT THE MENU.

C)-  
CHANGES THE APPLE-CAT SLOT. AN INTESESTING LITTLE THING THAT HAPPENS ON MY COMPUTER IS THAT WHEN I CHANGE THE SLOT TO MY PRINTER CARD AND THE PRINTER IS OFF, THE CARRIER LIGHT FLASHES ON AND OFF AT THE SAME RATE AS THE VIDEO CIRCUITRY UPDATES THE SCREEN. LEAVING BROKEN CHARACTERS ON THE SCREEN.

M)-  
TOGGLES BETWEEN ORGINATE AND ANSWER MODE OF THE MODEM. DURING A B)OTH TRADE THE COMPUTER TO SEND FIRST IS THE ONE THAT IS IN ORGINATE AT THE START OF THE X-FER.

F)-  
RECONFIGURE DISK-FER. THIS COMMAND IS PROMPTED BY A MESSAGE READING LOWERCASE (Y/N)... QUITE OBVIOUSLY YOU ANSWER THIS QUESTION YES OR NO THEN IT ASKS YOU IF YOU WANT A CONFIGURED COPY SAVED ON DISK. THE CONFIGURED COPY CONTAINS THE CURRENT PASSWORD OF THE SYSTEM AND THE CURRENT SLOT OF THE APPLE-CAT. YOUR LOWERCASE STATUS IS ALSO SAVED ON DISK. THE FILE SAVED ON DISK IS CALLED 'DISK-FER' AND CAN BE BRUN AS YOUR RUNNING COPY OF THE PROGRAM

D)-  
DOS COMMAND. THIS OPTION ALLOWS YOU TO ENTER A DOS COMMAND TO BE

PARSED BY THE CURRENT DOS. (ANY DOS COMMAND CAN BE ENTERED)

E)-  
EDIT PASSWORD. THIS OPTION EDITS THE CURRENT PASSWORD OF THE SYSTEM. YOU MAY ENTER LOWERCASE/CNTRL/NORMAL CHARS TO BE USED AS YOUR PASSWORD. THE PASSWORD IS USED TO KEEP UNWANTED PEOPLE (SOFTWARE UNDERGROUND MEMBERS) OUT OF YOUR SYSTEM.

S)-  
R)-  
B)-  
L)-  
K)-

THESE FIVE OPTIONS ARE THE TRANSFER/RECIEVE OPTIONS. I WILL EXPLAIN HOW USE THEM IN GENERAL THEN IN DETAIL. WHEN YOU SELECT ONE OF THESE OPTIONS THE COMPUTER COMES UP WITH 'ENTER PASSWORD :' AT THIS POINT YOU CAN EITHER TYPE:

<ESC> TO ABORT.... <RET> TO TRANSFER WHEN BOTH APPLES ARE IN 'LOCAL MODE' (SEE BELOW).... HITTING RETURN WILL JUST JUMP TO THE TRANSFER ROUTINE THAT YOU CHOSE AT THE MENU.

A TWO CHARACTER PASSWORD ENTERED AT THIS PROMPT PUTS THE APPLE INTO A REMOTE COMPUTER. THIS OPTION IS USED TO CALL UP A 'DISK-FER BBS' WHICH WILL BE WAITING FOR CALLS TO SEND DISKS, IF OF COURSE THE TWO PASSWORDS MATCH. THOSE TWO PASSWORDS ARE:

THE COMPUTER THAT IS THE 'BBS' THE PASSWORD THAT YOU TYPE AFTER THE COMMAND.

-----  
SENDING AND RECEIVING FILES.  
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S)-  
SEND THE DISKETTE IN DRIVE ONE. THIS COMMAND MUST BE EXECUTED ALONG WITH THE 'R' COMMAND.

R)-  
RECEIVE A DISK FROM THE LINES TO DRIVE 1.

B)-  
RECEIVE A DISK AND PUT IT ON DRIVE TWO. AND SEND THE DISKETTE IN DRIVE TWO. THE ORDER OF OPERATIONS IS DECIDED BY THE ORG/ANS MODE. THE IN ORG SENDS FIRST.

L)-  
LOP-SIDED SEND. SEND BOTH THE DISKS IN BOTH DRIVES. (NOTE, TO MANY OF THESE X-FERS WILL CAUSE THE COMPUTER TO SELF-DESTRUCT TO PREVENT YOU FROM BEING LEACHED UPON!!!!!!!!!!!!!!!!!!!!!!)

K)-  
LOP-SIDED RECEIVE. RECEIVE DISKS IN BOTH DRIVES. THESE ARE THE BEST X-FERS THAT THE PROGRAM DOES!!!!!!!!!!!!!!!!!!!!!!.

(NOTE: IF THE COMPUTER IS NOT IN UNATTENDED MODE THESE X-FERS WILL 'NEVER' ABORT BY THEMSELVES. THEY WILL JUST KEEP HACKING AWAY UNLESS A SYNC ERROR OCCURS AND THE RECEIVE SKIPS A BLOCK. THESE ERRORS ARE POSSIBLE BUT NOT LIKELY. IF THE TRANSFER ENDS ON ITS OWN. THEN YOU CAN BE 98% SURE THAT THE DISKS HAVE BEEN SENT CORRECTLY.

WHEN THE X-FER ENDS BOTH SIDES WILL WAIT FOR YOU TO HIT A KEY. THE FIRST PERSON TO HIT A KEY WILL BE IN CONTROL OF BOTH COMPUTERS HE/SHE (WO-MAN'S LIB) WILL BE SENT A SMALL MENU AT 300 BAUD.

B)ELL OR H)ANG UP??

YOU CAN EITHER PAGE THE OWNER OF THE COMPUTER WITH THE B)EEP OPTION OR YOU CAN H)ANG UP THE OTHER COMPUTER SO THAT YOU CAN CALL BACK THIS MENU IS NICE IF YOUR FREIND WANTS TO GO TO BED WHILE YOU DOWNLOAD THE PROGRAMS IN HIS DRIVES. YOU CAN HANG UP HIS COMPUTER SO IT WON'T TIE UP THE LINES ALL NIGHT.

AT ANY TIME DURING THIS LITTLE MENU YOU CAN HIT ESCAPE TO ENTER THE MAIN MENU.

(NOTE: IF YOUR COMPUTER IS IN UNATTENDED MODE IT WILL NOT JUMP TO THIS MENU. BUT IT WILL GO TO WAIT FOR ANOTHER RING.)

-----  
UNATTENDED MODE  
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----- THE UNATTENDED MENU IS REACHED BY HITTING 'U' AND IT IS EXITED BY HITTING 'U' ALSO. IN THIS MENU THE FONE WILL NEVER BE KEPT OFF HOOK FOR MORE THAN A SECOND. WHEN YOU HIT ONE OF THE FIVE SEND/RECEIVE COMMANDS THE COMPUTERCOMES UP:

'WAITING FOR RING...'  
XX (XX IS YOUR CURRENT PASSWORD)

WHEN THE COMPUTER RECEIVES A RING OR YOU HIT '+' IT WILL WAIT 8 SECONDSFOR A CARRIER. THEN IT WILL WAIT 8 SECONDS FOR THE CORRECT PASSWORD TO BE SENT IF EITHER OF THESE TIMING REQUIREMENTS IS NOT MET THEN THE COMPUTER HANGS UP AND AWAITS ANOTHER CALL.

IF THE MODE CHOSEN FOR UNATTENDED MODE INCLUDES A RECEIVE MODE SUCH AS R, K OR B AND THE APPLE RECEIVES A COMPLETE DISKETTE IN A DRIVE THEN IT WILL NOLONGER AWAIT A RING BECAUSE IT WOULD JU ST RECEIVE A PROGRAM ON THE SAME DISK THAT HAD JUST BEEN WRITTEN TO.

THE DISK, AND YOU CAN DO IT WITHOUT EVER LEAVING DISK MUNCHER!. NOTE: SOME DISKS DO NOT HAVE A CATALOG OR DISK MAP, OR THE DISK MAP MAY APPEAR GARBLED. IF YOU ARE UNABLE TO TELL WHAT IS ON THE DISK FROM THE LABEL OR BECAUSE OF ONE OF THESE CONDITIONS, YOU ARE ADVISED TO "BOOT" THE DISK TO TRY TO DETERMINE WHAT IT CONTAINS.

NOW THAT YOU KNOW HOW TO CATALOG A DISK, WHY DON'T WE LEARN HOW DO USE THE ACTUAL COPIER!

WHEN YOU PRESS "3" TO COPY A DISK, THE SCREEN WILL CLEAR AND WILL BE DIVIDED INTO TWO SEPARATE SECTIONS. THE LEFT SECTION CONTAINS ALL MESSAGES, WHAT SLOT AND DRIVE THE SOURCE AND TARGET DISKS ARE IN, AND ALL INFORMATION ABOUT RAM CARDS. THE RIGHT SIDE OF THE SCREEN IS A STATUS AREA. IT SHOWS WHAT MODE THE COPIER IS IN, AND WHAT TRACK DISK MUNCHER IS CURRENTLY COPYING. WHENEVER DISK MUNCHER IS ACCESSING THE DISK IN COPY MODE, IT WILL DISPLAY A "STATUS MARKER" NEXT TO THE TRACK IT IS ON. THIS IS A LIST OF WHAT THE DIFFERENT STATUS MARKERS REPRESENT:

INVERSE R - READING FROM CURRENT TRACK  
 INVERSE W - WRITING TO CURRENT TRACK  
 INVERSE V - VERIFY WRITE TO CURRENT TRACK  
 NORMAL R - READ ERROR  
 NORMAL W - WRITE ERROR

BESIDES THE NORMAL STATUS INFORMATION, THERE IS ONE SUBTLE, BUT NONE THE LESS IMPORTANT INDICATOR. YOU WILL NOTICE A SPACE REVOLVING AROUND EACH OF THE SECTIONS. WHETHER THIS SPACE IS REVOLVING CLOCK-WISE OR COUNTER CLOCK-WISE DETERMINES WHETHER THE WRITE VERIFY IS ON OR OFF. IF THE SPACE IS REVOLVING CLOCK-WISE, THE VERIFY IS OFF, IF THE SPACE IS REVOLVING COUNTER CLOCK-WISE, THE VERIFY IS ON.

AFTER DISK MUNCHER DISPLAYS THIS INFORMATION, IT WILL TELL YOU: "<RETURN> BEGINS COPY, SPACE BAR CHANGES OPTIONS". AT THIS PROMPT, YOU CAN PRESS RETURN, SPACE BAR, OR CTRL-V. CTRL-V TOGGLES THE WRITE VERIFY ON OR OFF. IF YOU PRESS RETURN, DISK MUNCHER WILL BEGIN COPYING THE DISK. (NOTE: IF YOU ARE USING A ONE DRIVE SYSTEM IT WILL PROMPT TO YOU INSERT THE SOURCE DISK AND PRESS RETURN. YOU WILL HAVE TO SWAP BETWEEN THE SOURCE AND TARGET DISK. DISK MUNCHER WILL PROMPT YOU WHEN TO CHANGE DISKS.) WARNING!: DUE TO THE FACT THAT IT IS VERY EASY TO PUT THE WRONG DISK IN THE DRIVE, YOU ARE ADVISED TO PUT A WRITE-PROTECT TAB ON THE SOURCE DISK TO PREVENT ACCIDENTAL ERASURE.

IF YOU PRESS SPACE BAR TO CHANGE OPTIONS, DISK MUNCHER WILL MOVE THE CURSOR TO THE SLOT OF THE SOURCE DRIVE. YOU CAN ENTER A NUMBER HERE BETWEEN 1 AND 7. AFTER ENTERING THE SLOT NUMBER, DISK MUNCHER WILL MOVE THE CURSOR TO THE DRIVE NUMBER. HERE YOU MAY ENTER EITHER A 1 OR 2. AFTER ENTERING THE INFORMATION FOR THE SOURCE DISK, DISK MUNCHER WILL MOVE THE CURSOR TO THE TARGET DISK INFORMATION SECTION. THE ENTERING CRITERIA FOR THE TARGET DISK IS THE SAME AS THE SOURCE DISK. NOTE: IF YOU ARE ONE OF THE UNFORTUNATE FEW PEOPLE THAT ONLY HAVE ONE DRIVE, YOU SHOULD ENTER THE SAME SLOT AND DRIVE (USUALLY SLOT 6, DRIVE 1) FOR SOURCE AND TARGET DISKS. AFTER ENTERING THE INFORMATION ABOUT YOUR DISK DRIVES, DISK MUNCHER WILL MOVE THE CURSOR TO THE RAM CARD SECTION. THE PROGRAM CAN USE UP TO 4 RAM CARDS IN DIFFERENT SLOTS. DISK MUNCHER WILL ONLY RECOGNIZE STANDARD 16K CARDS, MOST 32K CARDS, AND RAM CARDS THAT BANK SELECT IN THE SAME FORMAT AS LEGEND AND SATURN CARDS DO. (IF YOU DO NOT KNOW HOW YOUR RAM CARD BANK SELECTS, TRY ENTERING IT'S SLOT NUMBER ANYWAY. DISK MUNCHER WILL IGNORE YOU IF THE RAM CARD IS NOT A LEGEND OR SATURN TYPE CARD.) NOTE: DISK MUNCHER WILL NOT RECOGNIZE OR USE ANY RAM CARDS DESIGNED SPECIFICALLY FOR THE APPLE IIE. BECAUSE OF THE SPECIAL WAY THAT DISK MUNCHER COPIES A DISK, YOU WILL NEED AT LEAST 224K IN ADDITIONAL RAM CARDS TO COPY A WHOLE DISK INTO A RAM CARD (IF YOU ARE LUCKY ENOUGH TO HAVE THAT MUCH ADDITIONAL RAM, DISK MUNCHER WILL ALLOW YOU TO COPY A DISK ONCE NORMALLY USING THE RAM CARD, THEN COPY THE SAME DISK AGAIN AND AGAIN, USING THE RAM CARD AS A BUFFER). WHEN YOU ENTER THE SLOT OF YOUR RAM

===== DOCUMENT disk.muncher.1 =====

DISK MUNCHER 1.1

THE ULTIMATE IN FAST COPIERS

WRITTEN BY

THE STACK

DOCUMENTATION BY:

THE INSPECTOR

ANOTHER GREAT PROGRAM BROUGHT TO YOU BY

CORRUPT COMPUTING

DISK MUNCHER IS PROBABLY THE FASTEST COPIER AVAILABLE FOR THE APPLE COMPUTER. (THERE MIGHT BE COPIERS THAT SACRIFICE RELIABILITY FOR SPEED, AND ARE THUS FASTER.) DISK MUNCHER CAN COPY A DISK IN LESS THEN 30 SECONDS WITH INIT! (ON A 48K SYSTEM). IF YOUR SYSTEM HAS MORE MEMORY ADDED THRU ADDITIONAL RAM CARDS, DISK MUNCHER WILL BE ABLE TO COPY A DISK IN EVEN LESS TIME! WHILE DISK MUNCHER IS EXTREMELY FAST AND RELIABLE, IT IS DESIGNED WITH THE USER IN MIND. DISK MUNCHER HAS SUCH USER FRIENDLY OPTIONS AS A CATALOG FUNCTION WITH DISK MAP, WRITE VERIFY, SAVE-ABLE CONFIGURATION, STATUS INDICATORS AMONG OTHERS.

BEFORE YOU CAN EVEN BEGIN TO USE DISK MUNCHER, YOU WILL NEED TO KNOW A FEW BASIC THINGS ABOUT HOW DISK MUNCHER REFERS TO YOUR DISK DRIVES. THE SOURCE DISK IS THE DISK YOU ARE COPYING FROM (USUALLY SLOT 6, DRIVE 1) AND THE TARGET DISK IS THE DISK YOU ARE COPYING TO (USUALLY SLOT 6, DRIVE 2). THE VALUES FOR SOURCE AND TARGET CAN BE CHANGED, BUT WE WILL DISCUSS THAT LATER. NOW ON TO USING DISK MUNCHER.

TO START DISK MUNCHER ALL YOU NEED TO DO IS TYPE "BRUN DISK MUNCHER 1.1" FROM DOS. ONCE DISK MUNCHER IS LOADED IN, IT WILL DISPLAY THIS MENU:

- [1] CATALOG SOURCE DISK
- [2] CATALOG TARGET DISK
- [3] COPY DISK
- [4] BOOT DISK

SINCE THE FIRST AND SECOND OPTIONS ARE ALMOST IDENTICAL WE WILL BE DISCUSSING THEM FIRST. WHEN YOU PRESS EITHER THE '1' OR '2' KEYS, DISK MUNCHER WILL CATALOG WHAT EVER DISK IS IN THE DRIVE DESIGNATED AS SOURCE OR TARGET. AFTER THE SCREEN IS FULL, DISK MUNCHER WILL ASK YOU "PRESS ANY KEY TO CONTINUE". AFTER YOU PRESS A KEY, DISK MUNCHER WILL CLEAR THE SCREEN, AND DISPLAY MORE FILES. THIS PROCESS WILL CONTINUE UNTIL ALL THE FILES ARE DISPLAYED. AFTER ALL THE FILES ARE DISPLAYED, DISK MUNCHER WILL ASK YOU TO "PRESS ANY KEY TO SEE MAP". IT WILL THEN CLEAR THE SCREEN, AND DISPLAY A MAP OF WHAT SECTORS ARE FREE AND WHAT SECTORS ARE USED ON YOUR DISK. FREE SECTORS ARE DESIGNATED BY A SPACE, AND USED SECTORS ARE DESIGNATED BY A PLUS SIGN. THE CATALOG WITH DISK MAP IS THE ONE FUNCTION OF DISK MUNCHER THAT SETS IT APART FROM ALL OTHER "FAST" COPIERS. IT ALLOWS YOU TO DETERMINE WHAT DISK YOU ARE COPYING FROM AND WHAT DISK YOU ARE COPYING TO, IF THERE IS NO LABEL ON

CARD, DISK MUNCHER WILL SCAN THAT SLOT TO DETERMINE HOW BIG THE CARD IS, AND WHETHER IT IS A LEGEND, SATURN, 16K, OR 32K CARD, BECAUSE OF THIS IF YOU ENTER THE SLOT OF A CARD THAT IS NOT A RAM CARD, UNPREDICTABLE THINGS MIGHT HAPPEN TO YOUR CARD (I.E. A CLOCK CARD COULD HAVE IT'S TIME CHANGED, ETC...). NOTE: DISK MUNCHER WILL AUTOMATICALLY SEARCH SLOT 0 FOR A RAM CARD. YOU SHOULD ENTER THE SLOTS FOR ALL YOUR RAM CARDS. WHEN YOU ARE DONE ENTERING, PRESS SPACE BAR, AND DISK MUNCHER WILL RETURN YOU TO "INSERT DISKS" PROMPT. NOTE: TO LEARN HOW TO SAVE THIS CONFIGURATION, SO THAT YOU DON'T HAVE TO TYPE ALL THE INFORMATION IN EACH TIME YOU WISH TO USE DISK MUNCHER, SEE APPENDIX C.

YOU HAVE NOW LEARNED HOW TO COPY A DISK, AND CHANGE THE OPTIONS. THE ONLY THING LEFT TO TELL YOU ABOUT HOW TO EXIT FROM DISK MUNCHER. EXITING FROM DISK MUNCHER IS VERY SIMPLE, ALL YOU HAVE TO DO IS SELECT OPTION 4 FROM THE MAIN MENU. AFTER YOU SELECT OPTION 4, DISK MUNCHER WILL CLEAR THE SCREEN, AND ASK YOU TO "VERIFY BOOT" YOU SHOULD THEN PUT THE DISK IN THE DRIVE YOU WISH TO BOOT AND PRESS Y FOR YES I DO WANT TO EXIT, OR N FOR "NO IT WAS A MISTAKE! I WANT TO GO BACK!"

APPENDIX A - SAVING THE CONFIGURATION

THERE ARE TWO TYPES OF CONFIGURATIONS FOR DISK MUNCHER, THE USER CONFIGURATION, AND THE RESET CONFIGURATION. IN ORDER TO SAVE A CONFIGURATION, YOU WILL NEED TO KNOW HOW TO ENTER THE MONITOR, CHANGE BYTES, AND RE-SAVE A BINARY PROGRAM OUT TO DISK. IF YOU HAVE ANY DOUBTS ABOUT THIS PROCEDURE, DON'T DO IT! YOU COULD DESTROY YOUR COPY OF DISK MUNCHER.

TO BEGIN WITH YOU WILL NEED TO "BLOAD" DISK MUNCHER FROM DISK. THIS CAN BE ACCOMPLISHED WITH THE "BLOAD DISK MUNCHER 1.1" COMMAND FROM DOS. AFTER DISK MUNCHER IS LOADED IN, ENTER THE MONITOR WITH THE "CALL-151" COMMAND FROM BASIC. THIS IS A LIST OF THE ADDRESSES IN DISK MUNCHER THAT CORRESPOND TO THE DIFFERENT DEFAULT VALUES FOR THE USER CONFIGURATION:

LOCATIONS OPTION

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$1000 SOURCE SLOT TIMES 16 + SOURCE DRIVE I.E. $1000=$61
$1001 TARGET SLOT TIMES 16 + TARGET DRIVE I.E. $1001=$62
$1002 SLOT OF RAM CARD 1 TIMES 16.
$1003 SLOT OF RAM CARD 2 TIMES 16.
$1004 SLOT OF RAM CARD 3 TIMES 16.
$1005 SLOT OF RAM CARD 4 TIMES 16.
$1006 VERIFY ON/OFF ($00=OFF,$FF=ON)
$1007 FUTURE EXPANSION.

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AFTER YOU HAVE ENTERED YOUR RAM CARD SLOTS IN THE BYTES, YOU HAVE TO FILL THE REMAINING RAM CARD LOCATIONS LOCATIONS WITH \$A0'S (SPACES). LOCATIONS \$1008-\$100F ARE THE RESET CONFIGURATION SECTION. THE FORMAT FOR RESET CONFIGURATION IS THE SAME AS THE USER CONFIGURATION.

AFTER YOU HAVE ENTERED ALL THE INFORMATION YOU CAN RETURN TO DOS BY TYPING "3DOG". ALL YOU HAVE LEFT TO DO IS "BSAVE" DISK MUNCHER BACK OUT TO DISK. THIS CAN BE ACCOMPLISHED WITH THE "BSAVE DISK MUNCHER 1.1,A\$800,L\$11DF" COMMAND. THEN EVERY TIME YOU WANT TO USE DISK MUNCHER YOU WILL JUST BRUN IT AS USUAL, AND THE USER CONFIGURATION WILL BE ACTIVE. IF YOU WISH TO USE THE RESET CONFIGURATION YOU CAN PRESS CTRL-R. YOU CAN THEN SWITCH BACK TO THE USER CONFIGURATION BY PRESSING CTRL-C.

IF YOU HAVE TWO DIFFERENT COMPUTERS THAT YOU USE DISK MUNCHER ON, YOU COULD CHANGE BOTH THE USER AND RESET CONFIGURATIONS. THIS WOULD ALLOW YOU TO USE THE USER CONFIGURATION FOR ONE COMPUTER AND THE RESET CONFIGURATION FOR THE OTHER.

APPENDIX B - STORY AND PRINCIPLE BEHIND DISK MUNCHER

WHEN WE (THE STACK AND MYSELF) FIRST SAW THE "FAST" COPIERS WE THOUGHT THEY WERE GREAT, BUT THEY LACKED ONE MAJOR FEATURE: YOU COULDN'T CATALOG A DISK FROM WITHIN THEIR PROGRAM! SO WE DECIDED TO WRITE OUR OWN "FAST" COPIER. WHEN WE WERE IN THE PLANNING STAGES, THE STACK IN ONE OF HIS BRAIN STORMS (THE SAME ONES THAT GAVE YOU THE ROTATING SPACE, AND THE ZOOM SCREEN CLEAR) DECIDED THAT HE COULD MAKE A FASTER COPIER. WELL THE PRODUCT OF THAT IDEA WAS DISK MUNCHER.

THE PRINCIPLE BEHIND ALL THIS IS A LITTLE COMPLICATED, AND THIS EXPLANATION IS JUST THE BACKGROUND AND BASICS BEHIND IT. ON A DISK INFORMATION IS STORE IN NIBBLES. EACH NIBBLE IS ONLY SIX BITS LONG. NORMALLY, DOS READS THE NIBBLES IN AND CONVERTS THEM TO EIGHT BIT FORMAT. WELL THIS IS JUST FINE AND DANDY, BUT IT TAKES A WHILE TO CONVERT THE NIBBLES, SO THE STACK DECIDED HE WOULD JUST READ THE NIBBLES AND WRITE THEM BACK OUT WITH OUT CONVERTING THEM. THIS CAN SAVE A LOT OF TIME WHEN YOU ARE COPYING A WHOLE DISK AND MAKES IT SO THAT THE DISK DOES NOT HAVE TO BE INITED. BECAUSE THE 6 BIT NIBBLES TAKE UP MORE ROOM IN MEMORY THAN A 8 BIT BYTE, IT TAKES MORE MEMORY TO READ A TRACK, THUS THE REQUIRED 224K+ FOR READING IN THE WHOLE DISK.

APPENDIX C - TECHNICAL STUFF

THIS SECTION CONTAINS INFORMATION USEFUL TO THE EXPERICENED PROGRAMER.

IF BY SOME UNFORESEEN CIRCUMSTANCE YOUR DRIVE HAS THE HEAD VIOLENTLY MOVED (LIKE DROPPING IT OUT THE WINDOW OR SOMETHING LIKE THAT) YOU CAN RECALIBRATE IT WITH THE ! AND " COMMANDS. THESE COMMANDS WILL RECALIBRATE THE SOURCE AND TARGET DRIVES RESPECTIVELY.

ONE OTHER INTERESTING THING YOU MIGHT WANT TO KNOW. THE TRACK MOVE DELAY TABLE IS STORED AT \$1200. IF YOU HAVE A DRIVE THAT CAN SEEK THE HEAD FASTER THAN NORMAL, THIS MIGHT BE USEFUL.

APPENDIX D - DIFFERENCES BETWEEN VERSION 1.0 AND VERSION 1.1

THE MAJOR DIFFERENCE BETWEEN VERSION 1.0 AND VERSION 1.1 IS THE READ AND WRITE VERIFY. THERE ARE OTHER MINOR DIFFERENCES, LIKE THE FACT THAT DISK MUNCHER DOESN'T RECALIBRATE THE HEAD AFTER THE FIRST TIME. ANOTHER FEATURE ADDED IS EASY ACCESS TO THE TRACK MOVE DELAY TABLE. OVER ALL THERE IS NOT MUCH DIFFERENCE BETWEEN VERSION 1.0 AND 1.1

WELL THAT IS JUST ABOUT ALL THERE IS TO DISK MUNCHER.

UPCOMING PROJECTS AND PROGRAMS:

THE NEWEST MEMBER OF CORRUPT COMPUTING, THE TECHNICOLOR PIRATE, IS ALMOST DONE WITH A VERY INTERESTING AND UNIQUE PROGRAM: SHAPE HUNTER. THIS IS A PROGRAM THAT WILL ALLOW YOU TO USE AN NMI TO INTERRUPT A GAME, AND SAVE IT FOR LATER PLAY, OR EVEN EDIT THE SHAPES AND PICTURES IN THE GAME. THIS IS ONE OF THE MOST IMPRESSIVE PROJECTS CORRUPT COMPUTING HAS EVER UNDERTAKEN.

STILL IN THE PLANNING STAGES IS A PROGRAM PACKER/UNPACKER, A MODULAR DOS, A RAM DISK PROGRAM THAT WILL ALLOW YOU TO USE ANY RAM CARD BY ANY COMPANY AS A RAM DISK, AND A SHAPE HUNTER UTILITIES DISK. ALSO IN THE PLANNING STAGES IS A CORRUPT COMPUTING NEWSLETTER. IT WILL INCLUDE A MAJOR ARTICLE ON HOW THE DISK DRIVE WORKS, AND A COMPLETE INTERPRETATION OF THE P6 AND P6A PROMS.

WELL THAT IS JUST ABOUT IT FOR NOW.

A WORD TO THE WISE.

CORRUPT COMPUTING HAS MAINTAINED A REPUTATION FOR WRITING GOOD PROGRAMS AND DISTRIBUTING THEM TO THE USER AT NO OR VERY LITTLE COST. BUT IF PEOPLE BEGIN TO ABUSE THIS SERVICE BY TRYING TO SELL OUR PROGRAMS, OR REQUESTING A ACCESS FEE (WITHOUT OUR KNOWLEDGE) FOR THE PRIVILEGE OF DOWNLOADING OUR PROGRAMS, THIS SERVICE WILL BE DISCONTINUED. YOU HAVE BEEN WARNED!

THANK YOU VERY MUCH FOR YOUR COOPERATION.

-----  
IF YOU HAVE ANY QUESTIONS, COMMENTS, OR CONCERNS, PLEASE DIRECT THEM TO EITHER THE INSPECTOR OR THE STACK ON "THE CORRUPT COMMUNICATIONS BULLETIN BOARD". 313-453-9183 - 24HRS.

===== DOCUMENT diskcovers =====

Disk Covers and T.I.M. Version 1.1

Disk Covers - A New Kind of Icon

I have a large collection of Graphics, I call them Pics, which I have downloaded, scanned, digitized, or on rare occasion created. They are stored on disks by category such as cartoons, space, etc. The disks are named by category and I wrote slide show to view them.

I thought it would be fun to take one Pic from each disk and make a large Icon from it that would pop up on the desktop when the disk was inserted and run slide show when it was double clicked.

This would be a kind of album cover like my cd's have, to help better remind me of the contents of the disk.

Alas when I ran T.I.M. to make my first one it died. The code overwrote itself and the variables when ever it got over 80 lines high. This can't be (I sez to me) I wrote this piece of slop to handle 100 lines, a 50 line icon plus a 50 line mask, but such was not the case.

So back to pounding the keys, hacking away at my own already sloppy code, T.I.M. Version 1.1 came into being. And my disk collection is starting to get some covers.

First: How I use them.

1. Make a folder named ICONS on each disk.
2. Name the Disk Cover Icon the same name as the disk and put it in the icons folder.
3. I already have the icon attached to the name of the disk, for a basic program (\$FC) and launching \*/BASIC.LAUNCHER.
4. Write and save a basic program by that name which will run the program of your choice, Slide.Show, Windows, Etc. (See the Example)
5. Drag the disk to the trash and then pop it back in, you should now be able to see your Icon Picture.
6. Turn on (an X in the block) Save Finder Info To Disk. This should be off unless you are rearranging your desktop as it will speed up all window closes and launches.
7. Drag the Icon Picture onto the desktop and close the disk's window.
8. Now Drag the Disk into the Trash, I also write-protect it then.
9. Turn off (no X in the block) Save Finder Info To Disk.

An alternate to step 7 is to move the icon pic and size the window so that the window border surrounds the pic, this way you can close the window but it will still pop up when you double-click the disk.

Next: How to make them.

1. The easiest way I have found is to use SHR Convert to load a Pic, then reduce 50% by height and width and save as a \$C1 (Screen) file.
2. Next load it into PaintWorks Gold or DeluxePaint II - Make a mask or template to protect all but one color, then wash that color with the color from the finder's pallette that most approximates the original.
3. To repeat, make sure you are using the finders colors to view the pic as you work. I use DeluxePaint II and go from Restore Pallette on the spare page to Use Brush Pallette on the Page I am converting.
4. When I have finished converting I save it to my T.I.M. disk as ESP.GIRLS as an example then run T.I.M. to make the icon.
5. Be sure to save or convert it into a \$C1 file with the image in the absolute upper left hand corner of the screen.

You could also grab or load a Pic as a Brush and reduce or resize it to a

size you would like but then you have to go thru the boaring process of counting pixels. Bah, Humbug. A single 50 x 50 percent reduction is 180 wide bu 100 high, do it twice and its 90 wide by 50 high, nice and easy.

Now for a few thousand words about T.I.M. Version 1.1

1. It will now let you define the program it launches.
2. Handles Icons up to 50 lines high with a custom mask.
3. Over 50 lines high it makes it's own mask.
4. Writes and reads back parts of the file to disk and then assembles them into an Icon named TEST.ICON - You have NO CHOICE and any existing TEST.ICON will be deleted.
5. Maximum height - 100 lines
6. Maximum width - Don't know, largest I have done is 160 pixels.
7. Minimum size - Again don't know, must be over \$F squared (16 x 16).

That's All Folks - Have Fun

Fred

T.I.M. and DiskCovers copyright 1988 by E.S.P.Graphics  
GrassHopper Software (TM)

The program, T.I.M., the DiskCovers included herewith, any Icons or DiskCovers made by T.I.M. are FreeWare but remain the commercial property of the creator.

E.S.P. Graphics will not bear or share any liability thru the use of copyrighted material being reproduced without proper permission.

P.S. That means watch what you scan, convert, or digitize folks if you then distribute it, be it in printed or electronically readable form.

```
=====
DOCUMENT diskfixer
=====
```

```
=====
:DISKFIXER:
=====
```

## KEY FUNCTION

```
R
READ A SECTOR (CURSOR FLASHES AT CURRENT TRACK SECTOR TO PROMPT NEW
ENTRY)
```

```
W
WRITE A SECTOR
```

```
^Q
QUIT
```

```
P
BOOT SLOT, P FOLLOWED BY ONE (OR WHATEVER SLOT PRINTER IS IN) WILL
DUMP TO PRINTER
```

```
^C
SWITCH BETWEEN LOGICAL AND PHYSICAL SECTOR SCANNING
```

```
C
SWITCH BETWEEN 3.2 AND 3.3 DOS
```

```
L
SELECT BYTE OF CURSOR POSITION
```

```
G
SELECT ASCII DISPLAY OF DATA ALL 256 BYTES
```

```
H
SELECT HEX DUMP OF DATA (256 BYTES)
```

```
B
SELECT HEX & ASCII DUMP (DEFAULT) SHOWS ONLY 128 BYTES
```

```
I
J K
M
```

```
CURSOR POSITIONING ^^^
```

```
D READ DIRECTORY AFTER THE 'D' YOU HAVE SEVERAL OPTIONS:
```

```
F -
FIX, FIX FILE SIZES, VERIFY T/S LISTS
```

```
G -
SCAN, ENTER A FILE NAME TO SCAN THE FILE BY RELATIVE SECTOR
ADDRESSES. FOR EXAMPLE SCAN HELLO, DISPLAYED ON
```

```
W -
WRITE NEW DIRECTORY (ELSE) DISPLAY DIRECTORY
```

```
V
DISPLAY VTOC - OPTIONS:
```

```
F - FIX, VERIFY BIT MAP BY CHECKING ALL T/S LISTS OF FILES
```

```
E -
```

```

EDIT USE M,<,> TO EDIT MAP (BE SURE TO WRITE OUT)

R -
READ

W -
WRITE

->
READ NEXT SECTOR

<-
READ PREVIOUS SECTOR

(RETURN)
ENTER EDIT MODE OF TRACK IN BUFFER. ENTER DATA ASCII OR HEX, DEPENDING
ON WHAT MODE YOU ARE IN

:
ENTER ONE CHARACTER OF DATA INTO BUFFER

Y
FILTER, FILTER OUT INVERSE AND CONTROL CHARACTERS FROM DISPLAY

T
TYPE, INVERSE, NORMAL,
FLASHING. LOOK AT THE POUND SIGN
AT THE BOTTOM OF THE SCRREN FOR
CURRENT TYPE. USED FOR ENTERING
DATA TO BUFFER

0-7
BUFFER NUMBER

ON HEX DUMPS, CHARACTER IN INVERSE ARE THOSE THAT HAVE BEEN CHANGED,
IN OTHER WORDS IF "A0" IS IN INVERSE IT IS DIFFERENT FROM WHAT IT
STARTED

X
CHANGES BACK TO ORIGINAL BUFFER (STUFF IN INVERSE (MEANING THINGS THAT
HAVE BEEN CHANGED)) ARE BACK TO NORMAL

Z & Q
ARE SHIFTING EACH BYTE IN BUFFER RIGHT OR LEFT, I.E: BYTE ONE BECOMES
BYTE ZERO WITH SHIFT LEFT

?
DISPLAYS ASCII SET FOR REFERENCE

N
ALTERS MARKINGS ON SIDE BETWEEN HEX AND DECIMAL

```

```

=====
DOCUMENT disktimer
=====

```

DISKTIMER GS  
A Hard Disk Benchmarking Program

(C) 1988 Joe Jaworski  
18405 Tamarind Street  
Fountain Valley, CA 92708

GENIE: JVVJAWORSKI  
CompuServe: [73307,310]

This program is FREEWARE. It is copyright material but you may use it and/or distribute it free of charge to anyone for personal, non-commercial use. Licensing is required for including DiskTimerGS with any commercial hardware or software product. Contact me at the above address for licensing information.

What is DiskTimerGS?

DisktimerGS is a "Benchmark" or performance rating program designed to measure how efficiently a hard disk drive will perform on an Apple II GS. It is designed to give you, the consumer, a rating system by which to measure the performance of hard disk drives and their manufacturers claims.

Like all benchmarks, test results cannot be strictly correlated to a drive's performance in an actual application. However, the key to a benchmark is the comparison of results between different products.

DiskTimerGS has been designed to eliminate as many system variables as possible to insure accurate results in a wide variety of system configurations. DiskTimerGS is immune to disk cache settings, controller cache memory, partitioning, system interrupts (including mouse movement), and buffered drive seeks.

APPLETALK USERS: DiskTimerGS disables interrupts during the actual test periods. This will "hang" the network. Disconnect AppleTalk before running DisktimerGS.

Using DisktTimerGS

DiskTimerGS is very easy to use. Simple transfer a copy of the program to the disk drive you want to test and launch it from there. It doesn't matter if the program is put in a folder or in the root directory. However, it must be launched from the drive you want to test. The tests will take anywhere from 2 to 5 minutes to run.

DisktimerGS does not perform any WRITE operations and will not alter any data on any disk under test. In fact, the disk must be formatted and contain a ProDOS directory in order to run the tests. If the disk is partitioned, any single partition can be tested (the results are independent of partitioning) but the partition selected must be at least 9.9 Megabytes in size in order for the tests to run. DO NOT try to run DiskTimer from a floppy. It won't work.

About the Results

DiskTimerGS reports its results in seconds for each



operation. The three tests performed are:

**READ Timing:** This test performs a sequential READ of a number of 512 byte blocks to determine how fast the Hard Disk can transfer consecutive data. The factors that most effect this number are the Disk Interleave and Data Transfer rate of the drive.

**SEEK Timing:** This test measures the time it takes to seek the R/W heads of the drive across 10 Megabytes of data. The results of this test are mainly governed by the Track-to-Track, Average Access, and Head Settling time of the drive.

**ADAPTER Timing:** This test performs a repeated READ of a single block on the disk, measuring the overhead to receive data from the low-level disk interface through the ProDOS 16 high-level interface. Factors that effect this rating are the delays through the Host Adapter Card originating at the disk drive interface hardware and the Disk/Host interface firmware. In other words, it measures the efficiency of the SCSI Card or other controller Card used to operate the disk drive.

## Interpreting Results

Compare your drive to the others listed in the DiskTimerGS comparison list (included in this download) to see how well your drive has performed.

## Submitting To the Comparison List

The DiskTimerGS Comparison List included with this download will be frequently updated. To make DiskTimerGS an effective tool, I need your help in keeping this list as up to date as possible. If you have a hard disk drive that is not on the list, run DiskTimerGS and submit your test results so I can include it in the next update. Even if your drive is "Homebrew", it would be interesting to compare results to commercially available products.

Run DiskTimerGS at least three times (The results may vary slightly depending upon the drive/controller tested). Submit all three test results (or an average of the three) along with your name, BBS ID, and any additional comments to support the test setup. Submit your data to one of my BBS ID's listed above.

Thanks for your support. I hope you find DiskTimerGS an Independent and valuable aid in selecting one of the growing number of hard disk drives now available for the IIGS.

-Joe Jaworski

DiskTimerGS operates through the ProDOS 16 interface under GS/OS. It is not compatible with System Disks before version 4.0 and is not compatible with other models of the Apple II

=====

DOCUMENT diu.v1.0b

=====

Documentation for Disk Inventory Utility v1.0B  
By The Saint  
(c) 870727 Aristos Unlimited

This program is Public Domain.

DIU is a ProDOS utility that will allow you to take an inventory of your ProDOS disks and create a TXT file which could be used by AppleWorks.

DIU will first ask for the Slot & Drive of the diskette to be inventoried. This is selected using the light-bar selector. Next DIU will ask were the information should be displayed (Printer, Screen, or Text file). With this version 1.0B of DIU, output to text file is the only valid option. Selecting Text file will prompt for the FULL pathname of the text file to be created. Full pathname means that you must specify the Volume name as well as the filename [ex. /MYDISK/NEWFILE]. DIU will then read the directory from the selected slot and drive and create a TXT file on the specified pathname. The same TXT file may be used again for different disk. Each disk inventory will be appended to the previous one if the same name is used.

To create an AppleWorks Data Base file from the TXT file, follow the following instructions.

1. From the Main Menu select option 1, "Add files to Desktop."
2. Next, select option 4, "Make a new file for the Data Base."
3. Select option 2, "Make a new file from a text (ASCII) file."
4. Enter 9 to the question "How many categories per record?"
5. Enter the complete pathname of the file created with DIU.  
[ex. /MYDISK/NEWFILE]

After Appleworks has read the file, it will as for the name of the newfile. This is the name of the Data Base file.

There it is! Appleworks now has a Data Base file with an inventory of your ProDOS disk(s).

Now to fix-up the file.

Press OA-N for "Rename categories." The categories should be changed to the following:

|                              |                              |
|------------------------------|------------------------------|
| CATEGORY01 = Pathname        | CATEGORY06 = Modified Time   |
| CATEGORY02 = Filename        | CATEGORY07 = Create Date     |
| CATEGORY03 = Type (filetype) | CATEGORY08 = Create Time     |
| CATEGORY04 = Blks (Blocks)   | CATEGORY09 = Endfile (Bytes) |
| CATEGORY05 = Modified Date   |                              |

Press OA-L to "Change record layout."  
Delete "Modified Time" & "Create Time."

"Filename" should be set at 15 spaces, since this is the maximum number of charaters allowed in a ProDOS filename.

"Type" should be set to 3 spaces.

"Modified Date" & "Create Date" should both be set at 9 spaces.

=====

DOCUMENT diverssi.cache

=====

Diversi-Cache(tm)  
By Bill Basham  
Copyright 1987 DSR, Inc.  
Version 1.0  
INSTRUCTIONS

PLEASE COPY THIS DISK AND GIVE IT TO EVERYONE YOU KNOW!

It is legal to copy and distribute this disk. However, to legally use the Diversi-Cache program on this disk, you must send payment within 2 weeks. Please send \$35 directly to:

DSR, Inc.  
34880 Bunker Hill  
Farmington, MI 48018-2728

You will receive a user support number, and a new disk with the latest version of Diversi-Cache. Your honesty will help us distribute future programs in this same, low-cost way.

\*\*\* Introduction \*\*\*

Diversi-Cache requires an Apple //gs with at least 512K, and an Apple 3.5 disk drive. The Apple //gs comes with 256K, so you must buy a memory card with at least 256K, which plugs into the //gs memory expansion slot. We recommend buying a 1-megabyte (1000K) expansion card, since Diversi-Cache will use up to 800K.

Diversi-Cache dramatically increases the I/O speed of the Apple Disk 3.5, under any operating system (ProDOS, Pascal, DOS 3.3). Diversi-Cache only speeds up the Apple Disk 3.5 designed for the Apple //gs, and will not affect the speed of the older Apple //c compatible UniDisk 3.5.

Diversi-Cache speeds up the Disk 3.5 in two ways. First of all, whenever the system reads a block, Diversi-Cache actually reads an entire track. This triples the speed of disk reads, and doubles the speed of ProDOS writes.

Secondly, Diversi-Cache allows you to allocate a cache memory buffer from 0 to 800K in size. An 800K cache works for the entire disk, while a 400K cache would cache the first 1/2 of the disk, for example. Whenever the system reads a block in the cache range, Diversi-Cache saves it in the cache buffer. If the system asks for this block again, it comes out of memory at "Ramdisk" speed.

\*\*\* Installing Diversi-Cache \*\*\*

The Diversi-Cache program is a binary file named "CACHE". Diversi-Cache may be installed under ProDOS or DOS 3.3 with:

BRUN CACHE

Diversi-Cache installs itself in the first 64K of the memory expansion card (bank 2), and stays there permanently until a power off re-boot. That is, Diversi-Cache stays installed even if you reboot with open-apple-ctrl-reset. Note: after a reboot, Diversi-Cache is reconnected with the next toolset call (INPUT or entering the control panel does a toolset call).

The Diversi-Cache program comes on a 5.25 ProDOS floppy disk. We recommend you boot this disk when you power on, to install Diversi-Cache. You can then boot from the 3.5 drive with "PR#5".

You can also use the Apple //gs system utility program to transfer all of the Diversi-Cache files to a newly formatted 3.5 inch disk.

\*\*\* Adding Diversi-Cache to PRODOS \*\*\* (Not available on demo disk)

You can append Diversi-Cache to any disk with a file named PRODOS, for automatic installation when you boot that disk.

Choose this option from the menu, and insert the disk you want to update. Then, enter the slot and drive where the disk is located. You may enter the slot and drive of a hard disk, if desired.

If the PRODOS file you select already has Diversi-Cache appended, you will be given the option to add the new Diversi-Cache, or to remove Diversi-Cache and restore PRODOS to normal.

\*\*\* Installation Errors \*\*\*

When you BRUN CACHE, you will hear a "beep" if the installation was unsuccessful. The usual reason for this is that you tried to install Diversi-Cache again, when it was already installed. You also get this error if you don't have a //gs memory expansion card, or if there is no memory available on bank 2 to install Diversi-Cache. If this occurs, try installing Diversi-Cache from a power-off boot.

Note: To avoid the beep, POKE 0,0. The beep does not occur when you append Diversi-Cache to PRODOS.

\*\*\* Removing Diversi-Cache \*\*\*

You can remove Diversi-Cache by turning the power switch off for 10 seconds or so, but this will eventually wear out the switch. You can simulate a power-off re-boot as follows:

1. Hold OPEN-APPLE\_SHIFT\_CONTROL keys down.
2. Press and release RESET key.
3. Wait for 2 beeps.
4. Release OPEN-APPLE\_SHIFT\_CONTROL keys.

This will remove Diversi-Cache, and clear your Ramdisk (if any).

Note: If you have added Diversi-Cache to your PRODOS file, it will be re-installed when you boot ProDOS. To avoid this, continue holding the OPEN-APPLE\_SHIFT\_CONTROL keys down, until the ProDOS boot message appears on the screen.

\*\*\* Changing the Cache Buffer Size \*\*\*

The first time you access the Disk 3.5, Diversi-Cache allocates up to 800K for the cache buffer, by calling the Apple //GS memory manager. If 800K is not available, Diversi-Cache will allocate the largest possible block of memory.

If you need more memory for a program, you can decrease the size of the cache buffer by first pressing OPEN-APPLE\_CONTROL\_ESCAPE. You then select "Diversi-Cache" from the "Control Panel" menu.

Hold down the left or right arrow keys to adjust the buffer size. Press <RETURN> when you see the desired buffer size. Note that a buffer size of 0K disables the cache buffer entirely. Even with the cache buffer disabled, Diversi-Cache will still approximately triple the read speed for long files.

### \*\*\* Changing the Cache Drive \*\*\*

If you have more than one Apple Disk 3.5, Diversi-Cache normally will only cache drive #1. To select a different drive to cache, hit the down arrow key after selecting the buffer size as described above. You may cache drive 1, drive 2, or both drives.

When you cache both drives, the cache buffer is cleared every time you switch from one drive to the other.

When you BRUN CACHE, you start with an 800K cache for drive #1. To change these starting values, RUN SETCACHE on the Diversi-Cache disk. This modifies and BSAVE's the CACHE file, so be sure your disk is not write protected.

### \*\*\* Disabling Diversi-Cache \*\*\*

Hit the down arrow again, and then the left arrow to disable Diversi-Cache entirely. This may allow you to use Diversi-Cache with protected disks, by temporarily disabling it when the program checks for a protected block.

### \*\*\* Compatibility Problems \*\*\*

Diversi-Cache works with any program which uses the //gs expanded memory correctly, as well as most copy protected programs. However, some of Apple's initial system software has memory management bugs. In particular, if you set up a Ramdisk with the control panel, be sure the maximum and minimum size are the same.

WARNING!!!!!!

THE MAXIMUM AND MINIMUM SIZE OF YOUR //GS RAMDISK MUST BE THE SAME!

Diversi-Cache tends to trigger bugs in software which occur when the //gs memory fills, since the cache buffer fills all available memory. In particular, the //gs Ramdisk may return write errors if memory is full and the minimum size is set to less than the maximum. Many programs, such as Appleworks, don't check for write errors on a ramdisk, and may do strange things (like destroy your disks, even).

Other problems occur with ProDOS16 version 1.0, which de-allocates all memory. This will eventually destroy your Ramdisk space and Diversi-Cache as other programs overwrite their memory. If you have to boot Version 1.0, be sure to do an "open-apple\_shift\_ctrl\_reset" reboot afterwards.

Some ProDOS16 programs "hang" when they run out of memory. These programs will work if you reduce the cache size, or increase the amount of memory in your //gs.

Hopefully, ProDOS16 version 1.2 corrects these problems. It is contained on the //gs system disk with the version number 2.0.

An occasional program, such as "Bard's Tale", ignores the //gs memory manager and destroys all memory, overwriting Diversi-Cache, Ramdisk, and anything else. You will have to run these programs from a power off reboot.

In summary, if a program doesn't work with Diversi-Cache, try reducing your cache size. If possible, set your Ramdisk size to 0 to leave more memory for Diversi-Cache.

### \*\*\* Converting to a System File \*\*\*

You can convert Diversi-Cache to a system file, so you can run it directly from a menu selection program. To do this, first run BASIC.SYSTEM. Then CATALOG the Diversi-Cache disk and note the length of the CACHE file. Then, enter the following:

```
CREATE SCACHE,TSYS
BLOAD CACHE
BSAVE SCACHE,TSYS,A$2000,Lxxxxx (where xxxxx is length of CACHE file)
```

### \*\*\* Converting to DOS 3.3 \*\*\*

First, boot DOS 3.3 and format a disk with:

```
INIT HELLO
```

Then, boot ProDOS again and enter:

```
BLOAD CACHE
Put in your new DOS 3.3 formatted disk
PR#6
BSAVE CACHE,A$2000,Lxxxxx (where xxxxx is length of CACHE file).
```

Note that to run DOS 3.3 on a Disk 3.5, you need a DOS 3.3 adapter program. We recommend AmDOS(tm) from Gary Little, 131 Water St. #210, Vancouver, B.C., CANADA V6B 4M3, 604-681-3371 for \$20.

AmDOS works with our Diversi-DOS(tm). For maximum DOS 3.3 performance on the Apple Disk 3.5, combine Diversi-Cache, Diversi-DOS, and AmDOS together.

### \*\*\* Licensing Information \*\*\*

Although Diversi-Cache is copyrighted, DSR allows copying and distribution of the program subject to the following restrictions:

1. Anyone receiving a copy of Diversi-Cache must send a \$35 license fee directly to DSR, Inc. within 2 weeks.
2. Any company, club, or individual may charge up to \$5.00 for distributing copies of Diversi-Cache, provided it is clear that an additional \$35 fee must be sent directly to DSR.

Publishers:

Publishers may license Diversi-Cache for a \$250, one-time fee for all their programs. To do this, the following message must appear in the written documentation:

This disk contains a high-speed operating system called Diversi-Cache(tm), which is licensed for use with this program only. To legally use Diversi-Cache with other programs, you may send \$35 directly to: DSR, Inc., 34880 Bunker Hill, Farmington, MI 48018. You will receive the latest Diversi-Cache program disk with documentation.

Diversi-Key      \$45

We only sell our programs by mail-order, and will notify you of future program updates which you may purchase for \$5 each.

## Multiple Computers:

Each additional computer license fee is \$35, up to a maximum of \$250 for all the computers owned by a company (or school district).

### \*\*\* User Support \*\*\*

Your user support number entitles you to talk directly to the programmer, Bill Basham. Please write if possible, or call:

313 553-9460 between 3 and 5 PM Eastern time.

### \*\*\* Diversi-Copy \*\*\*

Diversi-Copy(tm) is the fastest and easiest way to make back-up copies of your 3.5 disks. Diversi-Cache triples the disk read speed when used with Diversi-Copy. Note, however, that Diversi-Copy exits with a power-off type reboot, so you'll need to re-install Diversi-Cache.

Diversi-Copy was chosen as inCider magazine's "Editors' Choice". It is the best copy program available, for both 5.25 and 3.25 drive copying.

### \*\*\* Diversi-Key \*\*\*

Diversi-Key is a keyboard macro program for the Apple //GS that will work with any program that allows interrupts. This includes programs that run under Pascal, ProDOS, or DOS 3.3. Diversi-Key works with Appleworks 2.0, as well as most other programs.

Diversi-Key sends macro keystrokes as if you had typed them at the keyboard, so you don't need to modify your programs to work with Diversi-Key. Diversi-Key allows you to add an almost unlimited number of custom functions to any program.

Diversi-Key includes a flexible way to program the mouse to work with any program, as well as date and time macros, nested macro calls, nested repeat, IF, and WHILE conditional loops, and much much more.

### \*\*\* How to Order \*\*\*

To order, please send your check to:

DSR, Inc.  
34880 Bunker Hill  
Farmington, MI 48018-2728

The cost of our programs is as follows:

|               |      |
|---------------|------|
| Diversi-DOS   | \$30 |
| Diversi-Copy  | \$30 |
| Diversi-Cache | \$35 |

=====

DOCUMENT diversi.copy

=====

\*\*\*\* Diversi-Copy(tm) Demonstration Disk \*\*\*\*

FOR 2-WEEK DEMONSTRATION ONLY  
 Copyright 1984,1986 DSR, Inc.  
 By Bill Basham

This disk contains a demonstration version of Diversi-Copy. To legally use Diversi-Copy, please send in your payment within 2 weeks. You will receive a new Diversi-Copy disk and user support number. Please send \$30 to:

DSR, Inc.  
 34880 Bunker Hill  
 Farmington, MI 48018

\*\*\* Diversi-Copy for 5.25 Disks \*\*\*

There was not enough room on this demo disk for the full Diversi-Copy program and documentation. The 5.25 copy program on this demo disk is a short version. When you send your \$30 for Diversi-Copy, we will send you a new Diversi-Copy disk with the full documentation and program, which can also format ProDOS, Pascal, DOS 3.3, and CP/M 5.25 disks. To use the short version, follow the screen prompts.

To get this version to copy 5.25 disks in a specific slot, get into BASIC and enter:

```
BLOAD DCOPIY
POKE 2054,S (where S=4..7 slot number)
BSAVE DCOPIY
```

\*\*\* Instructions - Diversi-Copy for 3.5 Disks \*\*\*

\*\*\* Making Copies \*\*\*

Diversi-Copy for the Unidisk 3.5 is a separate program included on the Diversi-Copy disk. This program is called "UCOPY". You can use the UniDisk 3.3 System Utilities disk to transfer "UCOPY" to any ProDOS disk, and execute it with a "BRUN UCOPY" command.

When you run the UCOPY program, it automatically finds the slot where your Unidisk 3.5 is located. The copying process works very much like Diversi-Copy for floppy disks. You may make 1-drive copies, or 2-drive copies (if you have 2 Unidisks).

\*\*\* 1-Drive Copies \*\*\*

To make a 1-drive copy, insert your original disk in Unidisk drive #1 and hit <space>. The program will prompt you with screen messages and beeps. You may hit 'S' to turn the beeps off and on.

To avoid writing onto your original by mistake, you may want to write protect it by sliding the tab on the disk so the write protect hole is open. The write protect hole on your duplicate must be closed, of course.

\*\*\* 2-Drive Copies \*\*\*

Put your original in drive #1, and your duplicate in drive #2. Press <return> to begin copying. Both disks are ejected when copying is

complete.

\*\*\* Copy Features \*\*\*

When copying ProDOS or Pascal disks, Diversi-Copy skips all unused blocks, as shown by the disk directory. This greatly speeds up the copying process, unless your disk is nearly full.

If you want to copy these unused blocks for some reason, press "=" from the main menu (the one that says "Insert Original Disk in Drive #1").

Before writing to a Unidisk 3.5, Diversi-Copy automatically formats the disk. This takes about 45 seconds per disk, in addition to the write time. When copying onto a "virgin" disk, i.e. right out of the box, this step is necessary.

However, if you are re-writing over a disk that already has data on it, you can skip this format step by pressing "F" from the main menu. Press "F" again to restore formatting.

\*\*\* Halting \*\*\*

Hit <DELETE> to cancel a disk read or write in progress. You can also hit the disk eject button to force an I/O error.

\*\*\* Apple //GS \*\*\*

Diversi-Copy uses the Apple //GS built-in 256K memory, and any memory plugged into the //GS memory expansion slot. Diversi-Copy works with the new Apple Disk 3.5, as well as the UniDisk 3.5 connected to the //GS.

We recommend the Apple //GS with a single Apple Disk 3.5. Then buy a 1-megabyte Apple RAM card, or the GS-RAM (or GS-RAM plus) from Applied Engineering. This memory will allow 1-pass copying of any disk, and will be very useful for future //GS programs.

Diversi-Copy will NOT use or destroy the memory on peripheral slot RAM cards in the Apple //GS.

\*\*\* Screen Display \*\*\*

The bottom line on the screen shows the progress of your copy. The number at the left is the read block, which goes from 0000 to 1600 as the program reads in your original. To the right of this is the write block, which also goes from 0000 to 1600 when writing the duplicate.

The number of successful copies written is shown at the right. Press "R" from any menu to restore it to 0000.

\*\*\* Mass Production \*\*\*

Put your original disk in drive #1 and hit 'M'. Diversi-COPY will read this original disk into memory and hold it. You can then write multiple copies from memory without re-reading the original. If the original disk does not fit into the available memory, the program displays an error message. Otherwise, you will hear 2 beeps and see a new menu.

On a 1-drive system, put a blank disk in drive #1 and hit <space> to write each copy. On a 2-drive system, put blank disks in drives #1 and #2 and hit 'A'. Diversi-COPY will write to drive #1 and #2 alternately until you hit <ESC> or get a write error. You never have to touch the keyboard. While Diversi-COPY is writing to drive #2, put a new disk in drive #1, and vice-versa.

### \*\*\* Errors \*\*\*

When something goes wrong in the copy process, Diversi-Copy will print an error number and explanation. If you forget to insert a disk, you will see the "OffLine - No Disk in Drive" error. Just insert the disk and try again.

If you try to write to a disk with the write-protect hole open, you will see the "NoWrite - Disk Write Protected" error. Slide the write-protect tab over the hole and try again (if you really wanted to write on this disk).

The other error you are likely to see is the "I/O Error". Frequently, this is caused when the disk did not insert properly. Try pushing the eject button, and re-inserting the disk.

The I/O error will also occur if you try to read a "virgin" disk as an original, or if you try to write onto a "virgin" disk without formatting. If the disk is copy-protected, it will also give an I/O read error.

Finally, some I/O errors are caused by defective, damaged, scratched, or just worn-out disks. Hopefully, you will have used Diversi-Copy to back-up these disks before this happens.

When you get an I/O error during reading, Diversi-Copy will stop and ask you to press "T" if you want to try to read the block again. Hit <SPACE> to cancel the copy, or "I" to ignore the bad block. If you hit "I", then a block of all "0" will be substituted for the bad block. The file which contains this block will be partially lost.

### \*\*\* User Support \*\*\*

Your user support number is on the disk which you get from DSR, Inc. when you send \$30. Licensed users may call 313 553-9460 on weekdays between 3 and 5 P.M. (Eastern) for support, or write to

DSR, Inc.  
34880 Bunker Hill  
Farmington, MI 48018-2728

We will notify licensed users of any future updates to Diversi-COPY. Updates may be purchased for \$5. We will also notify users of any future programs we release.

### \*\*\* Multiple Computers \*\*\*

Diversi-COPY may be copied and used on all computers owned by a single individual, company, school district, or government agency, without additional fee, subject to the following restrictions:

1. All computers must be located within a 25 mile radius, or local

phone calling area. I.E. corporations with branches in different cities should buy 1 copy for each city.

2. Each user support number entitles only ONE individual to call or write to DSR for support.

===== DOCUMENT diversi.Key =====

Diversi-Key(tm)  
By Bill Basham  
Copyright 1987 DSR, Inc.  
Version 1.0  
INSTRUCTIONS

PLEASE COPY THIS DISK AND GIVE IT TO EVERYONE YOU KNOW!

It is legal to copy and distribute this disk. However, to legally use the Diversi-Key program on this disk, you must send payment within 2 weeks. Please send \$45 directly to:

DSR, Inc.  
34880 Bunker Hill  
Farmington, MI 48018-2728

You will receive a user support number, and a new disk with the latest version of Diversi-Key. Your honesty will help us distribute future programs in this same, low-cost way.

\*\*\*\*\*  
INTRODUCTION  
\*\*\*\*\*

Diversi-Key is a keyboard macro utility for the Apple //gs, which can be used to automate the keyboard input for most programs which run on the //gs.

You install Diversi-Key permanently into the //gs expansion memory, where it stays available while you run other programs (such as Appleworks). Your other programs run normally, until you activate Diversi-Key by holding down the "option" key on the //gs keyboard.

While holding down the option key, the next keys you press are interpreted as a "Macro" call. When you call a macro, Diversi-Key takes over your keyboard, and rapidly types a pre-defined sequence of keystrokes for you. You'll find that Diversi-Key greatly increases the power and utility of your other programs.

When you hold down the option key, your program will pause temporarily, and resume when you let the option key up. You can press the option key to stop the program any time, i.e. to read a screen message which is scrolling by. Whenever the option key is down, you will see an inverse "K" in the upper right corner of the text screen (when in text mode only).

Diversi-Key requires an Apple //gs with at least 512K. The Apple //gs comes with 256K, so you must buy a memory card with at least 256K, which plugs into the //gs memory expansion slot.

\*\*\*\*\*  
START WITH APPLEWORKS  
\*\*\*\*\*

When you boot your Appleworks disk, if it says "ProDOS 1.1.1", then you should update the "PRODOS" file with a //gs version (ProDOS 1.2 or later). Use the //gs system utility program to transfer the file named "PRODOS" from the Diversi-Key disk to your Appleworks disk, replacing the old "PRODOS". This gives the correct time and date stamping of your files, and allows Diversi-Key to function.

Note: Don't transfer the file named "PRODOS" on the //gs system disk to any other disk. Use the "PRODOS" on the Diversi-Key disk.

Diversi-Key comes with built-in macros for use with Appleworks 2.0. To get started, boot the Diversi-Key disk and choose the menu option to install Diversi-Key. This also installs the Appleworks macros.

To verify that Diversi-Key is active, press the option key. An inverse "K" should appear in the upper right corner of the screen.

Now boot your Appleworks disk, and choose the options to start a new word processing file from scratch. Name the file "KEYMAC". Appleworks should be in the mode where what you type appears on the screen, as if you were going to type a letter.

While holding the option key down (inverse "K" appears), press the minus key, "-", on the KEYPAD, twice. Diversi-Key will now display all the built-in Appleworks macro definitions, typing them into a word processing file.

If you aren't in the right Appleworks mode to be able to type input, you may hear a lot of beeps, and the screen will go "crazy" as Diversi-Key continues typing. Don't panic! Hit the panic button. Press: OPEN-APPLE\_CONTROL\_DELETE (halts Diversi-Key any time)

Your "KEYMAC" file should begin like this:

```
[0001=<A>] |
Appleworks Macros: May 15, 1987
[0008=<left>][A-Repeat:020]{<tab>}[End-A]|
Jump to start of line
[0009=<tab>][A-Repeat:020]<tab>[End-A]|
Jump to right margin
[0010=<down><right>]{f}ONP<ret><ret>|
Find next page break
.... more definitions follow
```

You trigger a macro by holding the option key down, and pressing the key to the right of the first "=" sign. The first macro, option-ctrl-A, is just a comment, and does nothing.

To trigger the second macro, hold the option key down and press the left arrow key. The cursor will jump to the start of the line. The words under the macro tell you what the macro does.

option-<tab> jumps to the right margin, for example.

Use Appleworks to print out the "KEYMAC" file, and look through all the macro options. One very useful macro is the date macro, which you trigger by pressing option-semi-colon. Its definition looks like this:

```
[0059=;][99.] [93.], 19[94.]]
Date
```

Don't be concerned with the number before the "=", or with the definition itself for now. Just look for the macro key, and read the description of what it does on the line below the definition.

Keep your "KEYMAC" printout handy as a reference. You may find the pre-defined macros are enough, in which case you can stop reading right here! Later, if you want to use the full power of Diversi-Key, you can study the rest of these instructions.

USING PINPOINT:

Many Appleworks add-ons, such as Pinpoint, use the option key as a trigger. To use Diversi-Key with these programs, change the Diversi-Key "trigger" key before booting Appleworks, as follows:

1. Boot the Diversi-Key disk and install Diversi-Key with the Appleworks macros.
2. Holding the option key down, enter the number "42." on the keypad. That is, enter: "4", then "2", then ".", all on the KEYPAD.
3. Now boot Appleworks, and use the option key to trigger Pinpoint as usual.
4. You now trigger Diversi-Key by pressing the OPEN-APPLE key AND the OPTION key together.

Note: Be sure you change the trigger key BEFORE booting Appleworks. Then, install Pinpoint before using Diversi-Key. If Pinpoint won't install, try re-booting Appleworks and don't use Diversi-Key until it Pinpoint is installed.

```

DEFINING SIMPLE KEYBOARD MACROS

```

To define a macro, hold the option key down and press the "=" on the numeric KEYPAD. Then, press the key on the KEYBOARD which you want to define. Now, type the macro definition on the KEYBOARD. When you're through with your definition, press the KEYPAD <enter> key.

For example, to define the option-D key as a macro which types "Hello", enter the following keystrokes:

```
[option-keypad-=]D
Hello<enter>
```

More details on defining macros are described later.

```

SAVING AND LOADING MACROS

```

After you define a macro, it is held in memory until you turn the machine off. To save it to disk, you must first enter BASIC. You can do this by booting the Diversi-Key disk, and choosing the "Exit to BASIC" option. Or, from the system disk, choose "BASIC.SYSTEM" from the launcher or desktop.

When you enter BASIC, you will see the Applesoft prompt, ]. To save your macro file, hold the option key down and enter the following on the KEYPAD:

1.2.

You should see the word "BSAVE", and a prompt to enter a filename. Pick a name for your file, and enter it. Then, press return. The

file will be saved to disk.

To install the new macros later, get to BASIC and enter:

BRUN filename (where filename is the name you entered when saving)

Note: To get back to the launcher after entering BASIC, enter:

BYE

```

APPLE //E UPGRADE

```

If you upgrade your Apple //e with the new //gs motherboard, you won't have the full //gs numeric keypad. To simulate keypad keys on the //e upgrade, hold the open-apple and option(solid-apple) keys down together, and press one of the following:

```
Digits 0..9
=/*+-.
<delete> (same as keypad <clear>
```

```

INTERRUPTS

```

Diversi-Key activates 60-cycle interrupts on the //gs. This may cause problems with some programs which read or write to a 5.25 drive without disabling the interrupt. In particular, Copy II+ versions before 7.4 will destroy 5.25 disks if you write on them with interrupts active (there is no problem with 3.5 drives). If you plan to use Copy II+ with 5.25 drives, be sure you get version 7.4 or greater.

This problem also shows up if you try to boot ProDOS from a 5.25 drive using PR#6. To avoid the problem, boot with open-apple-ctrl-reset, or use special macro [10.] (described later).

The Diversi-Key disk contains a file named BOOTFIX which will update the boot tracks on a 5.25 ProDOS disk to correct this problem. Exit to BASIC and enter:

BRUN BOOTFIX

Then, put in your 5.25 disk and press <space> to fix it.

```

INSTALLATION

```

Diversi-Key may be installed automatically from the menu when you boot the Diversi-Key disk. You only boot this disk once, at power on. The Diversi-Key program is actually a binary file named "DIVKEY". Diversi-Key may be installed under ProDOS or DOS 3.3 with:

BRUN DIVKEY

Once Diversi-Key is installed, it stays in memory permanently until a power off re-boot. That is, Diversi-Key stays installed even if you



reboot with open-apple-ctrl-reset.

ERRORS: When you BRUN DIVKEY, you will hear a "beep" if the installation was unsuccessful. The usual reason for this is that you tried to install Diversi-Key again, when it was already installed. You also get this error if you don't have a //gs memory expansion card, or if there is no memory available to install Diversi-Key. If this occurs, try installing Diversi-Key from a power-off boot.

Note: To avoid the beep, POKE 0,0.

NO RESPONSE? If Diversi-Key ever stops working, particularly after booting a new program, try pressing the "flush" key sequence:

open-apple\_control\_delete (Flush key sequence)

The Diversi-Key disk contains a pre-defined set of macros in a file names "DIVMAC", which are installed when you boot the DIversi-Key disk. You can also install them from BASIC with:

BRUN DIVMAC

The Diversi-Key program comes on a 5.25 ProDOS floppy disk. We recommend you boot this disk when you power on, to install Diversi-Key. You can then boot from the 3.5 drive with "PR#5".

You can also use the Apple //gs system utility program to transfer all of the Diversi-Key files to a newly formatted 3.5 inch disk.

\*\*\*\*\*  
AUTOMATIC STARTUP  
\*\*\*\*\*

You can add Diversi-Key to any ProDOS disk, and have it install automatically when you boot that disk. Use menu option #2 on the Diversi-Key disk to do this (not available on the demo).

This option adds the DIVKEY and DIVMAC files to your disk. It then changes the name of the PRODOS file on your disk to OLDPRO, and changes the DIVKEY file to PRODOS. When your disk boots, it should execute these files:

PRODOS (installs Diversi-Key)  
DIVMAC (installs macros)  
OLDPRO (starts up ProDOS 8 or 16)

To remove Diversi-Key from your disk, enter BASIC and type the following:

DELETE DIVMAC  
DELETE PRODOS  
RENAME OLDPRO,PRODOS

To put Diversi-Key back on the disk, use menu option #2. With the demo disk, you can transfer the files, DIVKEY, and DIVMAC, to your disk, and enter:

RENAME PRODOS,OLDPRO  
RENAME DIVKEY,PRODOS

\*\*\*\*\*  
COLD REBOOT  
\*\*\*\*\*

You can remove Diversi-Key by turning the power switch off for 10 seconds or so, but this will eventually wear out the switch. You can simulate a power-off re-boot as follows:

1. Hold OPEN-APPLE\_SHIFT\_CONTROL keys down (3 keys).
2. Press and release RESET key.
3. Wait for 2 beeps.
4. Release OPEN-APPLE\_SHIFT\_CONTROL keys.

This will remove Diversi-Key, and clear your Ramdisk (if any).

\*\*\*\*\*  
CALLING MACROS  
\*\*\*\*\*

Macros in Diversi-Key are numbered from 1 to 9999. There are two different ways to call the same macro. You can call a macro by number by holding down the option key, and entering the macro number on the numeric KEYPAD. This is called a "Numeric Macro". You can also call a macro by holding the option key down, and pressing any keyboard key. This is called a "Keyboard Macro".

\*\*\*\*\*  
NUMERIC MACROS  
\*\*\*\*\*

To call a numeric macro, hold the option key down and type the macro number on the numeric keypad. The macro is triggered when you press the keypad <enter> key, or let up the option key. Press the keypad <clear> key if you make an error. Diversi-Key displays a Numeric macro as [nnnn], where nnnn is a number from 1 to 9999. Some Numeric macros are: [0124], [0001], [9047].

\*\*\*\*\*  
KEYBOARD MACROS  
\*\*\*\*\*

Triggering a Numeric macro requires more than one keystroke, and numbers are hard to remember. To get around these problems, you may also trigger macros with single-keystrokes on the KEYBOARD. You do this by holding down the option key, and pressing any keyboard key, that is, any key not on the numeric keypad. The macro is triggered immediately when you hit the keyboard key. Be sure to let up the option key, to allow the program to continue after the macro is completed.

Diversi-Key displays a keyboard macro as: [k], where "k" is any keyboard key. Here are some keyboard macro examples: [N], [\$], [1]. Note that [1] is a keyboard macro triggered by pressing "1" on the keyboard. [0001] is a Numeric macro, triggered by pressing "1<enter>" on the numeric keypad.

There are 96 possible keyboard macros, which correspond to Numeric macros numbered from 0 to 95. Each keyboard macro corresponds to its ASCII equivalent Numeric macro. For example, the "A" key is an ASCII 65. Therefore [A] is the same as [0065].

Note that lowercase keyboard macros are converted to uppercase. That is, [a] is the same as [A]. For keyboard keys with ASCII values from 96 through 127, subtract ASCII 32 to find the Numeric equivalent (converts to lowercase).

Numeric macros [0096] to [0099] have no keyboard macro equivalent.

\*\*\*\*\*  
 REDEFINING THE KEYBOARD  
 \*\*\*\*\*

You can re-define the entire keyboard by entering:

[xx/] where xx=0..99

That is, hold the option key down, enter a number from 0 to 99 on the numeric keypad, and press the numeric keypad "/" key.

When you do this, the keyboard macros will now correspond to Numeric macros [xx00] to [xx95] instead of [0000] to [0095].

For example, when you enter [02/], then [A] triggers macro [0265] instead of macro [0065].

You can use this feature when you switch programs, since your macro definitions will be very specific to each program. For example, you might enter [00/] for running Appleworks, and [01/] for programming in BASIC. Thus, you can keep up to 100 sets of keyboard macro definitions in memory at one time, in each 32K macro file.

\*\*\*\*\*  
 SPECIAL MACROS  
 \*\*\*\*\*

Diversi-Key contains 100 pre-defined "special" macros, which are always available, and cannot be modified. You call a special macro by holding the option key down, and entering a number from 1 to 99 on the numeric keypad. Then, hit the keypad "." to trigger the special macro (instead of <enter>). Special macros are displayed as follows:

[nn.] where nn=0 to 99

Special macro [00.] calls the "control panel". If you hold the option key down, and hit the keypad "." (without entering a number), the effect is the same as pressing OPEN-APPLE\_CONTROL\_ESCAPE.

Other special macros functions are described throughout these instructions. For a list of all special macros, see the reference section.

\*\*\*\*\*  
 DEFINING A MACRO  
 \*\*\*\*\*

You can define a new macro, or edit an existing macro definition at any time. To define a Numeric macro, enter the macro number on the keypad, followed by the keypad "=":

[nnnn=] where nnnn=0..9999

To define a keyboard macro, hold the option key down, press the keypad "=", followed by the keyboard key you want to define.

[=k] where k is any keyboard key

When you enter macro define mode, the current definition for this macro, if any, will appear on the top line of the screen. The macro definition begins with:

[nnnn=k] where nnnn is Numeric macro number you are defining, and k is its keyboard macro key equivalent (if any). For example:

[0065=A]

You define the macro by typing it on the keyboard. When finished, press the keypad <enter> key to accept, or the keypad <clear> key to cancel. Note that the first time you press <clear> it clears any definition you have typed, if any. Press <clear> again to exit macro define mode without changing anything.

While defining a macro, you can call another keyboard macro by holding the option key down when you press the keyboard key. The status of the open-apple key (up or down), is saved in the macro definition, which is especially useful with Appleworks.

During the macro definition, the following keypad keys have special functions:

| Keypad Key | Function                                            |
|------------|-----------------------------------------------------|
| *          | Delete last character entered                       |
| -          | Move cursor back 1                                  |
| +          | Move cursor forward 1                               |
| <clear>    | Cancel definition                                   |
| <enter>    | Accept definition                                   |
| =          | End of macro definition, comments follow (optional) |
| /          | Enter special macro functions                       |

The keypad "/" key is used to enter Numeric macro calls, special macro calls, and all the other special macro functions described later. To call Numeric macros enter:

/nnnn<return> where nnnn is Numeric macro number 1..9999

To enter a special macro call:

/xx.<return> where xx is special macro number 00..99

\*\*\*\*\*  
 SCREEN DISPLAY DURING MACRO DEFINITIONS  
 \*\*\*\*\*

As you type your macro definition, each character is displayed on the top line of the screen. If you hold the open apple key down while typing a character, the character appears as {k} where "k" is the character. Open-Apple A is shown as {A}, for example. Other display features are as follows:

[k] keyboard macro call

```
[nnnn] Numeric macro call
[xx.] special macro call
<A> control key / <A>..

```

The arrow keys, tab, escape, delete, and return are printed as follows:

```
<left> <right> <down> <up> <tab> <esc> <ret>
```

Combinations of keys produce the following, for example:

```
{<tab>} means open-apple-<tab> pressed
[<tab>] call keyboard macro key <tab>
```

Other special functions are displayed between [ ] brackets as described later.

```

PRINTING MACRO DEFINITIONS

```

Diversi-Key has a very flexible way of displaying the definitions in your current macro file. It types the definitions as a macro!

You can use this feature to type a list of all your macro definitions into a word processing file. For example, to see all the built-in macro definitions, boot Appleworks and enter the word processor with an empty file. Hold the option key down, and press the keypad "-" key twice:

This will type the definitions for macros 1 to 9999 into your word processor, regardless of which word processor you are using.

In the following display options, the "-" key is the one on the keypad:

```
-- Displays all macro definitions
-nnnn- Displays all definitions starting with Numeric macro nnnn
nnnn- Displays Numeric macro nnnn only
-k Displays Numeric macro "k"
-<@> <@> is ctrl-@ / Displays all current keyboard macros
```

Note: Diversi-Key may pause for up to 12 seconds when displaying macros, as it searches for undefined macro numbers.

Comments: You can put comments at the end of your macro definitions by pressing the keypad "=", followed by the comment. When displaying comments, i.e. with keypad --, Diversi-Key sends these comments as actual keystrokes. That is, a <ret> in a macro definition is sent as the 5 characters, "<ret>", during display. A <ret> in a comment, is sent as a real single keystroke carriage return, during display only. This allows you to send formatting commands in comments, to make them easier to read. For example, the built-in comments all start with <ret> space, to indent them on the next line.

```

FLUSH: CTRL_OPEN-APPLE_DELETE :THE PANIC BUTTON!

```

If you trigger the wrong macro, or hit keypad -- by mistake, Diversi-Key may go merrily along typing bad keystrokes for some time. Fortunately, you can stop Diversi-Key at any time by typing the FLUSH key sequence. To do this, hold down the control and open-apple keys, and then press the delete key. Try this whenever Diversi-Key seems to be acting "stangely", i.e. not working.

```

MACRO FILES

```

Diversi-Key macro files are saved on disk as binary files. You then BRUN the file to load it into memory for use. The Diversi-Key disk contains a standard file named "DIVMAC" which contains the pre-defined macro definitions for Appleworks (and other programs). To load this file, enter:

```
BRUN DIVMAC
```

When you do this, the macro definitions on disk in the DIVMAC file will replace the current macros in memory. However, you may keep up to 10 different macro files in memory at once, each with up to 9999 macros in 32K memory.

Macro files in memory are numbered from 0 to 9. Normally, you will only use file #0. To switch to a new macro file number, hold the option key down, and press the keypad keys "="+n", where n is a KEYPAD digit from 0 to 9.

For example, to load a second macro file named "MAC2" and still preserve the existing macros, enter

```
=+1 (keypad keys with option key down)
BRUN MAC2
```

To switch back to the original macro file, enter "="+0" (keypad-option key down).

Finally, to release the memory allocated for the second macro file, if necessary, enter "=-\*1" (keypad-option key down).

We anticipate that you may someday buy commercial programs with custom Diversi-Key macro files included.

```

SAVING MACRO FILES

```

You can save your current macros in a file, either under ProDOS or DOS 3.3. To do this, you must first enter BASIC, and get to the Applesoft prompt, which is a:

```
]
```

One way to do this is to choose "BASIC.SYSTEM" from the //GS program launcher or desktop.

When you see this prompt, enter special macro [1.][2.]. That is, hold the option key down, and press the 4 keypad keys "1.2." without

letting the option key up.

Diversi-Key will type the word "BSAVE" for you, and wait for you to enter a file name. Type the name of the macro file you want to save, and hit <return>. Diversi-Key will finish the BSAVE command for you. You may now reboot. Under ProDOS, you can return to the launcher by typing "BYE<return>".

WARNING!!!!

Never enter [1.][2.] while executing a program. Doing this will crash the program (and possibly the whole system). Be sure you see the Applesoft prompt "]" before entering [1.][2.].

\*\*\*\*\*  
STARTUP MACRO  
\*\*\*\*\*

After your new macros are installed with BRUN macro, Diversi-Key will automatically execute Numeric macro [9999], if you have defined one. Use this macro to initialize Diversi-Key set-up values, if you wish.

You can specify a different macro as the startup macro. To do so, save the macro file as follows

[nnnn+] (where nnnn is start-up macro number)  
[1.][3.]

\*\*\*\*\*  
FORCING FILE NUMBER  
\*\*\*\*\*

When you install a macro file, it normally loads into the current active file number, which you set with [=+n] before BRUN DIVMAC. To create a macro file which loads to a specific file number, enter:

[=+n][1.][2.] (when saving the macro file)

You can use this feature to set up a turn-key system which loads several macro files, using the startup macro of the first file to load the second file to a different file number.

\*\*\*\*\*  
CONVERTING TO SYSTEM FILES  
\*\*\*\*\*

You can convert your macro files to system files, in order to load them from a menu manager program, as follows:

First CATALOG your disk and note the length of the DIVMAC file.

BLOAD DIVMAC,A\$1000  
CREATE SDIVMAC,TSYS  
BSAVE SDIVMAC,TSYS,A\$1000,Lxxxxx where xxxx is the length from the CATALOG ABOVE

You can do this with any macro file, not just "DIVMAC".

\*\*\*\*\*  
Advanced Features

\*\*\*\*\*

\*\*\*\*\*  
TIME AND DATE  
\*\*\*\*\*  
COUNTER  
\*\*\*\*\*  
KEYBOARD INPUT DURING A MACRO  
\*\*\*\*\*  
DISPLAYING MESSAGES (PROMPTING)  
\*\*\*\*\*  
REPEAT FUNCTION  
\*\*\*\*\*  
LIST FUNCTION  
\*\*\*\*\*  
OPTION FUNCTION  
\*\*\*\*\*  
IF/WHILE/TEST FUNCTIONS  
\*\*\*\*\*  
CHANGING BYTES IN MEMORY  
\*\*\*\*\*  
CHANGING KEYBOARDS  
\*\*\*\*\*  
CALLING MACROS FROM A PROGRAM  
\*\*\*\*\*

NOTE: The documentation under the above headings was deleted from the demonstration disk, due to lack of space on the disk. You will receive the complete Diversi-Key documentation when you send your \$45 payment.

\*\*\*\*\*  
SLOWING DIVERSI-KEY DOWN / PROGRAM COMPATIBILITY PROBLEMS  
\*\*\*\*\*

Diversi-Key sends its keystrokes just like you had typed them. That is, they appear at \$C000, the normal keyboard location. This is how Diversi-Key can work with any program.

Unfortunately, some programs throw away keystrokes if you type too fast. This is never necessary, but many programmers are in the habit of doing it. Diversi-Key automatically corrects this problem in Appleworks 2.0, and Pascal 1.3, by patching these programs in memory when they appear.

For other programs, your only hope is to slow down Diversi-Key, (unless you can figure out how to patch them). Macros [61.] through [67.] slow down Diversi-Key ([67.] is slowest), and macro [60.] restores normal speed.

Note that when you slow down Diversi-Key, you lose the ability to type ahead during a macro. Diversi-Key automatically slows down when you enter the control panel, so that's why you can't type ahead there.

This problem only shows up with machine language programs, so if you know some machine language, you can try to patch the problem away. Typically, the problem is caused by clearing the keyboard strobe at \$C010 unnecessarily, usually as follows:

```
LDA $C010 (NOT NEEDED, CHANGE TO NOP/NOP/NOP)
GETKEY LDA $C000
 BPL GETKEY
 STA $C010 (NEEDED)
```

You can use the //GS monitor to find references to \$C010 as follows:

```
BLOAD program
CALL -151
\10 C0\<800.9600P
```

```
+++++++
USING THE MOUSE
+++++++
```

Diversi-Key allows you to program your mouse to send macro keystrokes. You activate the mouse with the special macro: [51.]

With the mouse activated, you can send a total of 10 different macros from the mouse. When the program starts, the mouse movements will send the following macros:

```
With mouse button up:
[<P>] left mouse motion
[<Q>] right mouse motion
[<R>] down mouse motion
[<S>] up mouse motion
[<T>] sent when mouse button goes from down to up
```

With mouse button down:

```
[<V>] left mouse motion
[<W>] right mouse motion
[<X>] down mouse motion
[<Y>] up mouse motion
[<Z>] sent when mouse button goes from up to down
```

You can re-assign these mouse macros with the /B (BMOUSE) and /M (MOUSE) special functions. For example:

/B/<A> will assign the mouse button down macros to be [<A>] through [<E>]. /M/<A> does the same for the mouse button up.

/B1000 will assign the mouse button down macros to be Numeric macro numbers 1000 to 1004, and similarly for /M1000.

To use the mouse, first enter [51.] to enable it. Then, hold down the option key, and move the mouse, or press the mouse button. The mouse is only active when the option key is down.

While holding the option key down, you can press the control key to enable the one way mouse function. With the control key down, mouse left-right motion is ignored. With the control key up, mouse up-down motion is ignored. If you prefer, you can use the control key to convert mouse left/right motion into up/down motion. Enter [54.] to enable this feature.

You can lower the mouse sensitivity with [55.] for horizontal, or [56.] for vertical. You can enter these macros up to 255 times for minimum sensitivity (use repeat function).

Macro [57.] increases the ability of the mouse to type ahead. Each time you call [57.], can typeahead one more macro call. You can increase typeahead 255 times.

If you define mouse motion to do cursor movement keystrokes, then the typeahead behaves as follows:

With no typeahead, the cursor moves in the same direction the mouse moves. When you stop mouse movement, cursor movement stops. If you move the mouse faster than the cursor can follow, nothing changes.

With full typeahead, the mouse can get ahead of the cursor. If you move the mouse rapidly, the cursor will eventually catch up to the mouse. The cursor keeps moving after you stop moving the mouse. With typeahead, the location of the mouse on the table corresponds to the location the cursor will eventually reach on the screen.

After you start moving the mouse, you can no longer trigger macros from the keyboard. You'll notice that the inverse "K" in the upper right corner disappears during mouse movements. Let up the option key for an instant to get the "K" to re-appear, and allow macro triggering from the keyboard again. This feature is included to avoid pausing the program during mouse movements.

When using the mouse for a long time, you can enter [45.] to change the "trigger" key to <caps lock>, to avoid of having to hold down the <option> key all the time. To cancel, enter [40.].

With Diversi-Key, the mouse becomes an extremely flexible tool which can be used in any program, if desired.

```
+++++++
TRIGGER HOLD MODE
+++++++
```

Trigger hold mode allows you to use the mouse without having to hold down the option key. Enter special macro [05.] to enable trigger hold mode. To turn it off, enter [04.].

With trigger hold mode active, the option key (or other trigger key), behaves much like the caps lock key. That is, when you press and release the option key once, it stays "pressed" until you press and release it again.

This mode may also be used to trigger macros with one hand.

```
=====
OTHER INFORMATION
=====
```

\*\*\* Licensing Information \*\*\*

Although Diversi-Key is copyrighted, DSR allows copying and distribution of the program subject to the following restrictions:

1. Anyone receiving a copy of Diversi-Key must send a \$45 license fee directly to DSR, Inc. within 2 weeks.

2. Any company, club, or individual may charge up to \$5.00 for distributing copies of Diversi-Key, provided it is clear that an additional \$45 fee must be sent directly to DSR.

**Publishers:**

Unlike Diversi-DOS and Diversi-Cache, we do not license Diversi-Key to be included with other programs. However, we do encourage you to include a custom Diversi-Key macro file on your disks, specific for your program. We hope you will recommend that your customers order Diversi-Key directly from us, in order to use this file.

**Multiple Computers:**

Each additional computer license fee is \$45, up to a maximum of \$250 for all the computers owned by a company (or school district).

**\*\*\* User Support \*\*\***

Your user support number entitles you to talk directly to the programmer, Bill Basham. Please write if possible, or call:

313 553-9460 between 3 and 5 PM Eastern time.

**\*\*\* Diversi-Cache \*\*\***

Diversi-Cache dramatically increases the I/O speed of the Apple Disk 3.5, under any operating system (ProDOS, Pascal, DOS 3.3). Diversi-Cache speeds up the Disk 3.5 in two ways. First of all, whenever the system reads a block, Diversi-Cache actually reads an entire track. This triples the speed of disk reads, and doubles the speed of ProDOS writes.

Secondly, Diversi-Cache allows you to allocate a cache memory buffer from 0 to 800K in size. Whenever the system reads a block, Diversi-Cache saves it in the cache buffer. If the system asks for this block again, it comes out of memory at "Ramdisk" speed. Diversi-Cache only speeds up the Apple Disk 3.5 designed for the Apple //gs, and will not affect the speed of the older Apple //c compatible UniDisk 3.5.

**\*\*\* Diversi-Copy \*\*\***

Diversi-Copy(tm) is the fastest and easiest way to make back-up copies of your 3.5 and 5.25 disks. Diversi-Copy will use all available memory in an Apple //gs, //e, //c, or II+ compatible to allow 1-pass copying with a single drive.

Diversi-Copy was chosen as inCider magazine's "Editors' Choice". It is the best copy program available, for both 5.25 and 3.25 drive copying.

**\*\*\* How to Order \*\*\***

To order, please send your check to:

DSR, Inc.  
34880 Bunker Hill  
Farmington, MI 48018-2728

The cost of our programs is as follows:

|               |      |
|---------------|------|
| Diversi-DOS   | \$30 |
| Diversi-Copy  | \$30 |
| Diversi-Cache | \$35 |
| Diversi-Key   | \$45 |

We only sell our programs by mail-order, and will notify you of future program updates which you may purchase for \$5 each.

-----  
REFERENCE  
-----

-----  
CONVERTING DIVKEY TO A SYSTEM FILE  
-----

You can convert Diversi-Key to a system file, so you can run it directly from a menu selection program. To do this, first run BASIC.SYSTEM. Then CATALOG the Diversi-Key disk and note the length of the DIVKEY file. Then, enter the following:

```
CREATE SDIVKEY,TSYS,A$2000
BLOAD DIVKEY
BSAVE SDIVKEY,TSYS,A$2000,Lxxxxx (where xxxxxx is length of DIVKEY file)
```

-----  
MOVING DIVKEY TO DOS 3.3  
-----

First, boot DOS 3.3 and format a disk with:

```
INIT HELLO
```

Then, boot ProDOS again and enter:

```
BLOAD DIVKEY
Put in your new DOS 3.3 formatted disk
PR#6
BSAVE DIVKEY,A$2000,Lxxxxx (where xxxxxx is length of DIVKEY file).
```

-----  
USING DIVERSI-KEY: SUMMARY  
-----

Executing a macro: Hold down option key and enter:  
[] means keypad keys

```
[nnnn] let up option key executes macro nnnn
[nnnn<enter>] executes macro nnnn 1..9999
[nn.] executes special macro nn 0..99
[nn/] assigns macro's nn00 to nn95 to keyboard keys
nn= 1..99
nn00..nn95 ASCII keys 0..95 (upper/lowercase)
nn95 = ascii 127 = delete
[cccc+] sets counter to value cccc 0.9999
[nnnn-] send definition for Numeric macro nnnn
[-]k send definition for keyboard macro k
[-<@] send definitions for all keyboard macros A..Z etc.
```

```
[-nnnn-] send definitions for macro's nnnn..9999
[--] send definitions for ALL macro's 0001..9999
 use these to type macro definitions into a word processor
 for review and later editing
```

-----  
DEFINING MACROS  
-----

Start definition:        [] means keypad keys

[nnnn=] defines Numeric macro nnnn  
or  
[=]k defines option-k macro where k is keyboard key

During <definition>

Start with old definition on screen

[-] means backspace  
[+] means forward space  
[\*] means delete (as in Appleworks)  
[clear] means cancel definition  
[enter] means accept definition  
[k] means call nested macro for keyboard key "k"  
[=] means end of macro, start of comments  
[/] means call special function  
  end with [enter]

-----  
SPECIAL FUNCTIONS  
-----

```
/nnnn call nested macro nnnn
/nn. call special macro nn.
/nn/ re-define keyboard
/K enter and send keystroke
/P pause until keystroke, ignore it
/S enter string until <ret> hit / don't send <ret>
/S<key> enter string until <key> hit / don't send <key>
/Rnnn repeat nnn times, nnn=2..254
/Wbb/aaaa=tt While conditional
/Ibb/aaaa=tt If conditional / values are HEX
/Tbb/aaaa=tt Test / no END statement needed
/E end / for Repeat,If,While
/N null
/Cnnnnnnnn set counter (8 digits)
/Lxxx,nnnn do xxx macro's in list starting with macro nnnn
 xxx=1..255 / nnnn=1..9999
/Z zero list counters
/Mnnnn Mouse button up macros start with [nnnn]
/Bnnnn Mouse button down macros start with [nnnn]
/M/k Mouse button up macros start with [k]
/B/k Mouse button down macros start with [k]
/D Begin display message / end with {}
/Ok Send key "k" with option key down (i.e. to trigger Pinpoint)
```

Special IF/WHILE conditions.

Address: 7F/00xx        Test special location xx  
Compare byte: ?xx

```
?0 CVAL: Value at last IF/WHILE address
Macro [75.] moves CVAL to CVAL1 / CVAL1 to CVAL2 / CVAL2 to CVAL3
?1 CVAL1
?2 CVAL2
?3 CVAL3
?4 MOUSE / <>0 means mouse is ON
?5 Y sensitivity
?6 X sensitivity
?7 MRPT typeahead amount for mouse
?8 FFLAG format flag byte / default is 0 / bits ON as follows:
 80- UPPER CASE
 40- 24-Hour Clock
 20- Lead space
 10- Abbrev. ASCII month/weekday
 8 - Lead 0 or Space ON
?9 STACKP stack pointer / >0 means nested macro
The following are set with [20.] macro
?A WEEKDAY / 1-SUN 1..7
?B MONTH-1 0..11
?C DAY-1 0..30
?D YEAR 0..99
?E HOUR 0..23
?F MIN 0..59
?10 SEC 0..59
?11 OLDMOD / C025 register before last macro keystroke sent
?12 TICK count low byte / 60 HZ increment
?13 TICK count hi byte
?14 KGOT / Hi bit is OA status / Last key pressed during /S,/K or /P
?15 TEST / =0 or 1 / Result of last IF/WHILE/TEST
```

-----  
DISPLAY DURING MACRO DEFINITION  
-----

```
<left> ctrl-H
<tab> ctrl-I
<down> ctrl-J
<up> ctrl-K
<ret> ctrl-M
<right> ctrl-U
<esc> ctrl-[
<X> ctrl-X or other ctrl keys
```

```
{A} open-apple A
{<X>} open-apple ctrl-X
```

```
[nnnn=k] defining macro nnnn / which is keyboard key k
[nnnn] call Numeric macro nnnn
[nn.] call special macro nn
[nn/] re-define keyboard
[k] call keyboard macro k
[Key] insert keystroke
[Pause] pause until keystroke
[String <ret>] insert keystrokes until <ret>
[A-Repeat:12] repeat 12 times / nest level A
[A-if 00/0000=00] IF conditional, nest level A
[A-While 00/0000=00] WHILE REPEAT nest level A
[Test:00/0000=00] Test / no end statement
[End-A] END nest level A
```

```
[Count=cccccccc] set counter to cccc
[List:003,1000] alternate macro's 1000,1001,1002
[A-Zlist] Zero list counters until End-A
[Mouse:1000] mouse macro [1000]
[Mouse:<V>] mouse macro [<V>]
[Bmouse:1000] mouse button down macro [1000]
[Display] start of message to display / ends with {}
[Option-K] send "k" key with option key down
```

| end of macro definition, start of comments

-----  
SPECIAL MACROS call with [nn.]

```
[01.] - Lead-in for [2.] and [3.]
[02.] - [1.][2.] means BSAVE macro file / must be in BASIC] mode
 startu-up macro [9999]
[03.] - [nnnn+][1.][3.] means BSAVE macro file / startup macro [nnnn]
[04.] - Turn OFF trigger hold mode
[05.] - Trun ON trigger hold mode
[10.] - 10. means turn off Diversi-Key. FLUSH keys turn back on
 May be needed before booting ProDOS on a 5.25 disk with PR#
[11.] - Turns on Diversi-Key again
 ALSO clears KGOT to 0 / last key pressed in macro
[12.] - Turn color off
[13.] - Turn color on
[14.] - Turn Prompting Display off
[15.] - Turn Display on / top line (set display message with / D)
[16.] - Turn Display on / bottom line
[20.] - Force new time computation
[21.] - Clear Tick Counter

[40.] - Option key triggers macro (normal)
[41.] - OA trigger
[42.] - Option-OA trigger
[43.] - Option-Shift trigger
[44.] - OA-Shift trigger
[45.] - Caps Lock trigger (Use for handicapped or easier mouse)
[46.] - Beeps ON
[47.] - Beeps OFF
[48.] - Sound Volume normal
[49.] - Sound Volume OFF

[50.] - MOUSE OFF
[51.] - Mouse on / max sens. / no typeahead / 2-way mode
 saves old mouse status FIRST
[52.] - Disable X (horizontal) mouse action
[53.] - Disable Y
[54.] - Use X for Y with one-way mouse
[55.] - Decrease X sensitivity
[56.] - Decrease Y sensitivity
[57.] - Increase typeahead
[58.] - Restore old mouse status
[59.] - MOUSE SPECIAL MACRO / Don't use

[60.] - High-speed macros with typeahead / normal
[61.]to[67.] - Slow down macros /no typeahead / [67.] is slowest
[68.] - Allow interrupts during macro (normal)
[69.] - Disable interrupts during macro

[70.] - Print counter & INC
```

```
[71.] - DEC counter
[72.] - INC counter
[73.] - Clear counter to 1 / # dig to 0 (no leading 0's or spaces)
[74.] - INC # digits in counter (2..8) to give leading 0's or spaces
[75.] - Save CVAL to CVAL1, etc. (see IF/WHILE section)
```

```
[76.] - Reset next LIST pointer to first macro in list
```

```
[77.] - SAVE Format
[78.] - RESTORE Format
[79.] - RESET Format to defaults (* below)
```

Format options for time/date

```
[80.]*- Lead 0,Space OFF (*=default)
[81.] - Lead ON
[82.] - 0 lead char
[83.]*- Space lead char
[84.]*- 12-Hour clock format
[85.] - 24-Hour clock format
[86.]*- Full ASCII weekday and month
[87.] - Abbrev. ASCII weekday and month
[88.]*- Send macros upper/lowercase
[89.] - Send all macros in upper case only
 Date and time macros / print current clock information
 Clock is read only when a macro is triggered manually
 Use [20.] to force clock re-read if needed
[90.]-Weekday, 1..7 / 1=Sunday
[91.]-A OR P (M)
[92.]-Month 1..12
[93.]-Day 1..31
[94.]-Year 0..99
[95.]-Hour 0..23 or 1..12
[96.]-Minute 0.59
[97.]-Second 0..59
[98.]-Weekday ASCII / i.e. "Sunday" or "Sun."
[99.]-Month ASCII /i.e. "January" or "Jan."
```



=====

DOCUMENT dlp

=====

Disk Labeller Pro  
Version 1.0  
by Dave Touvell

Documentation File  
June 2, 1987

GENie Mail address: D.TOUVELL

Apple Orchard BBS: (919) 764-3834  
Leave E-Mail for Dave Touvell

This is a public domain program. You may give copies of it away, and are encouraged to do so.

Disk Labeller Pro runs on any Apple II capable of running ProDOS 8, with at least one disk drive, lowercase capability, and a dot matrix printer that will print Condensed Superscript (17 CPI, 1/2 height) characters.

This program will read a ProDOS disk catalog, then print a label consisting of the Volume name, Number of Free Blocks, and the Name, Type, and Size of up to 42 files in the volume directory. You can let Disk Labeller Pro print all of the files on the disk, or you can choose to be shown the catalog entry for each file, and asked whether you wish to include it on the label. Several printers are supported, and may be selected from the Select Printer Menu. The program may be configured for printers capable of printing compressed superscript text that are not listed through the Custom Printer option. The labels used are standard 4 by 1-7/16 inch mailing labels. Other label sizes are not supported at this time.

Disk Labeller Pro is menu driven for ease of use. The menu selection pointer may be moved with the Left/Right arrow keys, the Up/Down arrow keys, or by pressing the number key corresponding to the item you wish to choose. When the pointer is on the option that you wish to choose, press the RETURN key. At most places in the program where you are asked to press a key to continue, or at any menu, you can return to the previous menu by pressing the ESC key.

When the program is run for the first time, you will be at the Configuration Menu.

Move the menu pointer to the first

option, Select Drive, and press the RETURN key. You will then be asked for the number of the disk drive in which the disks to be labelled will be. Press 1 or 2, or press RETURN if you want to leave it as the number displayed. You will then be returned to the Configuration Menu.

Choose the next option, Set Printer Slot, and enter the slot number (1 through 7) that your printer is in, or Press return for no change from the slot displayed. You will again be at the Configuration Menu.

The next option is Printer Interface Setup. Choose this option and the current interface setup string will be displayed in its decimal ASCII form. When the program is run for the first time this string will be "009 054 053 078". this is the decimal ASCII representation of "<Ctrl-I>65N", the string needed by the Apple Parallel interface card. Press RETURN to leave it as it is, or enter a new setup string in the same form that will set the interface card to allow a 65 character line. The leading zeroes are not necessary, but each value should be separated by a space. After you enter this string you will again be at the Configuration Menu.

Next, select the Choose Printer option, and you will see the Choose Printer Menu. If your printer type is listed in this menu, just move the pointer to that line and press RETURN. The correct values for your printer will be installed and you will still be at the Select Printer Menu. You may then either press the ESC key, or move the pointer to the Return to Main Menu option to return to the Main Menu.

If your printer is not listed here, and is capable of Condensed Superscript print mode (17 characters per inch, half height), you can configure Disk Labeller Pro for it by choosing the Custom Printer option. you will then be asked for the printer command codes needed to implement various print functions. Consult your printer manual for the codes needed to implement each function, then enter each set of codes as a series of DECIMAL numbers; one decimal number per ASCII character in the command set. Separate each number by a space. For example, to set Superscript mode on an Epson RX-80 printer the code set is:"<ESC>S0". This would be entered as: 27 83 48. (The Decimal ASCII code for ESC is 27, for S is 83, and for 0 is 48.) If

Disk Labeller Pro has been configured before, the current values of each code will be shown. You may press RETURN alone to keep the values shown. Each function, with the exception of Expanded Mode (Double Width) On and Off, must have a value. If no value is entered, a space ("032") will be substituted, but the program will not print properly. When you are done, you will be asked to press RETURN if the values are correct, or to press ESC to re-enter the values if you made a mistake. If you press RETURN you will be returned to the Select Printer Menu. Select the Return to Configuration Menu option (or press ESC).

You are now finished with Configuration. Select the Return to Main Menu option or press ESC. The disk drive will come on as Disk Labeller Pro saves the configuration in a VAR file named "SETUP", and you will be at the Main Menu.

You are now ready to label disks. Select Label Disks from the Main Menu, and you will be shown the Label Disks Menu. Here you have the option of having all of the files in the disk catalog on the printed, or being shown the entry for each file and asked whether or not to include it on the printed label.

If you choose to print all the files, you will be prompted to put the disk to be labelled into the drive that you designated during configuration and press a key. The volume name and number of files on the disk will be displayed. If there are more than 42 files on the disk you will be returned to the Label Disks menu and prompted to use the Select Files option. Otherwise, you will be prompted to ready the printer any press a key. At this point you can press the ESC key to return to the Label Disks menu, or make sure the printer is ready and press any key except ESC to print the label.

If you choose the Select Files to Print option you will be shown the catalog entry for each file and asked if this file is to be included on the label. You can press Y for yes, or N for no; or you may press ESC to abort and return to the Label Disks Menu, or press RETURN to stop selecting files and print the label. The Volume name and the number of files selected so far are shown above the file entry. When all files have been displayed you will be prompted to ready the printer

and press a key, as above.

After the label has been printed you will be returned to the Label Disks menu. You may then label another disk or return to the Main menu.

The third option on the Main menu is See Documentation. It displays this file to the screen. Make sure that the file DLP.DOC is available in the same prefix as the program was run from, or you will get an error. After the screen is full, you will be prompted to press any key for the next screenful, or you may press the ESC key to return to the Main Menu.

If you select the Quit to BASIC option from the main Menu, you will be asked to verify that you wish to do this. If you answer Y then you will be in BASIC. N will return you to the Main Menu.

This is the first version of this program, and it has only been tested with the Epson RX-80 printer and a parallel interface. If you have any problems, suggestions, or comments, leave E-Mail to me at one of the following places:

GENie, GE-mail address D.TOUVELL

Apple Orchard BBS (Winston-Salem, NC)  
(919) 764-3834, address Dave Touvell

I am particularly interested in hearing of any problems with other printers, and of the printer codes needed to make other printers work, so that I can include more ready-made printer setups in the next version.

I would also like to thank all of the people who answered my plea for printer command codes a while back. Since these were used in the program untested, I'd like to hear whether or not they work properly.

AppleWorks line-centering. If you tell AppleWorks to center a line of text, Dogpaw will center it on the screen or printed page.

The page header option:

To have Dogpaw print a header at the top of each printed page, the following syntax is used:

```
10 PRINT CHR$(4)"DOGPAW [filename]\[header]"
```

That is, whatever you want printed at the top of your pages is written in after the pathname of the text file, separated from the pathname with a backslash. The header will be printed at the top left of each page. If you want the header centered on the page, separate it from the pathname with TWO backslashes:

```
DOGPAW [filename]\\[header]
```

If you want the page number included in your header, insert the "#" character where you want the page number to appear. The header option has no effect on Dogpaw's text-to-screen display.

The scan/search option:

When using Dogpaw to display text on-screen, you can have it scan through the text until a certain string of characters is found. The syntax for this is much like that for the page header option:

```
DOGPAW [filename]${string}
```

or

```
10 PRINT CHR$(4)"DOGPAW [filename]${string}"
```

With [string] being whatever you want to scan for. If you enter

```
DOGPAW DOGPAW.DOCS.C $widget
```

then Dogpaw will put the file DOGPAW.DOCS.C on screen, and quickly flip through the pages until a page with the first occurrence of the word "widget" is being displayed. Then you can page forward or backward as usual. If no occurrence of the entered string is found, Dogpaw will scan through to the end of the text, and the "end of text" message will appear at the screen bottom. If, when Dogpaw stops scanning and displays the page of text with your string, you press the S key, Dogpaw will start scanning again for another occurrence of the string. When using the 80 column screen, Dogpaw will flag the line(s) the string appears in by inverting the first character of the line. The string can be up to about 150 characters in length. The search is not case sensitive; entering "cat" will also find "Cat" or "CAT". Including a scan-string in the Dogpaw command line will have no effect if Dogpaw is being used to print the file. The scan/search option can't be used in the same command line with the page header option.

Line spacing:

Normally, Dogpaw displays and prints its text single spaced. If you want a double spaced display or printout, simply include a "+" AFTER the filename, and BEFORE the header or search-string, if either is being used; like so:

```
DOGPAW [filename]+\[header]
```

or

```
DOGPAW [filename]+\${string}
```

or just

```
DOGPAW [filename]+
```

In my opinion, text on the 40 column screen is much easier to read if it's double spaced.

"As-is" mode:

Occasionally, you may want to use Dogpaw to print out a TXT file which has carriage returns inserted at the end of each line, and has the line-length set to 80 columns. This is sometimes called "80 column hard formatting". This kind of formatting is often found in text files that are uploaded to Bulletin Board Systems. Because Dogpaw normally does its own word wrapping at 70 columns when it's printing, an 80 column hard formatted file can give you a messy looking printout, with lots of very short lines mixed in with normal-length lines. If you find this happening, you can turn off Dogpaw's 70 column word wrapping and let the file use its own formatting by including "@" (circled "a", for "as-is") after the pathname when calling Dogpaw. Like this:

```
=====
DOCUMENT dogpaw
=====
```

Dogpaw:

Dogpaw is a powerful added-ProDOS-command program which provides an easy and convenient method of displaying and/or printing text files from the BASIC environment. It is primarily intended as a means of presenting on-disk program documentation, though I'm sure many will find Dogpaw useful for a variety of other text viewing/printing purposes. Dogpaw is public domain, and all programmers are welcome to "package" it along with their own public domain or commercial programs for the purpose of handling documentation files. Non-programmers will also find Dogpaw a useful thing to have on hand for displaying documentation (or other text) files.

(Some non-programmer people may find parts of the instructions below to be overly technical. Not to worry; whatever you don't understand, you probably don't need to know.)

Dogpaw works with ProDOS TXT (ASCII text) files, AWP (AppleWorks Word Processor) files and "compressed" files. Compressed files will be explained later. Dogpaw will work with files of ANY length, to the maximum allowed by ProDOS. When displaying text on-screen, Dogpaw presents the text in word wrapped form on either the 40 or 80 column screen. Dogpaw allows you to page forward and backward through the text unlike many text-to-screen utilities, which only offer one-way scrolling. Dogpaw also has a "search" option which allows you to scan through a file for occurrences of any word or phrase. If Dogpaw detects that it is running on an Apple II+, the on-screen text will be displayed in upper case, with lower case a selectable option.

When being used to print text, Dogpaw formats the text for the printed page, and has the option of printing a header at the top of each page. This header can be centered if desired, and can include the page number. While Dogpaw is printing, the number of the page being sent to the printer is displayed on-screen, and the user can pause or end the printing at page breaks. This is useful if single sheet paper is being used, and with some systems, by "printing" to a switched-off printer, this feature can be used to start (actual) printing at some given page in the text other than the first. Both the screen-displayed text and the printed text can be set to either single or double spacing.

Compressed files and /Doc.Stuff/:

Dogpaw is included on a disk of public domain utility programs written by me. This disk is called "/Doc.Stuff/" and is available from public domain software vendors, is in the software libraries of some on-line information systems, or can be ordered from me for \$3.00. The other utilities on /Doc.Stuff/ are also related to the task of presenting text, mainly for the purpose of program documentation. One of these utility programs is "Compressor", which takes TXT or AWP files and compresses them by about 30%. This minimizing the disk space taken up by such files. As mentioned, Dogpaw can display and print these compressed files as well as TXT and AWP files.

Using Dogpaw:

When you BRUN (or "-") Dogpaw, it installs itself as a new ProDOS command, and can then be used much like other ProDOS commands. (More correctly called "BASIC.SYSTEM commands", if ya wanna get technical.) For example, from the Applesoft prompt, you can simply type in "Dogpaw [filename]", with [filename] being the name or pathname of the text file you want to view. The text will be word wrapped for either 40 or 80 column display, depending on which is active when you call Dogpaw. If Dogpaw finds that the active output slot is neither 0 (40 column display) nor 3 (40 or 80 column) when it is called, it assumes that the output is for a printer, and the text is formatted appropriately. As with other ProDOS commands, Dogpaw can also be used from within a BASIC program in the form: PRINT CHR\$(4)"DOGPAW [filename]". Thus, to use Dogpaw to print a file with a printer in slot 1, you would use a BASIC line such as:

```
10 PRINT CHR$(4)"PR#1": PRINT CHR$(4)"DOGPAW [filename]"
```

When Dogpaw finishes printing the file, it will return to "slot 0"; output to screen in 40 column mode. When printing, Dogpaw will ignore any embedded printer-control characters, AppleWorks margin and page-break settings, etc. One exception to this is

```
10 PRINT CHR$(4)"PR#1":PRINT CHR$(4)"DOGPAW [filename]@\[header]"
```

The "@" must come before the "\" header token, if any header is being used. It can be used together with "+". When this feature is used, Dogpaw will print without a left-hand margin. Using "@" won't effect on-screen text; hard formatted files will look fine on an 80 column display, but will have lots of oddly-lengthed lines on a 40 column display.

Case-convert for the II+:

When Dogpaw detects that it is running on an Apple II+, the text displayed on-screen will be converted to upper case. To accommodate II+'s that have been modified to display lower case, this conversion can be turned off by pressing "C". Pressing "C" again will turn it back on. When running on a II+, Dogpaw will put a prompt at the bottom of the text-display screen which explains this feature. Text sent to a printer on a II+ will not be converted to upper case. Dogpaw's 80 column mode is compatible with Videx Videoterm standard II+ 80 column cards.

NODOGPAW:

To remove Dogpaw and free up the memory it uses (about 4K), enter "NODOGPAW". After this is done, entering any Dogpaw commands will result in a syntax error. Please note, however, that this command will release all the buffers that any other added ProDOS commands, ampersand (&) routines, etc. have allocated. (Dogpaw supports daisy-chaining of other added ProDOS commands.) This shouldn't cause any problems with other added ProDOS commands or with ampersand routines - they will simply be removed and disconnected along with Dogpaw. Problems could be caused, however, if NODOGPAW is used when certain other buffer-allocating programs are installed. Some such programs don't use either the ampersand or the added-command "hooks". Beagle Bros. "GPLe" and "D.BUG" are a couple of examples. The NODOGPAW command will release the memory set aside for routines like these, but won't "disconnect" them. Therefore, a crash becomes likely. In general, you should avoid using NODOGPAW unless you are sure that nothing that will cause problems is tucked away in the machine's memory.

DOGPAW?:

Entering "DOGPAW?" will display the title, version number and date of the Dogpaw program, and also the name and address of its glory-hogging author (me). This is handy for checking whether Dogpaw is installed. This same information is printed whenever you BRUN Dogpaw in immediate mode (that is, from the keyboard, not from within a BASIC program).

Techy stuff:

Dogpaw BLOADs at \$4000, and relocates itself above HIMEM, which is lowered accordingly. Before relocating itself, Dogpaw checks to see if it has already been installed. If it has, it simply returns to BASIC, rather than installing a second copy of itself. When loading a text file into memory, Dogpaw will use whatever room is unused by the BASIC program (if any) that's loaded. Dogpaw has its own set of error messages to let you know if things go wrong. Dogpaw supports pathnames only, not S(lot) and D(rive) parameters.

I'd like to thank Garry Delong and Doug Trueman for their help with Dogpaw. Without their assistance, Dogpaw would be a mere bug-eaten shell of its current self.

Why "Dogpaw"? - thought you'd never ask. Very simple, actually: Start with "Documentation; Printer or Screen". Shorten that to "Doc.P.O.S.". Now give that a couple of hard shakes & a slap, and VOILA! You get "Dogpaw". Obvious, huh?

Any comments, bug reports, etc. you may have regarding this program are more than welcome.

Karl Bunker  
321 S. Huntington Ave.  
Boston, MA 02130

```
=====
DOCUMENT dos.3.5
=====
```

DOS3.5 INSTRUCTIONS

=====

INTRODUCTION:

DOS3.5 is a assembly language program which modifies DOS3.3 to run 3.5" disks.

DOS3.5 IS NOT IN THE PUBLIC DOMAIN!

Some code is from:

APPLE ASSEMBLY LINES  
(C) COPYRIGHT 1986 S-C SOFTWARE  
MAY & JULY & OCT 1986 issues  
S-C SOFTWARE  
P.O. BOX 280300  
DALLAS, TX 75228

All code not from APPLE ASSEMBLY LINES 1986 IS:

===

(C) COPYRIGHT 1987 BRAD PLATT  
ALL RIGHTS RESERVED

PRONTODOS is a trademark of BEAGLE BROTHERS

APPLE, APPLE II, and APPLE IIGS are trademarks of APPLE COMPUTER INC.

THE DISCLAIMER

=====

These instructions and the program DOS3.5 is sold without any expressed or implied warranties whatsoever. No warranty of fitness for a particular purpose is offered. The user is advised to test the program thoroughly before relying on it. The user must assume the entire risk of using the program DOS3.5 and the modified disk operating system that it creates.

3.5"DOS3.3

=====

3.5"DOS3.3 is the name given to the new disk operating system created by the program DOS3.5 . This new DOS is DOS3.3 slightly modified so it can run 3.5" disks, and still retain compatibility with the DOS3.3 programing environment.

3.5"DOS3.3 seems to be compatible with all the APPLE II family of computers that have at least 48K of ram, including the APPLE IIGS.

OVERVIEW of 3.5"DOS3.3

=====

BENIFITS:

1. Very little of DOS3.3 has been modified, so should be compatible with almost all programs that use an unmodified DOS3.3 programing environment.
2. Allows the use of 3.5" disks to run and store programs.

3. Will also run normal 5.25" disks that have been initialized by DOS3.3 .

4. Allows approximately 800K bytes of information to be store on one 3.5" disk. Data is stored as if each 3.5" disk was 2 disk drives each holding 400K bytes.

**DRAWBACKS:**

1. Can run only one 3.5" drive, and it must be in its own slot. (No limit to the number of 5.25" drives as long as not in same slot as 3.5" drives).
2. No INIT command. (To initialize a 3.5" disk you must run the program DOS3.5 and chose option to initialize 3.5" disk).
3. Cannot initialize 5.25" disks from the 3.5"DOS3.3 environment.
4. The program DOS3.5 should be copied onto the initialized 3.5" disk so you can use it to initialize new disks.
5. The startup program, more commonly known as the HELLO program, is not automatically copied onto the 3.5" disk when it's initialized. Instead you should put the HELLO program onto the 3.5" disk soon after it has been initialized. Also the HELLO program must be called "HELLO" .
6. 3.5"DOS3.3 uses \$BCDF-\$BCFF. This area is officially unused by DOS3.3, so it's a popular place used to put patches. Example: PRONTODOS uses it.

**GETTING STARTED**  
=====

**Assumptions:**

You have an Apple II series of computers with at least 48K of RAM in it. You have the program DOS3.5 on a 5.25" disk that contains the disk operating system DOS3.3 .

1. Boot up this disk
2. Type BRUN DOS3.5 (then press return)
3. Get to menu titled:  

```

MODIFY DOS3.5 TO RUN 3.5" DISKS
=====

```

When asked WHICH VERSION DO YOU WANT?  
Chose choice #1 which is: 1. WITHOUT PATCH

DOS3.3 has now been modified to 3.5"DOS3.3

4. Get to menu titled:  

```

MAIN MENU
=====

```

Chose choice #1 which is: 1. INITIALIZE 3.5" DISK

then follow the directions on the screen. Make sure there is a 3.5" disk in the correct drive or the program will bomb!

Your 3.5" disk is now initialized.

5. Return to MAIN MENU
6. To initialize more disks repeat steps 4 and 5.
7. For every new disk that has just been initialized, it's strongly suggested that you copy the program DOS3.5 onto the new disk. (This step is optional)

Get to MAIN MENU

Chose choice #2 which is: 2. COPY THIS PROGRAM ONTO 3.5" DISK

then follow the directions on the screen. Make sure there is a 3.5" disk in the correct drive or the program will bomb!  
The program DOS3.5 has now been copied to the 3.5" disk. (But only onto phantom drive 1, not to phantom drive 2.)

8. Return to MAIN MENU

9. To leave program DOS3.5

Get to MAIN MENU

Chose choice #3 which is: 3. EXIT

You now have 3.5" disks that can run most DOS3.3 programs.  
REMEMBER: There is no "HELLO" program on this disk yet. Now would be a good time to add one.

**PHANTOM DRIVE**  
=====

A 3.5" disk that has been initialized with 3.5" DOS3.3 contains room for approximately 800K of storage. These bytes are stored as if there were 2 disk drives, each holding 400K. Since there is only one 3.5" disk drive, the second drive is called the phantom drive.

You access and use them just as if there were 2 drives in the slot the 3.5" disk drive is in.

**FOR EXAMPLE:**

```

CATALOG,S7,D1
CATALOG,S7,D2
LOAD PROG1,D2

```

**ADDING A "HELLO" PROGRAM**  
=====

Let us assume:

5.25" disk in slot #6 contains "HELLO" program  
3.5" disk in slot #7 contains 3.5"DOS3.3

and you want to transfer the "HELLO" program that is on the 5.25" disk to the 3.5" disk.

Type the following lines: (don't type what's in parenthesis)

```

PR#7 (boots up 3.5" disk)
LOAD HELLO,S6 (loads "HELLO" from 5.25" disk)
SAVE HELLO,S7,D1 (saves "HELLO" onto 3.5" disk in drive 1)
SAVE HELLO,D2 (saves "HELLO" onto 3.5" disk in phantom drive 2)

```

NOTE: You may not want to save a "HELLO" program onto phantom drive 2; because when the 3.5" disk is booted, only the "HELLO" program from drive 1 is run.

**3 VERSIONS OF DOS3.3**  
=====

They are:

1. Normal DOS3.3 (not able to run 3.5" disks)
2. DOS3.3 modified for 3.5" disks with NO PATCH  
\$BC56-\$BCFF is used
3. DOS3.3 modified for 3.5" disks with PATCH  
\$BC56-\$BCFF unused

1st DOS buffer used instead

The program DOS3.5 identifies which one of these 3 versions is currently in the computer (but only if one of these 3 versions is in the computer).

3.5"DOS3.3 refers to both versions 2 and 3.

Both versions 2 and 3 changes \$BEAF-\$BF8E. This is where the modification to DOS3.3 is put.

Normal DOS3.3 INIT command uses \$BEAF-\$BFB7 and \$BC56-\$BCDE. Normal DOS3.3 does not use \$BCDF-\$BCFF.

The old RWTS buffer is used whenever DOS communicates with a 5.25" disk. The new RWTS BUFFER is used only when 3.5"DOS3.3 communicates with a 3.5" disk.

|                       | OLD RWTS<br>BUFFER | NEW RWTS<br>BUFFER |
|-----------------------|--------------------|--------------------|
| NORMAL DOS3.3         | \$BB00-\$BC55      | none exists        |
| 3.5"DOS3.3 NO PATCH   | \$BB00-\$BC55      | \$BB00-\$BCFF      |
| 3.5"DOS3.3 WITH PATCH | \$BB00-\$BC55      | \$9AA6-\$9CA5      |

#### REASON NEED THE PATCH VERSION

Normal DOS3.3 doesn't use the area \$BCDF-\$BCFF. This space therefore is a popular place to put patches. Many programs that modify DOS3.3 use it, including PRONTODOS.

The patch version allows you to use programs such as PRONTODOS with 3.5"DOS3.3. The patch version doesn't use \$BC56-\$BCFF.

The patch itself changes less than a dozen bytes, but causes the new RWTS buffer to use \$9AA6-\$9CA5 (normally used as DOS3.3 buffer #1) instead of \$BB00-\$BCFF.

Room is made for \$9AA6-\$9CA5 by tricking DOS into thinking buffer #1 begins where buffers #2 usually is. In other words, MAXFILE 2 sets HIMEM at the same place (when used with patch version) that MAXFILE 3 use to be. Also, the default (or startup value) of MAXFILE is changed from 3 to 2. (See Nibble Magazine April 1986 pages 100-101 for more information).

#### PRONTODOS and 3.5"DOS3.3

PRONTODOS is a program that modifies DOS3.3 to speed it up. Dos commands like LOAD, SAVE, BLOAD, and BSAVE are all sped up, usually 2 to 4 times faster than plain DOS3.3.

PRONTODOS contains other enhancement to DOS3.3 such as print disk free space during catalog, or "TYPE" command which lists text files.

Plain PRONTODOS seems to work with the "no patch" version of 3.5"DOS3.3.

In order to use as many PRONTODOS enhancements as possible, use the patch version of 3.5"DOS3.3. Even so, not all the enhancements will work. The "TYPE" command doesn't work with it, but print disk free space does. The best way to tell is to try it out.

#### INITIALIZING NEW 3.5" DISKS TO RUN PRONTODOS MODIFIED 3.5"DOS3.3

Start by booting up a 5.25" disk that has PRONTODOS with the enhancements you want on it.

WARNING! Not all enhancements are compatible with 3.5"DOS3.3.

Then follow the same steps as explained in the getting started section except for the following:

Start at step 2  
At step 3, chose choice #2 which is: 2. WITH PATCH

When you're done, the newly initialized 3.5" disk will incorporate PRONTODOS's modification into 3.5"DOS3.3. Now, whenever you boot up with this 3.5" disk, the modified 3.5"DOS3.3 that's loaded into memory has PRONTODOS in it. You can use this disk to initialize new PRONTODOS modified 3.5"DOS3.3 disks. You'll be impressed by the speedup of most disk commands.

#### GETTING DOS VERSION 3.5"DOS3.3 INTO COMPUTER

You boot up a 3.5" disk the same way as a 5.25" disk. Any 3.5" disk that has been initialized (using program DOS3.5) will have 3.5"DOS3.3 on it. This means that whenever it is booted up, 3.5"DOS3.3 is loaded into memory, and is used as the disk operating sytem (DOS). This is the best way to load it into Apple's memory.

A more roundabout way would be to use the program DOS3.5 to change DOS3.3 to 3.5"DOS3.3, then to exit from this program. This roundabout way is only needed if normal DOS3.3 is in the computer, and you don't want to boot a 3.5" disk.

If 3.5"DOS3.3 is in the Apple, when you run program DOS3.5, the menu section titled:

#### MODIFY DOS3.3 TO RUN 3.5" DISKS

is skipped over, because this section is not needed. Also, you cannot change from 3.5"DOS3.3 "with no patch" to a "with patch" version, or vice versa.

#### MORE ON INITIALIZING

Initializing a 3.5" disk using the program DOS3.5 places the DOS currently in the Apple onto the 3.5" disk. Therefore, if you have PRONTODOS modified DOS3.3 in the computer when you initialize a new 3.5" disk, the new disk will contain PRONTODOS modified 3.5"DOS3.3.

#### REMEMBER:

1. INIT command won't work if 3.5"DOS3.3 is in Apple.
2. The only way to initialize a 3.5" disk is to use the program DOS3.5.
3. When 3.5"DOS3.3 is in Apple, you cann't initialize 5.25" disks.

#### DETERMINING WHICH 3.5" DISK DRIVE IS USED

When a 3.5" disk that has 3.5"DOS3.3 is booted up, the 3.5" disk drive that does the booting is the one and only 3.5" disk drive that will be used by 3.5"DOS3.3 .

3.5" disks with 3.5"DOS3.3 are NOT slot dependent!

For example assume:

Ann's Apple computer's 3.5" disk drive is in slot 7, and Bill's Apple computer's 3.5" disk drive is in slot 4.

Ann's 3.5" disks (with 3.5"DOS3.3) created on her computer will run on Bill's computer and vice versa.

The only time you ever have to identify which slot the 3.5" disk drive is in is when you boot up from a 5.25" disk and run the program DOS3.5 to install 3.5"DOS3.3 . (Reason: you are booting up with normal DOS3.3 and

only 3.5" disks can boot up with 3.5"DOS3.3 )

CHANGE NAME "DOS3.5" WHEN COPYING PROGRAM  
 =====

When you use the program DOS3.5 to make a copy of itself, the copy is automatically named "DOS3.5". To change the name that all further copies will be automatically named, you must alter the program DOS3.5.

The new name must be a valid DOS3.3 name from 1 to 12 characters long.

```
CURRENT VALUES (name assigned to copy is "DOS3.5")
$16C3= C4 CF D3 B3 AE B5 (ASCII values)
 D O S 3 . 5
$16C9= A0 A0 A0 A0 A0 A0 ($A0= blank space)
 $A0= blank space
```

TO CHANGE NAME:

Put ASCII values of characters of new name starting at \$16C3. Make sure the first character is a letter. Use ASCII values with bit 7=1 (all ASCII values must be greater than 127). If new name is less than 12 characters long, fill remaining bytes through \$16CE with \$A0 (\$A0= blank space).

```
EXAMPLE: Change name to "INIT.N.COPY"
CALL -151 (enter monitor)
*16C3: C9 CE C9 D4 AE CE (INIT.N)
*: AE C3 CF D0 D9 A0 (.COPY)
*3DOG (leave monitor)
```

Now save altered DOS3.5 to disk (suggest use a new name). Better yet, run altered DOS3.5 and use the program to copy the altered DOS3.5 onto a 3.5" disk. This copied program will of course be named "INIT.N.COPY".

CHANGE NAME OF "HELLO"  
 =====

The name of the 3.5" disk's startup program is "HELLO". On an already initialized 3.5" disk you can always save a new startup program under the name "HELLO".

If you want to use a different startup name, then you must alter the program DOS3.5. Once altered, whenever a 3.5" disk is initialized using this altered DOS3.5 program, the new 3.5" disk's startup program will have this new name.

The new startup name must be a valid DOS3.3 name from 1 to 30 characters long.

```
CURRENT VALUES (startup name is "HELLO")
$10F1= 05 (number of characters in name)
$1D5E= C8 C5 CC CC CF (ASCII values)
 H E L L O
$1D6E TO $1D7B= $A0 ($A0= blank space)
```

TO CHANGE NAME:

1. Put \$A0 at \$15AC-\$15C9  
 Put \$A0 at \$1D5E-\$1D7B
2. Put number of characters in new name at \$10F1. Must be from 1 to 30
3. Put ASCII values of characters of new name starting at \$1D5E, making sure the first character is a letter. Use ASCII values with bit 7=1 (all ASCII values must be greater than 127).

```
EXAMPLE: Change startup name to "HI2"
CALL -151 (enter monitor)
*15AC: A0 ($A0= blank space)
```

```
*15AD<15AC.15C8M (put $A0 at $15AC-$15C9)
*1D5E<15AC.15C9M (put $A0 at $1D5E-$1D7B)
*10F1: 3 (3 characters long)
*1D5E: C8 C9 B2 (HI2)
*3DOG (leave monitor)
```

Now save altered DOS3.5 to disk. Better yet, run altered DOS3.5 and initialize a new 3.5" disk. Then use this program to copy DOS3.5 onto this new disk (the altered DOS3.5 will be copied). Be sure to write on disk label that you are using a different startup program name.

=====
   
DOCUMENT dosfile.xchange
   
=====

DFXX IS BROKEN VERSION OF DFX

DOS FILE EXCHANGE [1.1]
   
=====

PROGRAM BY BLACKSMITH
   
(C) 1982 BY ARROW MICRO SOFTWARE

INTRODUCTION
   
-----

DOS FILE EXCHANGE (DFX) is a program for transferring DOS 3.3 files between APPLE II computers that are equipped with the HAYES

MICROMODEM II\*.

DFX supports an APPLE to APPLE terminal "CHAT" mode that allows both ends to type messages to each other at the same time that files are being transferred.

HARDWARE REQUIRED
   
-----

APPLE II 48K
   
APPLESOFT in ROM or LANGUAGE CARD
   
HAYES MICROMODEM II in slot 2
   
DISK II in slot 6

SOFTWARE REQUIRED
   
-----

DFX PRIMARY DISK
   
DOS 3.3 SYSTEM MASTER

INDEX
   
-----

HOW TO RUN DFX .....2
   
ERROR HANDLING .....4
   
LIMITATIONS .....5
   
INTERNALS .....5
   
MAKING COPIES OF DFX .....7

\* Indicates trademark of Hayes Microcomputer Products. Inc.

APPLE is a registered trademark of APPLE COMPUTER INC.

HOW TO RUN DFX
   
-----

LOADING THE PROGRAM

Run the program called DFX on the LOCAL and REMOTE APPLE II computers. The program makes a quick check to see if the phone line has a clean data carrier present, in which case DFX will accept the current call and present the M-\$-& menu. If no carrier is detected, DFX will hangup the line and present the following C-& menu:

C .... CALL ORIGINATION

& .... BOOT DRIVE 1

WAITING FOR CALL

The "WAITING FOR CALL" message means that the system will auto-answer the telephone if a RING is detected.

PLACING THE CALL Type "C" to originate call. Then type the telephone number of the other APPLE as requested and let DFX dial the number via the modem. If an answer is received within 30 seconds, the call will be connected and the following M-\$-& menu presented.

M .... MASTER MODE

\$ .... HANGUP LINE

& .... BOOT DRIVE 1

CHAT MODE

A flashing cursor near the bottom left of the screen indicates that you are in CHAT mode connection with the other APPLE. Likewise, the REMOTE APPLE will be in in CHAT mode connection with you. This means that you may type messages to each other within a three line scroll area just above the STATUS display line at the bottom of the screen. All the non-control characters may be typed, and in addition, the control-G will ring the bell. The LEFT ARROW key will backup the cursor as far as the left margin.

FUNCTION MODE

To select any of the MENU items, you must toggle your keyboard from CHAT to FUNCTION mode by using the FORWARD ARROW key.

THE STATUS DISPLAY

As you play with the CHAT-FUNCTION toggle, you will notice that at the bottom right of the screen in the STATUS display there is a "C" or "F" indicating the current state of the LOCAL APPLE. If the REMOTE starts to toggle his CHAT-FUNCTION state, you will see his current state at the left of the STATUS display.

HANGING UP THE LINE

Selecting "\$" will hangup the telephone line and within about 15 seconds, both APPLES will reset to the original C-& menu and the WAITING FOR CALL state.

RETURNING TO DOS

Selecting "&" will leave the telephone line connected and cause the system to BOOT from DRIVE 1.

TRANSFERRING FILES

To transfer files, one of you must take control of the total system. This means that one of you elects to become the "MASTER" and the other end becomes the "SLAVE". To become the MASTER, type "M" from the FUNCTION mode and if you succeed in becoming MASTER the REMOTE menu will be replaced by the message:-

[CONTROLLED BY REMOTE]

You will be presented with the S-R-E menu:-

S .... SEND LOCAL FILES

R .... RECEIVE REMOTE FILES

E .... EXIT MASTER MODE

You can toggle between CHAT and FUNCTION mode at any time, but when ready to select from the menu, you must be in FUNCTION mode.

Selecting the "E" menu item will relinquish MASTER control and return both APPLES to the M-\$-& menu.



## SELECTING FILES FOR TRANSFER

Insert into DRIVE 1 any disk that contains files to be sent or has space for files to be received and select "S" or "R" from the menu. The APPLE that holds the files to be sent will read the CATALOG from its disk and send a copy to the other APPLE. When both ends have copies of the CATALOG displayed, the MASTER end can select the files to be transferred. This is done by moving the selection cursor up and down the screen with the < and > (or , and .) keys while in FUNCTION mode. The MASTER end toggles the file selection with the SPACE bar and both ends can see which files have been selected. When ready to start the file transfer, type CONTROL-C.

While your disk is actually being accessed, you will be barred from using the keyboard, but at all other times, including file transmission, you may select CHAT mode and converse with the other end.

## WATCHING THE DATA GO BY

There are three display screens supported by DFX. They are called the MENU, UTILITY and the GRAPHIC screens. You may switch from the current MENU screen to either the UTILITY or GRAPHIC screen at any time. The ESC key toggles your APPLE between the three screens and the STATUS line shows a U, G or M so that you know where you are. You can even see which screen the REMOTE is currently selecting by looking at the left side of the STATUS line.

## THE UTILITY SCREEN

This shows the Receive and Transmit data streams and an extension of the CHAT scroll area. In FUNCTION mode, the < and > (or , and .) keys move the small arrow under the data stream left and right. The hexadecimal values of the two indicated data stream characters are displayed at the right. A count of the total characters Received and Transmitted is displayed on the left.

## THE GRAPHIC SCREEN

The GRAPHIC screen shows 32 blocks of any file in transit. If it is a HIRES picture file, the sender will see the picture as loaded from disk, while the receiver will see it slowly appear. There are no valid FUNCTION mode keys while using the GRAPHIC screen.

## ERROR HANDLING

### FAILURE TO GAIN MASTER CONTROL

If you both managed to type "M" almost simultaneously while attempting to become MASTER, then you will both get a NOT ACCEPTED BY REMOTE message.

If you have placed a call to another computer that is not running DFX, then you will get the NOT ACCEPTED BY REMOTE message after typing "M".

### DISK ERRORS

If disk errors occur, both ends will be informed by a message at the top of the MENU screen. The MASTER end will be asked to type a SPACE in FUNCTION mode to terminate the file transfer and the system will reset to the S-R-E menu.

### TRANSMISSION ERRORS

During file transmission, each block of 256 bytes has a checksum appended so if line errors occur, the checksum will not match the receivers calculated checksum. A RESEND PREVIOUS BLOCK signal (NAK) will be returned by the receiver and the block will be resent. However, no error correction is applied to the CHAT sequences.

### INTERRUPTION OF FILE TRANSFER

Once a selection of files has been made and transmission started,

either end may ABORT the process without dropping the telephone line. Select the UTILITY screen, FUNCTION mode and type SHIFT-CONTROL-P. This will signal the REMOTE APPLE to close any open files and return to the M-\$\$ menu. If successful, the LOCAL APPLE will then do the same. If either APPLE was in the middle of a disk access at the time, you may have to repeat the sequence again.

## LIMITATIONS

-----

\* All disk functions refer to DRIVE 1.

\* The HAYES MICROMODEM II must be in slot 2.

\* All files must be in standard DOS 3.3 format. (APPLESOFT, INTEGER, BINARY or TEXT).

\* If the sender's CATALOG has more than 38 files, only the first 38 will be displayed for possible transfer.

\* If the sender's CATALOG has more than 19 files, the display will show all file names truncated after the 12th character. However, the file names up to the 30th character are still used internally.

\* At least one end must be running an original DFX PRIMARY DISK as provided by ARROW MICRO SOFTWARE. The other end may be a SECONDARY copy produced by any suitable file copy program, bit copier, or by the DFX PULL-THROUGH (DPT) utility. If you attempt to run SECONDARY copies of DFX in both APPLES, you will be permitted to place the call, CHAT and select files; but you will not be permitted to transfer any files. The slowly flashing "\*" at the centre of the STATUS line will break into a fast flash if both ends are running SECONDARY copies of DFX. Also, the message:-

[NO PRIMARY DFX DISK]

will be displayed when you enable the M-\$\$- or S-R-E menu. If you attempt to transfer files between two SECONDARY copies of DFX, you will be forced to press RESET which will drop the line and reboot.

## INTERNALS

-----

DFX is a small APPLESOFT program that loads and executes four binary program segments.

MODEMSUB.OBJ is the operating system that supports the three screens, CHAT-FUNCTION, STATUS display and modem.

DFXAPPLN.OBJ is the File Transfer Application routine.

DFXAPPLNMSG.OBJ contains all the messages for DFXAPPLN.OBJ.

DFXGSODS.OBJ makes various modifications to DOS 3.3 and initializes all variables. It then evaporates.

DFXDOCUMENTATION is a formatted text file of this documentation.

DOC is a rather slow and simple minded APPLESOFT program that prints the DOCUMENTATION file to a printer in slot 1.

DPT is an APPLESOFT program that will send a copy of the DFX files to a REMOTE.

### GETTING OUT OF DFX

When exiting from DFX, it is necessary to reboot the system with a more normal DOS 3.3. The "&" character has been chosen as the menu selection character because it requires a SHIFT and "&" key to reach

it. This helps avoid accidental reboots. Likewise, the "\$" key is used in the M- $\$$ -& menu to hangup the line. Even then, you must be in FUNCTION mode.

### CHAT AND FILE TRANSMISSION

The CHAT mode can coexist with the file transfer because, as you will see from the data stream on the UTILITY screen, all CHAT characters are preceded by a special ESCAPE character (\$FE). When a \$FE is found in the file data block, two of the special ESCAPE characters are sent and treated as only one at the other end.

### WHEN THE DISK IS ACTIVE

The disk read and write routines prevent the APPLE processor from servicing the modem for short periods. In order to prevent any characters from being lost, the REMOTE APPLE is sent a special signal to prevent it from sending until given a second GO AHEAD message after the disk operation is finished. During this "lockout" period, the REMOTE APPLE will buffer any CHAT characters and delay their transmission until given the GO AHEAD signal.

### DFX WITHOUT A TELEPHONE LINE

There is a hidden menu character in the C-& menu that will be of interest to those users that have access to two APPLES in the same room. You may connect the two modems directly, back-to-back, without actually involving the telephone lines. To place a call, type "C" and at least one digit followed by a <RETURN>. Since there is no ring signal available to the answering machine, just type "P" (for pickup) and it will cycle through its answering program.

### MAKING COPIES OF DFX

#### SECONDARY COPIES

All the files on the DFX PRIMARY DISK may be copied to another disk that has been initialized by the INIT program on the DOS 3.3 SYSTEM MASTER. The result is a Secondary copy of DFX. The SECONDARY copy will inherit the same serial number as the original DFX disk but the letter "S" will be seen to be appended. (The serial number is displayed at the bottom left of the screen before any call has been placed.) You may make and distribute as many SECONDARY copies of DFX as you please, but remember that to be able to transmit files, one of the two APPLES must be loaded from an original PRIMARY copy of DFX which is obtainable from ARROW MICRO SOFTWARE.

#### DFX PULL-THROUGH

There is a utility program called DFX PULL-THROUGH (DPT) on the DFX PRIMARY DISK which will let you send a SECONDARY copy of DFX to another APPLE by using the neat facilities of the HAYES MICROMODEM II ROM. Here is what you do:-

Call the user at the other end and tell him to BOOT the DOS 3.3 SYSTEM MASTER DISK. He should then remove the disk and insert a write enabled blank disk into drive 1. Warn him that this disk will soon be initialized and all existing files erased.

#### THE PULL-THROUGH CALL

Now you must get your APPLES connected together in the standard way as described in the HAYES MICROMODEM II manual. That is:-

Let him type IN#2 <RETURN> so that you may place the call.

Now you type IN#2 <RETURN>, control-A, control-H, control-A, control-Q. Enter the telephone number of the other APPLE and <RETURN>.

When the connection has been established, type control-A, control-X to exit from TERMINAL MODE and then RUN DPT.

Sit back and watch for about 8 3/4 minutes.

#### WHEN DPT FINISHES

He should now have a SECONDARY copy of the DFX files on his disk and DFX should be up and running on both APPLES.

If all goes well, your DFX will be running a few seconds ahead of his and you will see his CHAT status "C" appear when his DFX starts up. It is now safe to chat to him. If you start chatting too soon, his system may hangup the line because he sees strange bits on the line while he is testing the connection.

#### SENDING THE REST OF THE DFX FILES

To complete the SECONDARY DFX file complement, you should now use DFX to send him the files called:- DOC, DFXDOCUMENTATION, ORDERING, HELLO and DFX. (HELLO and DFX are required to replace the temporary files sent by DPT.)

#### COPYRIGHT

-----  
This software product (DFX) is copyrighted and all rights are reserved by ARROW MICRO SOFTWARE. The distribution and sale of this product are intended for the use of the original purchaser only. However, lawful users of this program are hereby licensed to execute the DPT program to transmit a SECONDARY COPY of any of the DFX files to other users for the purpose of usefully executing the DFX program between APPLE II computers.

Note: In any DFX to DFX communication, at least one end must run a PRIMARY COPY of DFX to work correctly.

No warranty, either expressed or implied, is made with respect to any part of this software. The programs are sold "AS IS". In no event shall AMS be liable for any direct or indirect, incidental or consequential damages resulting from any defect in the licensed program.

===== DOCUMENT double.stuff =====

```

-----|-----
| The Byte Bastards Present... |
| (= -> Doublestuff <=) |
|-----|=| <c> 1986 The Byte Bastards |-----|
| Docs typed in by: Sir Mangar |
|-----|-----

```

Introduction

Doublestuff is an applesoft compatible language, that is not loaded like applesoft, it is loaded into the area of memory were integer basic is loaded. It actually "Doubles" the graphics of your 128k //e or standard Apple //c. The Basic prompt now, instead of "]" is now "]". To use this you MUST be in 80 columns, and when you boot the disk, it will install Doublestuff into memory, and put you into 80 columns,with the "]" prompt.

The Demos

To see whats available for demo programs, type "catalog" watch your typing. A program listed is called "ME FIRST" this program when executed will run the Double lo-res demo menu, if you press <ESC> from the inverse menu <made like that for easier viewing on color composite monitors>, pressing <ESC> will bring you to the double Hi-res menu. Just type the number you want on either menu,to select what you want to see.

The Language

The Language is basically the same, except for these new changes, every thing is compatible:

- o Hi-res is now 0-559 by 0-191 instead of 0-279 by 0-191 pixels. (Hploting Co-ordinates:X=0 to 559,Y=0 to 191)
- o Lo-res is now 0-79 by 0-47 instead of 0-39 by 0-47 blocks of graphics. (Plot, Hlin, Vlin Co-ordinates:X=0 to 79, Y=0 to 191)
- o In Hi-res, the colors are the same as Lo-res
- o The commands HGR and GR turns on graphics mode to the last color used, I.E.:Hcolor=5, then a HGR would turn on Hi-res with a grey screen. To get a black Hi-res or Lo-res screen, just do a hcolor=0 or color=0 respectively.
- o The disk has Standard Dos 3.3 and Turbo dos, for faster access, this disk will not work with: Diversi Dos, David Dos or ProntoDos.
- o Here are the colors and numbers for HCOLOR=x and color=x, (x=the number of the color), 0=black.

- |               |                |                 |            |
|---------------|----------------|-----------------|------------|
| 1. Red        | 5. Gray        | 9. Orange       | 13. Yellow |
| 2. Dark Blue  | 6. Medium Blue | 10. Gray 2      | 14. Aqua   |
| 3. Violet     | 7. Light Blue  | 11. Pink        | 15. White  |
| 4. Dark Green | 8. Brown       | 12. Light Green |            |

===== DOCUMENT double.take =====

DOUBLE-TAKE DOCS

| SYMBOL                             | CONTROL F | SHIFT SYMBOL    |
|------------------------------------|-----------|-----------------|
| 1 NEW LIST                         |           | SHIFT 1         |
| 2 CATALOG,D1                       |           | CATALOG,D2      |
| 3 HEX-ASCII DUMP                   |           | MON DISASSEMBLE |
| 4 HEX-DEC CONVERTER                |           | MON FROM BASIC  |
| 5 APPEND(HIDES)                    |           | APPEND(EMERGE)  |
| 6 RENUMBER                         |           | AUTONUMBER      |
| 7 VITAL STAT                       |           | 2 BYTE PEEK     |
| 8 VARIABLE CROSSREFER.             |           | VARIABLE DUMP   |
| 9                                  |           | CONTROL(?)      |
| 0 CLEAR                            |           |                 |
| * HIRES PAGE 1                     |           | LORES PAGE1     |
| = HIRES PAGE 2                     |           | SPLIT SCREEN    |
| -> SCROLLS LISTING DOWN            |           |                 |
| <- SCROLLS LISTING UP              |           |                 |
| CONTROL C = CLEAN BREAK OF LISTING |           |                 |

them. They hang in midair, and sometimes you can slide capsules into place underneath.

Like other tetris style games, Dr.Mario is an exercise in thinking ahead under pressure. You can usually recover from mistakes, but it always takes time. And the longer you take to clear a level, the faster Dr. Mario tosses in the capsules.

Unlike other Tetris variants however, Dr. Mario has viruses and you can see them magnified in the lower left corner of the screen. These viruses disappear as you clear all of that color virus out of each level.

## Key Commands

A - Flip Left  
S - Flip Right

4 - Move Left  
2 - Move Down  
6 - Move Right

Q - Quit  
ESC - P - pause game

Press Space Bar every time you are waiting at some screen that seems to be waiting for something.

There are also a couple secret keys that I put in to help me while programming the game. The commands put the screen into some test modes that are pretty interesting...see if you can find em eh? :>

This Game was written because of the massive lack of games on the market for the Apple //gs right now. Since I've cracked and released 183 games over the 5 years that I've been the leader of USAlliance I decided that it was time to give something really productive back. This is the first serious game I've ever written, so its not exactly incredible quality. Also, I wrote this game from scratch in 15 days in my spare time and the usual amount of time it takes to write an arcade game is more than 4 months. This is the first of several games I hope to write in my spare time for the GS.

I am also making most of the source code to these games available to anyone who wants to see it. Since these games are not authorized and nobody gets any cash for em then I'm not going to loose anything by other people getting ahold of this code, eh?

later  
BA/USAlliance

V2.1

Final Note: I have tested this game extensively as well as I can. I have played it through several times and for me it always works. If you find any bugz or problems with it them try to get word to me so I can fix the bugs as quickly as possible!!!

msg to jas0n/j0e sMaCK: deeeeeeeeeeeeeewwwwwwwddddd..... how long did it take you to get permission to leave your state? :>

fr0d000 MiStTEr: bagged any more young males lately?

===== DOCUMENT dr.mario =====

Dr. Mario

Programmed By Blue Adept/USAlliance

Project Began July 5th  
Completed July 20th 4:48pm  
Made workable for GS/OS August 17  
Further Remoded to fix some bugz on January 27, 1992

Dr. Mario is a game of Virus's and Pills to cure them. The object of each level is to remove all the virus pieces from the screen. This is accomplished by getting 4 or more Pill Pieces of 1 color in a row horizontally or vertically. You get points for each virus you take out. If you take out more than 1 virus at a time then you get 400+(400\*number of viruses killed). Game is won after level 20 is completed.

Could it be Mario has settled down? After numerous adventures in the Mario Bros. series, he's tired in his running shoes for a stethoscope. Now he's a medical researcher at Mushroom Kingdom Hospital, experimenting in the virus lab.

But of course, Mario is a trouble magnet. Everywhere he goes, something is bound to happen that only quick reflexes and superhuman hand-eye coordination can fix. So one day, just as Mario was beginning work, Nurse Toadstool came rushing in with news that something had gone horribly wrong. One of the experimental viruses was growing out of control inside a laboratory bottle.

Fortunately, Mario had just developed a new set of vitamins that should have been able to kill the viruses. Unfortunately, things got complicated. The vitamins worked, but each one was effective only against a specific virus, and only when enough of the vitamins were used. In desperation, Mario began throwing vitamins into the laboratory bottle, trying to get enough of the right ones to the viruses they could kill.

The idea is to line up four or more pieces of the same color, either horizontally or vertically. By "pieces," we mean a whole capsule, or half of a capsule, or a virus. When that happens, all of the matching pieces disappear from the screen. If one or more of the pieces were viruses, you get points.

One key to shaping your strategy is to keep an eye on the upper right corner of the screen, where you can see the next vitamin Dr. Mario will toss into the jar. Although you can make the currently falling capsule fall faster by pushing down, you should probably just let it drop at its own pace. Use the tiem to look at what the next capsule will be and figure out where it will fit.

It's also important to anticipate where broken pieces of capsules will drop. Each capsule consists of two halves, and if one half disappears when you match a row, the other half remains on the screen. When this happens, the half left behind drops until something stops it. If it happens to land somewhere to make ANOTHER matching row of four colors, that row will also disappear, and any halves left behind will also drop, and so on.

It should be pretty obvious, therefore, that when you match a capsule to a row, you should also think about where the odd half will drop. How will the leftover piece affect the piles of capsules below it? The key to beating Dr. Mario especially at the higher more contaminated levels is getting the knack of lining up capsules so that when one half disappears, the leftover half can drop somewhere useful.

If you drop a capsule on top of a different-colored virus, there are only three ways to clear the virus later. The first method is to imply pile on more capsules of the same wrong color until they form a matching row and disappear, leaving the virus uncovered. This method is the most common, and it works, but it also takes time. In addition, the halves left behind might cover other viruses in the process, so careful planning is essential.

The second way to clear a virus that's buried beneath wrong-colored capsules is to match it with a horizontal row of pieces. This is probably better than method #1, but isn't always possible. Again, careful planning is the only way to keep those lines clear.

The third method is even more difficult - form a vertical stack by building up matching capsules beneath the virus. This is possible because viruses, unlike capsules, do not fall toward the bottom of the screen when there's nothing to support

THE FLASH DIRECTLY AFTER YOU SEE IT.

-----  
 EACH ROOM HAS A DESCRIPTIVE TITLE WHICH WILL ALLOW YOU TO DETERMINE THE ROOM PATTERN YOU NEED. THE ROOMS ARE ALWAYS PLAYED IN A SEMI-RANDOM PATTERN.  
 -----

ROOM #1: THE ROOM WITH THE BRICK WALL FORMING IN FRONT OF YOU.

MOVEMENT -- F.

(H) -- YOU MUST VERY QUICKLY MOVE FORWARD TO MAKE IT THRU THE WALL. THIS IS NOT DIFFICULT TO DO IF YOU ARE PREPARED....

-----  
 ROOM #2: THREE ROPES SWINGING OVER THE FIRE PITS.

MOVEMENT -- R-R-R-R.

(H) -- THE FIRST JUMP SHOULD BE MADE WHEN THE ROPE NEAREST TO YOU IS CLOSE TO YOU. OTHER JUMPES ARE MADE WHEN DIRK REACHES HIS HAND OUT TO GRASP THE NEXT ROPE. (YOU WILL NOT SEE THE NEXT ROPE YET...)

(R) -- THIS ROOM CAN BE REVERSED. YOU MUST MOVE INSTEAD L-L-L-L TO CROSS THE PIT. IT IS FAIRLY OBVIOUS TO SPOT THIS ROOM REVERSED AS DIRK APPEARS ON THE LEFT SIDE OF THE SCREEN WHEN IT IS NORMAL AND ON THE RIGHT WHEN IT IS REVERSED.

-----  
 ROOM #3: THE ROOM WHERE ROCKS FALL ONTOP OF YOU.

MOVEMENT -- R-R

(H) -- MOVE RIGHT AS SOON AS YOU RECOGNIZE THE ROOM AND AGAIN AFTER THE FLASH IN THE RIGHT-HAND DOORWAY (SEE BEGINNING ABOUT FLASHES).

-----  
 ROOM #4: DRINK ME ROOM.

MOVEMENT -- R

(H) -- MOVE RIGHT AS SOON AS YOU ENTER THE ROOM. THIS IS AN EXAMPLE OF THE ROOMS IN WHICH FLASHES ARE NOT SHOWING THE CORRECT PATH.

-----  
 ROOM #5: THE ROOM WITH JUMPING SKULLS OOOZING TAR, AND BIG HANDS.

MOVEMENT -- F-S-F-S-L

(H) -- MOVE FORWARD AS SOON AS YOU SEE THE SKULLS (BE SURE TO LISTEN FOR THE "BEEP"). PRESS SWORD WHEN DIRK LANDS FROM HIS JUMP FORWARD. CONTINUE THROUGH THE ROOM NORMALLY FROM HERE (LISTEN CAREFULLY AS THIS IS A NOISY ROOM.)

(R) -- THE ROOM CAN BE REVERSED. ONLY ONE MOVE IN THIS ROOM MUST BE CHANGED TO ACCOUNT FOR THE SWITCH AND THAT IS THE MOVE AFTER DIRK SWINGS THE SECOND TIME. SIMPLY LOOK WHICH WAY HE IS FACING

=====

DOCUMENT dragon.s.lair

=====

\*\*\* DRAGON ' S LAIR \*\*\*

--- COMPILED BY  
 THE IRISH ROGUE

-----  
 THE SOLUTION LEGEND --

S - SWING DIRK'S SWORD

F - MOVE THE JOYSTICK FORWARD

B - PULL THE JOYSTICK BACKWARDS

L - MOVE THE JOYSTICK TO THE LEFT

R - MOVE THE JOYSTICK TO THE RIGHT

(R) - THE ROOM CAN BE REVERSED BY THE COMPUTER. EACH LEFT MOVE MUST BE CHANGED TO A RIGHT AND VICE VERSA. FORWARD, BACKWARDS AND SWORD REMAIN THE SAME. (H) - A HINT GIVING TIPS ON TIMING OR HOW TO SPOT ROOMS THAT HAVE BEEN REVERSED.

-----  
 IN DRAGONS LAIR DIRK (YOU) MUST CORRECTLY NAVIGATE EACH OF THE ROOMS ONCE. ROOMS THAT CAN BE REVERSED MUST BE COMPLETED ONCE REGULAR AND ONCE REVERSED. THE ELEVATOR IS AN EXCEPTION TO THE RULE AS YOU MUST COMPLETE THE NORMAL ELEVATOR SIX TIMES AND THE REVERSED SCREEN ONCE. ONLY AFTER YOU HAVE DONE THIS WILL YOU REACH YOUR GOAL... THE DRAGONS LAIR... WHEN THERE YOU MUST KILL THE DRAGON AND THEN THE GAME ENDS...

-----  
 THERE ARE TWO SECRETS NEEDED TO SOLVE DRAGONS LAIR.. ONE INVOLVES LISTINING AND THE OTHER INVOLVES TIMING AND WATCHING. THE FIRST IS LISTINING. EACH TIME YOU MOVE THE DRAGONS LAIR JOYSTICK ONE OF THREE AUDIBLE RESPONSES OCCURS. ONE, NO SOUND AT ALL. TWO, A LOW FREQUENCY BUZZ EMINATES FROM THE SPEAKER, OR THREE, A HIGH PITCHED "DING" COMES FROM THE SPEAKER. EACH TONE (OR LACK OF TONE) MEANS SOMETHING. THE FIRST (NO SOUND) MEANS THAT NO MOVEMENT AT THAT TIME IS NEEDED SO NONE IS LOOKED FOR BY THE COMPUTER. IT SIMPLY DOESEN'T KNOW YOU MOVED THE JOYSTICK. THE SECOND "BUZZ" SOUND TELLS YOU THAT THE COMPUTER DOES NOT ACCEPT THE MOVE... (YET) OFTEN THIS IS CAUSED BY A TIMING PROBLEM AND ANOTHER MOVEMENT IN THAT DIRECTION WILL OFTEN CORRECT THIS. THE THIRD SOUND IS THE "BEEP". THIS SOUND MEANS THAT THE COMPUTER HAS ACCEPTED YOUR MOVE. IT DOES NOT MEAN THAT IT IS WRONG OR RIGHT. JUST THAT IT HAS BEEN REGISTERED. MANY TIMES I HAVE BEEN KILLED AND REALIZED I WASN'T LISTENING FOR THE BEEP. I CANNOT OVEREMPHASIZE THE IMPORTANCE OF THESE SOUNDS.

THE OTHER IMPORTANT THING TO LEARN ABOUT DRAGONS LAIR IS THAT IN SOME OF THE ROOMS, THE DESIGNERS MAKE PARTS OF THE SCREEN FLASH (A DOORWAY FOR EXAMPLE). THIS IS OFTEN USED TO HELP THE PLAYER THROUGH A DIFFICULT SCREEN. THIS IS NOT ALWAYS THE CASE AS IN A FEW ROOMS IN THE GAME THE FLASH SHOWS THE WRONG WAY (AND YOU THOUGHT THIS WAS EASY!). OFTEN I WILL GIVE YOU TIMING HINTS BASED UPON THE FLASHES. USUALLY YOU WILL BE MOVING IN THE DIRECTION OF

AFTER HE SWINGS AND MOVE THAT WAY. (NOT TERRIBLY DIFFICULT IS IT..)

ROOM #6: BREATHING DOOR WITH DIAMOND.

MOVEMENT -- R-R

(H) -- MOVE RIGHT WHEN DIRK GETS PULLED INTO SECOND ROOM AND RIGHT AGAIN WHEN THE DOORWAY ON THE RIGHT SIDE FLASHES.

ROOM #7: DUNGEON WITH SKULL HANGING FROM A ROPE.

MOVEMENT -- S-S-S-F

(H) -- SWING FIRST THREE TIMES AND KILL SNAKES. DIRK WILL ALWAYS MISS THE THIRD SNAKE. AFTER HE SWINGS THE SWORD THE THIRD TIME PUSH FORWARD QUICKLY AGAIN AS DIRK ESCAPES THE DUNGEON.

ROOM #8: ROOM WITH GREEN TENTACLE REACHING IN THRU TOP LEFT OF SCREEN.

MOVEMENT -- S-F-R-B-L-F

(H) -- AFTER YOU SWING THE FIRST TIME YOU MUST WAIT FOR A FLASH IN FRONT OF DIRK. AS SOON AS YOU SEE THE FLASH MOVE THAT DIRECTION. DIRK WILL END UP ON A STOOL AFTER HE MOVES LEFT. THEN YOU MUST JUMP THRU THE DOOR THAT IS OPENING AND CLOSING HE MUST JUMP WHEN IT IS OPEN. YOU WILL ONLY GET 2 CHANCES AT THIS.

ROOM #9: DUNGEON WITH LIGHTNING AND FIRE.

MOVEMENT -- R-F-B-L

(H) -- IN THIS ROOM THE LIGHTNING ACTS AS THE POINTER TELLING YOU WHEN TO MOVE. AFTER THE FIRST BOLT OF LIGHTNING MAKE THE FIRST MOVE. SAME FOR THE SECOND AND THIRD. AFTER THE THIRD IS COMPLETE MOVE LEFT AND DIRK WILL EXIT (EXIT STAGE LEFT!).

ROOM #10: ROWBOAT WITH RAPIDS AND WHIRLPOOLS

MOVEMENT -- R-L-R-L-R-L...ECT...ECT

(H) -- THIS IS A VERY EASY ROOM DUE TO THE FACT THAT ALL YOU MUST DO IS FOLLOW THE FLASHES IN THE BEGINNING, GO TO THE LIGHT COLORED SECTIONS IN THE MIDDLE AND AVOID ALL WHIRLPOOLS. THE ROOM IS EVEN EASIER SINCE THE MOVEMENTS SWITCH BETWEEN RIGHT AND LEFT AT EACH DECISION SO AFTER YOU HAVE THE FIRST MOVE IN A SET, THE REST ARE EASY! BE AWARE OF TRICKS LIKE PLAYING A SCREEN WHERE YOU DO NOTHING FOLLOWED QUICKLY BY A DECISION SCREEN. ONLY ONE MOVE OTHER THAN R OR L IS NEEDED. AFTER THE WHIRL- POOLS END, SIMPLY WAIT FOR DIRK TO BE SHOT OUT OF HIS BOAT AND MOVE FORWARD TO GRAB THE CHAIN. I WILL LEAVE THE REST OF THE ROOM TO YOU (I PROMISE IT'S AN EASY ONE)

(R) -- THERE IS ONE STRANGE HAPPENING ON THIS SCREEN. ONCE IN A WHILE, YOU WILL SKIP THE FIRST WHIRLPOOL & HAVE TO MOVE THE OTHER WAY TO AVOID THE SECOND. DON'T SAY I DIDN'T WARN YOU!!!!

ROOM #11: THE GIDDY GOONS (PURPLE WITH BENT SWORDS) ROOM

MOVEMENT -- S-R-F

(H) -- SWORD FIRST ONLY ONCE! GO RIGHT AND SWORD AGAIN. BE SURE ONLY TO SWING ONCE.

ROOM #12: THE LIZARD KING, WITH THE MAGNETIC GOLD URN.

MOVEMENT -- R-L-L-L-L-L-F-S-

(KEEP USING THE SWORD UNTIL HE IS KILLED)

(H) -- FOR THE FIRST SEVEN MOVES WAIT UNTIL DIRK HAS STOPPED RUNNING TO MAKE YOUR NEXT MOVE. IF YOU TURN BEFORE DIRK GETS TO THE END OF THE PASSAGE BYE BYE!

ROOM #13: HEADLESS HORSEMAN RIDING TOWARDS YOU.

MOVEMENT -- L-L-R

(H) -- MOVE ONLY AFTER YOU SEE THE HORSEMAN APPEAR.

ROOM #14: MAGICAL HORSE (TRIGGER)

MOVEMENT -- R-L-R-L-L-L

(H) -- THE FIRST FIVE MOVES SHOW YOU RIDING DIRECTLY AT A PILLAR. JUST BEFORE YOU CONTACT THE PILLAR ONE SIDE WILL BURST INTO FLAMES. MOVE TO THE OTHER SIDE USING THE MOVEMENT PATTERN AS SOON AS YOU SEE THE FLAMES TIMING IS CRITICAL.

(R) -- THE ROOM CAN BE REVERSED THUS CHANGING EVERY MOVE IN THIS ROOM. YOU CAN TELL IF IT IS REVERSED OR NOT BY WATCHING WHAT DIRECTION TRIGGER IS FACING WHEN DIRK MOUNTS HIM IF TRIGGER IS FACING LEFT IT IS NORMAL, IF HE IS FACING RIGHT IT IS REVERSED.

ROOM #15: THE TILT ROOM.

MOVEMENT -- B-F-L

(H) -- MOVE BACKWARDS WHEN THE ROOM IS RECOGNIZED. THEN WAIT FOR DIRK TO SPLIT HIS FEET TO BALLANCE ON TWO TILES THEN MOVE FORWARD QUICKLY AND THEN QUICKLY MOVE TO THE LEFT (TIMING IS AGAIN CRITICAL).

ROOM #16: THE BLACK KNIGHT ROOM

MOVEMENT -- R-L-F-L-R-L-R

(H) -- THIS IS A VERY DIFFICULT ROOM FOR MOST PLAYERS. THE FIRST 4 MOVES YOU MAY WANT TO KEEP MOVING OVER AGAIN BECAUSE YOU WILL GET A "BUZZ" FOR A WHILE ON THEM FOR A WHILE AS IT MAKES YOU WAIT FOR YOUR NEXT MOVE. HOWEVER, THE LAST TWO MOVES REQUIRE YOU TO MAKE YOUR NEXT MOVE WHILE DIRK IS IN THE AIR. THIS WILL TAKE A LITTLE PRACTICE BUT BE PATIENT, IT'S ALL WORTH IT.

MOVEMENT -- F-L

(H) -- MOVE FORWARD OVER AND OVER UNTIL DIRK MAKES IT THRU THE DOOR AS YOU ONLY HAVE A SPLIT SECOND TO MAKE THE MOVE AND YOUR CHANCES ARE GOOD IF YOU KEEP MOVING THE JOYSTICK FORWARD. THEN DO THE SAME FOR THE LEFT AS THE SAME CIRCUMSTANCES ARE PRESENT.

ROOM #21: ROOM WITH THE SQUARE POOL AND CRUMBLING FOUNDATION.

MOVEMENT -- L-F-R-F-L-F-S-R-F

(H) -- THE FIRST MOVE MUST BE MADE QUICKLY AND YOU MUST BE VERY QUICK TO DECIDE IF THE ROOM HAS BEEN REVERSED. ALL THE MOVES REQUIRE YOU TO RESPOND AS SOON AS THE LAST MOVE TAKES EFFECT. WHEN YOU SWORD THE SPIDER AS SOON AS YOUR SWORD CONTACTS HIM GO RIGHT AND THEN KEEP GOING FORWARD UNTIL DIRK IS SAFELY OUT.

(R) -- TO DETERMINE WHICH WAY TO GO AT THIS ROOM YOU MUST RECOGNIZE IT QUICKLY AND

(R) -- DEFYING US EVEN MORE, THE PROGRAMMERS HAVE DECIDED THAT THIS ROOM MAY ALSO BE REVERSED. THIS PROVES TO BE A REAL CHALLENGE TO LEARNING PLAYERS. IT IS VERY DIFFICULT TO CATCH THE POINTER TO THE REVERSE YOUR FIRST FEW TIMES BUT BEAR WITH IT, YOU'LL GET IT SOMEDAY... TO TELL IF THE SCREEN IS REVERSED, YOU MUST WATCH THE FIRST ENERGY BOLT THE KNIGHT SENDS AT YOU. IT WILL COME AT YOU AND SURROUND YOU ON THREE SIDES, THE SIDE WHICH IS OPEN IS EITHER THE LEFT OR RIGHT SIDE. IF IT IS THE RIGHT SIDE, THE SCREEN IS NORMAL, IF IT IS THE LEFT SIDE THE SCREEN IS REVERSED. (GOOD LUCK... YOU'LL NEED IT...)

ROOM #17: THE ANIMATED WEAPONS ROOM.

MOVEMENT -- S-S-L-S-S

(H) -- THE SWORDING IN THIS ROOM IS THE KEY. THE BEST POINTER TO WHEN TO SWING IS WHEN THE WEAPON CONFRONTING YOU STARTS DOWN AT YOU TO PRESS THE SWORD BUTTON. IT WOULD BE VERY BENEFICIAL TO WATCH OTHERS DO THIS TO GET THE IDEA. MOVE LEFT TO AVOID THE ANVIL AS SOON AS YOU SEE IT. WHEN DIRK ENCHANTS HIS SWORD AND THE SMYTHE COMES TO LIFE PRESS SWORD AGAIN BEFORE HE BEGINS TO SWING. NOTE THAT DIRK CLIMBS UP TO THE POT AUTOMATICALLY AND YOU NEEDEDNT MOVE FORWARD.

(R) -- THIS ROOM CAN BE REVERSED AND THE ONLY DIFFERENCE IS THAT HE MOVES RIGHT TO AVOID THE ANVIL THIS TIME. YOU CAN TELL WHICH WAY TO MOVE AT THIS POINT BECAUSE FIRE IS ON THE SIDE THAT YOU SHOULD NOT MOVE TO. ANOTHER POINTER IS THAT DIRK IS ON THE LEFT SIDE OF THE SCREEN WHEN YOU SHOULD MOVE LEFT AND THE RIGHT SIDE WHEN YOU SHOULD MOVE RIGHT.

ROOM 18: SPINNER ROOM WITH GRUNTS (GRUNTS?!"?)

MOVEMENT -- F-S-B-F

(H) -- YOU ARE SHOWN TWO SPINNERS AND DIRK ATTEMPTING TO PASS THROUGH THEM. THERE ARE TWO SEPERATE VERSIONS (ALTHOUGH THEY LOOK THE SAME, THEY ARE DIFFERENT AND YOU MUST PASS BOTH TO GET TO THE DRAGON) BUT BOTH USE THE SAME SOLUTION. AS DIRK APPROACHES THE SPINNERS, HE WILL GRUNT ALOUD AS HE WALKS LIKE "UUUHHH", "UOOOHEH". WAIT FOR THE SECOND GRUNT AND THEN MOVE FORWARD. IF YOU DO IT RIGHT HE WILL SPRINT THROUGH AND JUMP FORWARD. PRESS SWORD AS HE JUMPS, PULL BACK AND WAIT FOR THE VIEW TO SWITCH. FINALLY PUSH FORWARD AND HE WILL EXIT.

ROOM #19: THE LAVA MONSTERS (MUDHENS)

MOVEMENT -- S-F-F-F-ECT..ECT..

(H) -- PRESS SWORD AND WAIT FOR HIM TO SWING AND CATCH HIS SWORD. THEN MOVE FORWARD QUICKLY OVER AND OVER. IN THE WHOLE ROOM ONLY ONE MOVE MUST BE TIMED. YOU RUN OUT ONTO THE END OF A PROJECTION AND MUST JUMP ACROSS A LAVA PIT TO THE OTHER SIDE. WAIT FOR THE OPPOSITE SIDE TO FLASH AND THEN JUMP. AFTER THAT JUMP CONTINUE MOVING FORWARD QUICKLY UNTIL YOU EXIT THE ROOM.

ROOM #20: THE ELECTRIFIED GROUND WITH A STEEL DOOR SLAMMING IN FRONT OF DIRK.

===== DOCUMENT dragons.eye =====

The Dragon's Eye

By: MasterDisk

Normal Play  
=====

B  
C  
E examine location  
M move  
P show score  
Q quit  
R  
S invoke spell  
V use vial

Fighting  
=====

B berserk  
C chop  
D duck  
E escape  
F fire arrow  
L leap and smash  
M throw magic bolt  
R ready  
S smash  
T thrust  
V throw vial  
1-9 move in indicated direction  
<- / -> change direction

Spells  
=====

| #  | function    | category |
|----|-------------|----------|
| 1  | caution     |          |
| 2  |             |          |
| 3  | eradicate   |          |
| 4  | flying      |          |
| 5  | health      |          |
| 6  | killing     |          |
| 7  | knowledge   |          |
| 8  | locate eye  |          |
| 9  | protection  |          |
| 10 | readiness   |          |
| 11 | strength    |          |
| 12 | teleport    |          |
| 13 | time travel |          |
| 14 | treasure    |          |
| 15 | weather     |          |

===== DOCUMENT draw.poker =====

Draw Poker

The Poker Table pits you against the "House". Both you and the dealer start with an equal amount of money, depending on the amount the player withdraws. You play "table stakes" rules meaning that, during play, you or the dealer cannot bet any amount of money that exceeds the others bankroll.

At the first prompt after entering the Poker Table, you may:

A)nte or Q)uit to the Casino Menu

If you choose to Ante, both you and the dealer put \$5 in the "pot". Each is then dealt 5 cards. You or the dealer may B)et, C)heck or F)old. The winner of the previous round will always B)et or C)heck first. Betting may range from \$2 to \$25. After one B)ets, the other may either C)heck, R)aise, or F)old. If one B)ets and the other F)olds, the one who B)et automatically wins the "pot". If one R)aises, the raise is always limited to \$25. There is also a limit of 3 raises before and after discards. You are allowed to check and raise.

After both you and the dealer C)heck or C)all, you are shown your cards and asked which ones you wish to discard. If you wish to "stand pat", hit <RETURN>. You may discard from 1 to 5 (all) cards.

You discard by typing the number(s) of the cards:

To discard 1,2,5: 125 <RETURN>  
To discard 2,4 : 24 <RETURN>  
To discard all : 12345 <RETURN>

ALWAYS enter the numbers of the cards in ASCENDING order.

You are then shown the number of new cards that you and the dealer took. Your new hand is then displayed and you are given the chance to bet these cards. The same rules apply to this round of betting that applied to the first round.

After all betting is complete, the "house" analyzes each hand to determine the winner. If you win, the "pot" is added to your bankroll. In the case of a tie, the "pot" is split between the player and the "house".



# Apple II Computer Info

At this point you may either A)nte for  
a new round of Poker or Q)uit.

=====  
DOCUMENT drmgfx.read.me  
=====

---

DreamGrafix v0.50

Released by: The ACOS Master

Supplied by: Some kid named John

Inocent Exile GS - 914/693-5679  
Appletree Midwest - 816/826-4158  
Warehouse GS/Mac - 609/585-5552

---

I am releasing another 3200 color paint program for the benefit of the  
Apple IIgs community. This is my second release, the first being Emerald  
Visions v1.0.

I have also included in this archive some 3200 color pictures that I have drawn  
with DreamGrafix. If you have drawn any that you think are exceptionally good,  
I would appreciate it if you could upload them to one of the above boards. All  
of my future releases will be uploaded to those boards...

I want to thank Blue Adept, Mr. Z, and Bladerunner's sister! Boy is she TIGHT!

Till next time!

:ACOS Master

=====
DOCUMENT drol
=====

Documentation for Drol by Broderbund
by Apple Bandit

Beware: A witch doctor's curse is about to envelop you and your apple
computer, wreaking havoc on ordinary reality, digital circuitry and
network TV reception!

Your mission: Others have been lured in to this world before you: a
little girl, a little boy, their pet lizard, their pet crocodile and
their mother. Your task is to find them and bring them back to waking
reality, safe & happily reunited.

Mission 1...rescue the little girl and her pet lizard. Watch out for
scorpions, flying turkeys, and (on higher levels) green vacuum
cleaners!

Mission 2...rescue the little boy and his pet crocodile. Watch out for
monsters magnets, and the witch doctor!

Mission 3...rescue the mother. Watch out for serpents and flying
weapons!

You are luckily wearing your trance-resistant, anti-gravity rescue
suit. You're also well-armed with an unlimited supply of luminous
reality pellets, which you can shoot to disintegrate monsters and
other enemy phantoms that the witch doctor has cleverly conjured to
thwart you.

You start with five lives. For each round of three missions completed
successfully, you earn one extra life.

Each time you complete a mission, a curtain of dreams will descend,
transport-??

Your wide-screen radar-scope at the top of the screen will prove
indispensable in your quest.

Controls:

For joystick: use up/down/left/right movements. Press the button to
fire.

For keyboard: A=up, Z=down, <--left, -->right (Apple //e uses K=left,
right=L)

Press the spacebar to fire.

Scoring:

35....scorpions, monsters, snakes

100...daggers, swords, arrows, balloon, helicopter, witch doctor.

300...rescue girl/rescue boy

500...rescue mother

500...roast turkey

0....hatchets

Survival tips: Flying turkeys must be shot at repeatedly. Green vacuum
cleaners are indestructible. At higher levels, additional perils

appear!

Special keys:

Ctrl-R restart

Ctrl-J change to joystick control

Ctrl-K change to keyboard control

Ctrl-S toggle sound on/off

Ctrl-V toggle volume high/low

Esc pause-press any key to continue

DOCUMENT dueling.digits

\*\*\*\*\*
%
DUELING DIGITS
%
\*\*\*\*\*

Joystick or paddles.

The object is to shoot the floating numbers and mathematical operands and place them down below in a balanced mathematical expression such as 234+14=248. Blank spaces don't matter, so 2 34+1 4=2 48 is acceptable. No operands may be on the right side of the '=' sign and the result can't be equal to 0.

The scarabs to the side indicate how many machines you have left. You may shoot and be shot by the other player which results in an award of 10 points to the shooting player and the loss of a piece to the victim.

Press the paddle button to shoot a number, then move your scarab down below the main screen and drop your number in one of the slots available. If you accidentally pick up a number or operand you don't want, then you must position yourself above the 'garbage' hole toward the bottom center of the screen, then press the paddle button to drop the unwanted digit. If at any time you accidentally drop a number or operand in the wrong place so that your expression shows little chance of balancing, move your scarab as close to the bottom center of the screen as possible and press the paddle button. This will release all of your numbers and allow you to start over.

Scoring:

The four operands are + (addition), - (subtraction), x (multiplication), / (division). These are worth 1,2,3 and 4 points respectively. The computer goes through the equation and adds the value of the operands, multiplies this by the length of the smallest number, and multiplies that by 10. You also receive 10 points for zapping the other player. CTRL-S will toggle sound on/off.

DOCUMENT ecc.mh

07/26/90

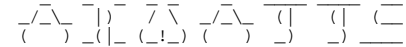


07/26/90

:(-:(\_)= proudly brings to you =:(\_)!:\_

.... Sierra On-Line's ManHunter: New York //e ....

"Protection" :DEMATERIALIZED: by



: Official East Coast Connection Release Bases :

- The Outer Limits ... (718) 492-3054 ... 9600bps / 255 Megs / HowieNet v1.2
Temple of Karnak ... (516) 361-4999 ... 9600bps / 85 Megs / ProTALK
Oblivion GS ... (516) 922-4312 ... 9600bps / 45 Megs / Exodus

:::..: Official ECC Members listed in Alphabetical Order :::..:

- Aiwatts \* Commie Scum \* The High Priest
Joe Hack \* Mavster \* The Mercenary \* The Overlord
Ronin \* Star Gazer \* The Wanderer

\* Documentation typed up by The High Priest & The Wanderer.

Congratulations on being selected for the esteemed position of ManHunter. This guide will introduce you to all of the information you will find necessary to become an effective, loyal follower of the Orb Alliance. ManHunter is the highest position a human can hold under the Alliance, so be grateful.

Each day, you will be given an assignment by our sector's supervising Orb. The assignments will involve tracking down humans who, in some way, have wronged the Alliance. You will be given a 24 hour period to discover and report the human's identity so that he can be corrected.

You have been issued one ManHunter Assignment Device (MAD). MAD is your link to the Alliance computer. With MAD, you can access the tracking records associated with your current assignment as well as the Human Database Service. As Manhunter, you are allowed to travel to locations pertinent to your current assignment. DO NOT STRAY OR LOITER. Always conduct yourself in a manner suitable to your position. Treat your fellow earthlings with the indifference they deserve.

-- The Order of the Orb Alliance

MANHUNTER ASSIGNMENT DEVICE (MAD)

MAD is a small, portable apparatus linked by radio transmission to the Alliance computer, MAD has two functions:

INFO and TRACKER

INFO

This function provides access to limited information on all humans currently residing in the Planet Earth city of New York. After pressing the

INFO button, type in the full name of the human. The Human Database Service will then provide your MAD with information (Address, ID numbers, etc.) of the selected human. After receiving information, you may select REPEAT to try another name or select EXIT to leave the program. If you accidentally type in the wrong name, you can try again or type BYE to leave the program.

NOTE: The Orb Alliance has authorized Manhunters to visit any address furnished by the INFO system.

As a Manhunter, you are required to record all pertinent data that you discover during your investigations. Luckily, INFO provides a means to ENTER this data through its Autoscan feature. Whenever important information is picked up by a Manhunter (important documents, notes, etc.), Autoscan examines the data and stores important information into memory for future access. To observe this data, select INFO from your MAD and type NOTES in place of name.

### TRACKER

All human movement is recorded in the Human Tracking Records database of the Alliance computer. Due to the low priority placed on these records, tracking information on each human is only available from shortly before the time of the alleged criminal activity to a time period not extending beyond the end of that day. Due to unforeseen difficulties with human tracking disks, the targeted human's identity is not recorded. Also, tracking of a target is cut off if the human should venture under earth soil. However, this practice is strictly forbidden and should not hamper your investigations.

One function of MAD is to tap into the appropriate human tracking records for your current assignment. When MAD first accesses tracking records, it will determine and then "tag" the most appropriate human target signal. A playback will then begin of that target's movements throughout the city. During playback, MAD will also display any other human targets that come in close contact with the tagged human target. You may tag any of these human subjects that you feel may be beneficial to your investigation. To tag a new target, simply place your marker over the desired subject and press ENTER. The yellow rotating target should change to the subject you have chosen. You may replay tracking records as often as you find necessary. Manhunters are authorized by the Orb Alliance to visit any location that a tagged target visits.

NOTE: Experienced Manhunters have found that the most efficient way to use the TRACKER is to watch it until it terminates transmission. Proceed to replay the transmission, closing the MAD after the target leaves each location. Travel to the location shown and investigate.

### SIGNAL TRACKER

This is a recently installed feature that allows the recording of various signals entering and leaving the Alliance central computer.

The Alliance central computer contains a Signal Analyzer which resides in its I/O buffer. Once playback begins, the Analyzer determines if a tagged signal contains restricted information. ANY TAGGED SIGNAL CONTAINING RESTRICTED MATERIAL MUST BE INVESTIGATED. However, since the analyzer is in an experimental stage, a certain amount of manual control is necessary. A signal must first be tagged by the Manhunter before it can be analyzed. To tag a signal, place the marker over the signal you wish to be tagged and press ENTER. The signal will change color when it has been tagged. After a signal has been tagged, it is automatically fed into the Analyzer. If the analyzed signal contains restricted information, the signal can then be traced back to its source by your MAD tracking device. After the traced signal leads you to a suspect, you will follow normal Manhunter procedure to complete your investigation.

### MANHUNTER OVERVIEW

A Sierra 3-D Animated Adventure Game, simply stated, is an interactive movie where you become the main character. In this game, the main character is a Manhunter, an agent of the future who spies on fellow humans for an alien empire.

Each 3-D Animated Adventure Game has a main goal, and yours in Manhunter is to track down humans for the Orb Alliance, learn the whereabouts of the human underground, and ultimately discover the true purpose behind the alien invasion. You will need to move stealthfully and wisely, as time is quickly vanishing for America and its citizens.

### TIPS ON PLAYING MANHUNTER

#### 1. HOW TO MOVE AROUND

Basic instructions on how to interact with this game are included in this manual and the reference cards enclosed. For those who are still not sure of what to do, there is a WALK THRU included at the end of this manual.

#### 2. KEEP YOUR FACE COVERED AND YOUR LIPS TIGHT

Due to the dangerous nature of this adventure game, you will want to save your game often. Follow the instructions on your Manhunter Quick Reference Card to SAVE GAME whenever you encounter a potentially dangerous situation.

If you do encounter danger, or fail to complete all the required tasks to get past a given obstacle, you can follow the instructions on your reference card to RESTORE GAME to the place you were at when you last saved your game. Intelligent use of this function has spared many Manhunter from having position terminated permanently.

NOTE: Manhunter a New York employs a convenient feature that automatically gives you a second chance after you have encountered the most grisly of situations (namely, a gruesome death!). This feature allows you to face the most unexpected of conclusions without requiring you to replay the entire game.

#### 3. KEEP YOUR EYES OPEN

Look at and examine everything you can. Watch closely those around you. Pay close attention to detail. There are many clues, both visual and symbolic, which will help you succeed in your quest.

#### 4. TEAM UP AGAINST THE ENEMY

This orb-infested metropolis can be one mean place for a Manhunter to live. You may find it helpful to play Manhunter with a friend. Different humans come up with different ways to interpret clues, and besides, it makes life a lot more fun.

#### 5. GOT YOUR BACK AGAINST THE WALL?

If you've tried every trick of the trade and still can't get anywhere, don't panic. Even expert Manhunters have been known to get blown to shreds. It's just part of the job.

end of file.

=====
   
DOCUMENT ecc.qmast
   
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                             -: :>-   -: >-   -: >-                    07/24/90
   
                             (    )    (    )    (    )

:\_(:)= proudly brings to you =:\_(:):
   
.... Miles High Computing's Questmaster //e ....

" The Prism of Heheutotol "

Released by

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      (    )    (    )    (    )    (    )    (    )

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Ronin \* Star Gazer \* The Wanderer

\* Documentation typed up by The Wanderer

Your destiny unfolds....

2187, the year your legacy began. Dondra, world of the Elders...a place of harmony and tranquility. The masses were content and at peace with each other. War was virtually nonexistent and the wisdom of the Elders had been undisputed for over 100 years.

Meanwhile, in another dimension...

The universe is filled with pestilence, crime and disease. Colnar is the being who rules all evil, controlling everyone and everything. He is planning time travel to another state of being, a new universe which is prevalent with happiness, so that he may once again spread his evil ways.

Time passes.....

2199, Colnar begins the domination of his new universe. The Elders anticipate the need of foreign aid and form a pact with the Tellasian race of Halcar, a neighboring planet. "The Tellasian race must defend the Elders against any evil forces. If life is taken for naught... then they must avenge."

Colnar has reached Dondra and has initiated his devious plan to abolish this nucleus of organization. After taking over the minds and bodies of a neighboring town, Colnar's now evil warriors brutally attack and slay all of the Elders. The last remaining wiseman, using telepathy, summon their defenders just before being killed...

PLAYER INSTRUCTIONS
   
-----

Apple // Version:

Ram Needed:

1287k Needed, Joytick (optional)

Put in the boot disk "Side 1" in drive one and turn on the computer.

BEGINNING ( FIRST TIME PLAYER NOTES )
   
-----

In your travels on Ardnod you will be generating experience based upon how you perform in this world. You will also gain items that can be used in future Questmaster modules. Therefore, when you boot this program for the first time you will be asked to supply a name to assign to your first character. Even though you may be terminated many times during the game play, you will always be re-incarnated after being brought back to the boot disk.

EXPERIENCE
   
-----

You will be given experience during your travels based upon:

Total Number of saves
   
Number of times terminated
   
Number of objects gained
   
Elapsed time

These results will be used to calculate you total experience gained. To view your experience at any time during game play type: EXP or EXPERIENCE.

BASIC COMMAND ENTRY
   
-----

In this program there are many different ways to enter commands. You may use the standard two word method, ie: GO NORTH [RETURN], or you may type CONTROL-N, or you may press the joystick forward and press button (0) to move, or you can simply press N [RETURN]. When entering a command you will usually need an ACTION word and an OBJECT word. Some standard commands might be: LOOK DOOR, READ SIGN, TAKE KEY, OPEN DOOR. To enter and execute your commands you will be using something called a "parser", ie: the link between your nimble fingers and the computer of your choice. When typing in a command the prompt or starting point is indicated on the bottom of the screen as: ENTRY> or >. After familiarizing yourself with the program for a while using some of the basic commands above, try some of the following methods of getting around in Ardnod.

ADVANCED COMMAND ENTRY
   
-----

If you enjoy being more verbose in your description of actions and objects this parser will accommodate you. For instance, the basic commands from the previous paragraph could have been entered: READ THE SIGN ON THE DOOR, TAKE THE KEY OFF OF THE FLOOR, OPEN THE DOOR, FACTUS ARE SNOBS. You may also use multiple actions and multiple objects in the same sentence. If, for instance, you knew what you wanted to do in a particular room you could: GET THE KEY AND THE WRENCH THEN OPEN THE NORTH DOOR. This would immediately take the key and the wrench from the floor and open the north door in that order.

Your capabilities are not limited to what is on the screen at the present time. You may also move between screens, look at objects, and do just about anything in that same sentence, ie: OPEN THE DOOR THEN GO NORTH AND HAVE A LOOK AT THE OLD MURAL. When getting or dropping items you may also use commas: TAKE GEM, VIAL, SACK.

MULTIPLE COMMAND ENTRY
   
-----

One of the special text handling capabilities is the multiple command entry.

You may type in a lengthy number of commands one after the other with a period between each: TAKE THE GEM, VIAL, AND ROPE. GO NORTH. GO UP. GIVE THE GEM TO THE MAN. GO DOWN. GO SOUTH. GO WEST.

Each of the commands will be executed in the order received until they are completed. Remember, if something was entered incorrectly, then the chances are the commands that follow will not properly execute.

### TRAVELLING ON ARDNOD

Remember that you are always looking out the eyes of Terna, the last of the Tellasien race. We have tried to make it as easy as possible to understand your position at each location, while trying to maintain a proper perception of your facing. When you move to a location the description shown will give you a good understanding of your surroundings. In many cases it is possible to look in more than one direction. To accomplish this you may: LOOK SOUTH.

In your travels of Ardnod you will encounter many strange beings which will in some way have to be dealt with. Sometimes you might have to give them something or perform some action, to make them more friendly. You will also find that there are many "timed" events which keep you on your toes and prevent stagnant game play.

### Keyboard Movement:

Earlier we discussed basic and advanced commands which gave you an understanding of the parser. We said that you can GO NORTH to move to the next location in a northerly direction. You may GO in any direction you can think of: NORTH, SOUTH, WEST, EAST, NORTHWEST, SOUTHWEST, UP, NORTHEAST, and DOWN. You can even GO AROUND or GO BEHIND many things (hint, hint). However, it is not necessary to type GO every time: N, S, W, E, NW, NE, SE, SW, U, and D [RETURN] will get you around very quickly. After you have mastered these movement commands, try the ones below.

CONTROL - Movement commands ( See Help Screen )

### JOYSTICK MOVEMENT

You are slumped over that machine, it is time to pack in a heavy hacking section and you couldn't type another move... Don't fuckin' worry! Pick up the joystick which is hiding under all of the ECC releases and type CONTROL-J. This command will toggle your joystick on or off. When you press the joystick in any direction you will see the corresponding movement command at the ENTRY> prompt. When you press button (0) it will then move in that direction. When you want to go UP or DOWN you will need to hold down the button (1) and move the joystick forward and back to make your selection. When you want to type something into the computer, let the joystick self center ( there is no need to disable the joystick to type in commands ).

### SPECIAL FUNCTIONS

HELP: This screen may be accessed to help you remember some of the features in Questmaster

EXPERIENCE (EXP): Displays your present Questmaster stats as well as the elapsed time.

TIME (CONTROL-T): Will display your elapsed time since you started your quest. This time will be a factor in calculating your experience.

CONTROL-J: Toggles joystick function on and off; it can be used at any time for immediate movement. ( make sure that you have your joystick adjusted properly.)

CONTROL-R: This will purge your character from the disk and make you RESTART FROM THE BEGINNING.

### SAVING AND LOADING POSITIONS

This feature is provided so that you can return to locations previously saved after you quit or have been terminated ( by one of the strange or evil beings you might encounter on Ardnod. ) There is a catch, however; the number of times that you can save a game is counted and will negatively affect your experience. We hope this will give your character an air performance, rewarding the more cautious and penalizing the frivolous adventurer.

At ALMOST any time during play you are permitted to restore as well as to save your present stats to the saved game disk. To do this simply LOAD GAME and SAVE GAME.

### Apple // Version:

The screen will clear and you will be instructed to insert your saved game disk and press [RETURN]. If you have a second disk drive press D and you will see the disk drive indicator change on the screen. A second drive is convenient because your disk swapping will be reduced to a minimum. After putting in the appropriate disk and pressing [RETURN] a select game menu will appear. If using the LOAD command , only previously saved games will be indicated. If using SAVE you may type a new letter not indicated or you may elect to write over an old one. Any letter from A to Z is available in SAVE mode.

### BASIC COMMANDS

Some basic commands to get you started are: Use, Open, Take (all), Drop (all), Say, Look, Kick, Read, Go. This is only to help the beginner. There are hundreds of words this program will recognize and execute, so do not hesitate to try anything. There are also some command substitutions that will make your travels a little easier. (L) is the same thing as typing in LOOK, (I) is the same as INVENTORY and all of the directions can be abbreviated. When typing in commands these abbreviations will also work in full sentence structure, ie: LOOK AT THE SOUTH DOOR THEN OPEN THE SOUTH DOOR. GET THE KEY THEN KICK THE KEY SOUTH. GO SOUTH ---- same as ---- L S DOOR. OPEN S DOOR. GET KEY. KICK KEY S. S

### YOUR QUEST ON ARDNOD

This futuristic land has mountains, deserts, streams, fields, and cities. You will find that aspects of this world are different from any other you have known.

To win you must set forth in this strange and forbidden land to find the Crystal Prism of Heheutotol and return to the starting location. Upon return, you will gain new power which can be used in future Quests!

### SOME FUCKIN' HINTS

Stuck in the first room? Try these fuckin' hints:

Did you take the key?

Yes -it dropped to the ground.  
No -try taking it.

Did you decipher the code on the north door?

Yes -good.  
No -it is a sliding code, (ie: B=A C=B):

XQFBL ZF UIFTF XPSET  
SPEAK YE THESE WORDS

Which means: SAY DEATH TO COLNAR  
This will make a keyhole appear in the north door.

To get the key you must:

OPEN THE SOUTH DOOR  
KICK THE KEY SOUTH ( The key steams up the south room. )  
GO SOUTH  
TAKE THE KEY  
GO NORTH

To open the north door:

After you insert the key into the keyhole the door will open.  
GO NORTH  
Skeletons will appear and scream "SPEAK MORTL". Simply try what  
has worked before:  
SAY DEATH TO CLONAR

The skeletons give you items helpful in your quest on Ardnod.

To get past the skeletons in one set of instructions when starting from  
the first screen:

TAKE KEY. OPEN S DOOR. KICK KEY S. S. GET KEY. N. SAY DEATH TO  
COLNAR. INSERT KEY INTO KEYHOLE. N. SAY DEATH TO COLNAR. N.

end of file.

===== DOCUMENT echelon =====

```

+-----+
| USAlliance |
| Release |
+-----+

```

Echelon

Dox typed by: Codex Warrior/USAlliance

1) Ship View  
(ESC,1,2,3,4,5)

Select front, rear, right, up, or down. All views except the front view will  
display a portion of the spacecraft to indicate which view is currently  
selected.

2) RPV View  
('6' key)

When your RPV is deployed, you can switch to RPV view at any time. When this is  
done the 'RPV View' light on the instrument panel will turn yellow. One of the  
more interesting features of the game is flying the C-104 while watching from  
the droid (RPV). To switch back to ship view, select one of the six ship view  
keys described above.

3) Zoom  
(7 & 8 keys) (Y & U keys)

Both the Main screen and the Top view have Zoom (magnification) capabilities.  
The Zoom feature allows you to examine buildings and structures more closely  
without flying nearer to them. The Zoom magnifies the viewing area to make  
objects appear closer. The main screen can be "Zoomed In" to a power of 16X  
while to Top view can be zoomed into 22X.

4) Zone Map  
('J' Key)

Pressing this key will bring up the Zone Map which is divided into 36 areas.  
When you begin the game the entire map will be red (except at the Base Station).  
As you fly around the map will turn white in the sectors that have been scanned  
by your ships sensors. Your present location is always indicated by a flashing  
dot. Press Space bar to return to main screen.

5) Hyperdrive  
('H' key during Zone Map)

There will be times when you will want to move quickly across the Zone. You  
could fly to your destination Area using your main engines, but it would waste  
time and fuel. Hyperdrive will transport you there in a matter of seconds. First  
select Zone map, then press the 'H' key. A flashing dot will appear at your  
current position. Move the Joystick up, down, left or right and position the dot  
in the destination area. Now press button 1 or Space bar. You will arrive in the  
new area in a matter of seconds. Your coordinates and sector will remain the  
same.

6) Area Map  
('H' key)

The area map will display your current location within the area. Unlike the Zone  
Map (which freezes play), the Area map is a Heads Up display and can be toggled  
on and off without stopping play.

7) Top View  
('T' key)

This key is used to toggle the Top View on and off. Turning the top view off is  
normally done to speed up the rate at which the main screen updates.

8) Pitch auto center  
(Return Key)

Pressing this key toggles the pitch auto centering feature on and off. When auto

centering is on, the white light just below the Pitch readout will come on. This feature will automatically return your pitch to Zero (level flight) when the joystick is released.

9) Hover  
( 'O', 'L', '.' keys)  
These keys control the anti-gravity hover system. Push the Hover down key ( '.' ) to make your ship Descend. Push the Hover up key ( 'O' ) to make it ascend. The longer you hold the key down, the faster the ship will move. Press Hover Stop key ( 'L' or the Emergency Stop key (Space Bar) to stop ascending or descending.

10) Tracking  
( '0' key)  
Push this key to toggle the RPV tracking system on or off. When your RPV is deployed, it will try to follow your ship at all times if tracking is enabled. The tracking indicator will turn blue when tracking is ON.

11) Emergency Stop  
(Space Bar)  
This key will zero all ship velocities.

12) Deploy RPV  
( '9' key)  
Press this key to deploy your RPV. The droid is used only for exploration and reconnaissance as it has no weapons. You can activate its camera and sensors by selecting RPV View ( '6' key ).

13) Control  
( 'C' key)  
This key toggles between C-104 and RPV control.

14) Teleporter  
(Left Arrow Key)  
Pressing this key will engage the Object Teleportation System. Several Conditions must be met before an object can be beamed aboard. All engines including hover must be stopped. Altitude must at 50 meters or below and down view must be selected. In addition, there must be an object (flashing hour glass visible on the main screen. The teleporter is also used to retrieve the RPV.

15) Grid  
( '-' key)  
This key is used to select full, partial, or no surface grid.

16) Data Link  
(Right Arrow key)  
Pressing this key will link your on board computer to the main computers at Echelon Headquarters. Once the data link is established you can select numerous playing options.

17) Weapons  
( 'B', 'N', 'M', ',' keys)  
These four keys are used to arm and disarm the weapon systems aboard the C-104 spacecraft. Select 'B' to arm the Lasers, 'N' to arm the Photon Cannons, and 'M' to arm the missiles. Select ',' to disarm all weapons.

18) Auto Bank Center  
( '/' key)  
This key toggles Auto Bank centering on or off. When stick is released, the bank or tilt of the wings will automatically return to zero.

19) Full forward thrust  
( 'I' key)  
Pressing the 'I' key engages full forward thrusters.

20) Full reverse thrust  
( 'K' key)  
Pressing 'K' engages full reverse thrusters.

21) Sound  
( 'R' key)  
Toggles sound on or off.

## Keyboard Controls

W - Pitch Down  
Z - Pitch Up  
A - Bank left  
S - Bank Right  
E - Forward Thrust  
X - Reverse Thrust  
D - Thrust Stop  
F - Fire weapons

Activate Joystick by using the Data Link and selecting Controls from Game Options.

-END-



===== DOCUMENT echelon.full =====

[ USAlliance ]

Echelon Full Dox

Typed By: Codex Warrior

## Operating Classifications:

There are three general classifications for operation of your spacecraft.

1. Scientific: Exploration and training without engaging enemy aircraft. To activate this level of play do the following:

- 1 - Press the Data Link Key ( -> )
- 2 - Press '2' (Game Options)
- 3 - Press '1' (Combat)
- 4 - Press '1' (No Enemies)
- 6 - Press 'X' (Terminate)

2. Patrol: Encounter mild resistance from enemy spacecraft while exploring the unknown. This is the normal playing level.

3. Military: For non-stop enemy attacks follow the steps outlined above patrol except in step (5) choose:

'4' Medium or '5' Heavy or '6' Very Heavy

You may change classifications at any time, simply by re-entering the Data Link.

To return to Patrol Class, follow the same steps for the Scientific Class except in step '5' select '3' (very light enemies).

## Your Patrol Zone:

The ZONE is a partially explored region of the planet ISIS that is 840 kilometers square. Within the ZONE are 36 smaller regions called AREAS (6 rows x 6 columns).

Each AREA is 140 kilometers square and is also sub-divided into smaller regions (14 rows x 14 columns). They are called Sectors and each is 10,000 meters square. There are 196 sectors in each area.

## Your Base Station:

Your base of operations is a fully equipped orbiting base station. The Station is located in area B3, Sector G7 at altitude 10,000 meters. The orbit is geosynchronous so that the base will always remain in a fixed location. You must return here to Dock your spacecraft and receive more munitions or fuel or to repair any damage.

## Your C-104 Spacecraft:

This ship is state of the art technology in a space exploration and combat vehicle. Your craft is equipped with twin laser fusion drive engines and three 100 ton magnetic flux generators. Two of these generators power the anti-gravity hover system while the third unit powers the shield defense envelope. The fusion drive engines use deuterium pellets for fuel and are capable of delivering 2 million pounds each of forward and reverse thrust.

## Viewing Screens:

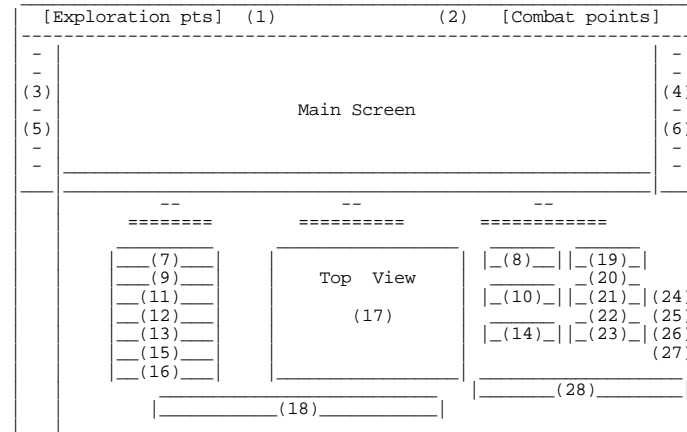
This vessel is completely computer monitored and controlled. Information from the infrared and microwave scanners are fed to the computer for interpretation.

The computer then displays this information on two viewing screens. The main screen shows point of view images of buildings, vehicles, terrain, etc. This screen will also display a blue grid which indicates the planet's surface. You can selectively shut off all or part of the surface grid. This is normally done to increase the rate at which the display is updated.

The smaller screen is the top view or overhead view. This is the computer's interpretation of an outside view looking down on your spacecraft.

Your ship is represented in outline form as 7 flashing dots. The dot in the center locates the center of your spacecraft. The green vertical and horizontal lines represent sector boundaries, the TOP VIEW can be turned on or off as needed by press 'T'.

Note: When the RPV view is selected, both screens will display images from the RPV's point of view.



1 & 2) RPV View Indicators (Turn white when RPV View is selected)

3) Forward Ship Velocity

4) Ascending Vertical Speed Indicator

5) Reverse Ship Velocity

6) Descending Vertical Speed Indicator

7) Control Mode (C-104 or RPV)

8) Pitch Indicator

9) Current AREA

10) Bank indicator

11) Current Sector

12) X-coordinate

13) Z-coordinate

14) Heading indicator

15) Altitude

16) Shield Level

17) Center of Ship

18) Fuel

19) Pitch Readout

20) Pitch Auto-Center (On=White)

21) Bank Readout

22) Bank Auto-Center (On=White)

23) Heading Readout

24) Hover

25) Grid Display (Full = Blue, Partial = White, Off = Black)

26) RPV Indicator (Deployed = Blue, On Board = Black, Destroyed = White)

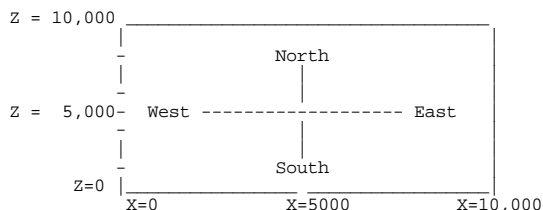
27) Tracking (On = White, Off = Black)

## 28) Zoom Indicator

### Coordinate System

Your current location within the Zone is always defined in terms of AREA, SECTOR, and then coordinates and altitude within the sector. Since each sector is 10,000 meters across, coordinates are given as follows:

X Coordinate = 0 thru 10,000 (west to east)  
Z Coordinate = 0 thru 10,000 (south to north)



Your altitude will range from 0 at the planet's surface to a max of 13,500 meters. Your ship's computer will not allow you to leave the zone or to fly above 13,500 meters without special authorization.

### Velocity Indicators:

There are two sets of velocity indicators on your instrument panel. The display on the left indicates forward or reverse velocity.

The display on the right is the vertical speed indicator and shows the rate of climb or descent. Rate of climb or descent while hovering is also shown.

### Zoom indicator:

Both the MAIN and TOP VIEW screens have zoom capabilities. When one of the Zoom in or out keys are pressed, these indicators will show the amount of magnification being used. Main screen zoom has a range of 1X normal to 16X max. Top view has range of 1X normal to 22X max.

### RPV View indicators:

If these console lights are white, they indicate that the main screen is now displaying the view from the RPV camera. If lights are black, the main screen is displaying the view from the C-104.

### Scoring Indicators:

There are two separate scoring displays. The left display is the 'E' or Exploration score. Points are awarded here based on credits received through artifact and clue retrieval. The right display is the 'C' or combat score. Points are awarded here based on enemy ships destroyed. You are also awarded combat points for target practice and combat simulation. Virtually any structure or terrain on the planet can be a target. However, the ship's computer will not allow you to destroy structures that are not hostile. If you fire at a hostile target, the computer will simulate the sequence on the screen. If the target was hit the image will be removed from the screen and points will be awarded.

### Weapons:

**Laser:** These anti-matter packets are suspended in a magnetic field until fired. Once released, they disintegrate rapidly but are very effective at short range (up to 4000 meters).

**Photon Cannon:** This unit is basically a very high intensity pulse laser. The pulse power is supplied by rapidly discharging a P.C. power cell and the cell

is ejected after each round is fired. The cannons are good at short to medium range (up to 4600 meters).

**Missiles:** These are medium to long range, solid fuel rockets with micro-nuclear detonators. (Acronym: LRN). They have no external guidance system which virtually neutralizes and electronic counter measure techniques (effective range 6300 meters).

### Teleporter:

One of the most important functions of your spacecraft is teleporting objects aboard. There are hundreds of objects in the Patrol Zone that contain information needed to solve the maps and locate the Pirate Base. The RPV is also retrieved by the teleporter. To teleport objects, use the following procedure.

#### 1. Locate an Object -

Objects that are teleportable are shown as flashing hourglasses on the viewing screen. From a distance the object appears as a small flashing dot.

Note: (to follow this procedure while attempting to teleport an actual object, fly to area B-2, sector J-7)

#### 2. Approach -

When an object appears on screen, it may be in the adjacent sector. Fly towards the object and adjust your controls so that the object remains in the center of the screen. When your spacecraft gets close, the object will begin moving more rapidly. Lower your speed and altitude and continue your approach. If the spacecraft continues forward when you are very near the object it may disappear from the front view as the spacecraft begins to pass over it.

#### 3. Activate 'Down' Screen -

To teleport an object, your spacecraft must be directly over it. Press the down view key ('5') to activate the down screen. The down screen shows the object directly below your spacecraft. There is a blind spot between front and down view screens and when the object passes out of view from the front screen, it is not immediately seen in the down screen.

#### 4. Maneuver Your Spacecraft Over The Object -

If the object is in front of your craft, begin moving slowly forward so that the spacecraft passes over the object. The object should now be visible on the down screen. If the object passes outside the down view area, use the other views to locate the object again. Use the down view teleport sight (small cross hairs) to line up the object. Maneuver the spacecraft so that the object is still partially visible when you are at or below 50 meters.

Note: Objects cannot be teleported unless your altitude is 50 meters or below.

#### 5. Begin Teleportation Sequence -

Once the object is within teleport range (inside the screen area with the spacecraft below 50 meters), press the Teleport Key (<-). This will activate the teleport sequence and bring the object on board. If the object is not properly lined up, the message "No object within range" will appear. This means either your craft is too high (over alt. 50) or not enough of the object is inside the screen area.

### Combat

If you wish to battle enemy spacecraft, enter the Data Link Combat Section and set enemy strength to a value other than 1.

The Planet is broken down into a number of Patrol Zones. Since there is only one C-104 per zone, it's up to you to defend it. When your ship comes under attack, a small audio signal will sound. Enemy spacecraft should be visible on the top

view screen. They will be identified as small dots moving toward your spacecraft. Activate one of your weapons by pressing 'B', 'N' or 'M' and get ready for combat.

The only direction your weapons fire is directly ahead. Look at the top view screen and identify which of the enemy aircraft is the closest and position your spacecraft to view the approach from the front screen. When you are hit by an enemy weapon, the screen will flash white and strength will be taken from your shields.

### The RPV

The RPV is a remote piloted vehicle and is used for all types of exploration and observation work outside the spacecraft. The RPV has its own propulsion system and can fly in much the same manner as the C-104. It also has a camera that allows the pilot to monitor the RPV's viewing area.

### RPV Controls:

To deploy the RPV, the C-104 must be at alt. 00. Once on the ground, press the '9' key. A message and the small figure in the lower left corner of the panel will change color. The RPV will always be deployed to the north of you.

The RPV is operated by using the same controls that are used with the C-104. To switch the controls from the C-104 to the RPV, press 'C'. The control indicator should read RPV. Press 'C' again will change control back to the C-104.

To switch to RPV view, press '6'. If you have not moved the RPV from where it was deployed, you will see the outside view of your spacecraft. To switch the view back to the C-104, press one of the Ship View keys.

You can use the RPV to explore buildings and structures or to fly around the sectors. The RPV responds to the controls in the same manner as the C-104. If the RPV collides with the C-104, the RPV will be destroyed.

To retrieve your RPV, press the teleport key ( <- ). The C-104 must be in control and you must be stopped.

### Remote Control Flying

The tracking function allows you to fly the C-104 like a remote control aircraft. To try this, do the following:

1. Set your altitude at 00
2. Deploy RPV
3. Switch to RPV view ('6'). You should see the C-104 in front of you.
4. Switch the controls to the C-104 ('C')
5. Press the Tracking Key ('0')

With the tracking on, the RPV will follow the C-104's flight pattern. If you get disoriented or lose track of your position, simply stop the C-104, switch to front view and press the teleport key. Your lost droid will be beamed aboard.

### Training Courses

There are six different training courses designed to improve your skills in flying and operating the spacecraft.

1. Touch and Go: The object of the touch and go course is to set your spacecraft down on landing pads that are located in Area C-4, sectors H-6 through H-10. Start on the arrow ( ---> ) located in sector H-5 and at altitude 200. The landing pads are small yellow squares with a red X inside. They are located in the sectors directly east. Begin moving forward and try to set your spacecraft directly on top of the landing pad. This requires using the down screen view. Positioning your spacecraft over the landing pads is very similar to positioning your ship over teleportable objects. This course will improve your skills.

2. Floating Tunnel Obstacle Course: This course is also designed to improve

maneuvering skills but you also need to watch your altitude and pitch carefully. The course is in Area A-3 and starts in sector F-7 at X=369, Z=1029, alt=534. The course is a series of rectangles that you must fly through.

3. Aerial Target Range: The aerial target range is to increase your proficiency in the use of weapons. There is a target range located in Area A-2, Sectors H-4 through H-10. Start at Sector H-3 X=7884, Z=5281, alt=5175. The object is to fly through the range hitting as many targets as you can in the least amount of time. There are 14 triangle type figures staggered from Sectors H-4 to H-10.

4. Target Range: The target range located in area B-2 starts in sector J-10 and goes through several connected sectors. The object is to increase your weapon proficiency by flying through the sectors hitting as many targets as quickly as possible.

### The Data Link

Press --> to request up-link to Echelon Headquarters. When the link comes on line you have 4 selections from the main menu.

1. Docking
2. Game Options
3. Pirate Maps
- X. Terminate

#### 1 - Docking

1. Docking procedures: This gives instructions on how to re-dock once leaving the base station. Any time during flight you can return to the base station to re-energize your shields, get more fuel, ammunition or droids. Any damage that your craft has sustained will be repaired.

2. Weapons and Fuel: This option allows you to select the amount of fuel and the amount of ammunition for each of your weapons. This can be done up to the maximum capacity (in weight) that can be held by the ship. To activate a category press the Space Bar. Use the (+) or (-) keys to add or subtract the amount of ammunition or fuel. To exit press '/'.

3. Default weapons/fuel: This option automatically selects the normal loading of ammunition and fuel. You may then make adjustments if you wish. Press '/' to exit.

#### 2 - Game Options:

1. Combat: There are two choices you can make under this category.

- Enemy strength - This allows you to vary the enemy strength between 6 different levels.

- Structure Display - This allows you to either leave the structures or buildings on screen during combat or to not display them during combat. Having the structures not displayed speeds up game play.

2. Load/Save/Restart: This option allows you to SAVE a game in progress, LOAD a previously saved game and resume play, FORMAT a disk, or RESTART a game without re-booting. Please follow the instructions outlined on the screen carefully. You cannot save games onto the Echelon disk.

3. Controls: This option allows you to select between keyboard and joystick controls. The Default is keyboard. If you wish to use a joystick, you must use this option to select joystick mode.

#### 4 - Pirate Maps

This allows you to view the pieces displayed on the pirate maps. The maps start with no information but gradually fill in each time objects are teleported. There are six different maps and each is used to help locate the Pirate Base.

## Docking

1. The main base is located in area B-3, Sector G-7. Fly to this location at an altitude of 10,000 meters.
2. To get to the docking area, you must fly through one of the four entry bays.
3. Line your spacecraft up (at alt. 10,000 meters) directly in front of one of the bay entry doors and slowly begin to approach the opening.
4. As your spacecraft begins to enter the bay, your speed will automatically be reduced.
5. Keep your ship in the center of the entry bay. If you hit the sides of the bay, you'll hear a thud. You cannot fly through the walls of the space station.
6. Keep an eye on your X and Z coordinates. When your coordinates are approximately X=5000, Z=5000 at altitude 10,000 meters you have reached the docking bay.
7. Rotate the spacecraft to a heading of 00 and the docking system will automatically be engaged.

## ISIS - The 10th Planet

### History of ISIS

Scientists had long suspected the existence of a 10th planet. In 1821, 40 years after the discovery of the seventh planet, Uranus, French Astronomer Alexis Bouvard noticed that Uranus' observed position did not agree with its calculated orbit. Uranus was being pulled slightly off course by the gravitational attraction of an outer planet. This led to the search and discovery of Neptune, the eighth planet. But the mass of Neptune did not account for the distortion in Uranus' orbit so a search began for the ninth planet. When Pluto was discovered in 1930, its mass was much too small to fully account for Uranus' wobble, so an earnest search for a tenth planet had been continuing at the U.S. Naval Observatory (USNO) since the early 1980's. In 1996 a research team from the USNO announced the discovery of Isis, the 10th Planet in our solar system. The Planet's mass, approximately five times that of earth, was so sufficient in size to effect the gravitational field of Uranus. Isis has a thin atmosphere made up of primarily Oxygen, Carbon Dioxide, Nitrogen and Argon. Its orbit is elliptical and it takes over 340 earth years to orbit the sun. The biggest surprise however, was yet to come. In 2011, the first unmanned landing probe reached Isis. The photographs and data sent back finally verified that Earth was not the only planet where life has existed. Signs of an ancient civilization were observed on the surface of the planet, but life was no longer present. Evidence indicated a great cataclysm had taken place and large areas of the planet showed incredible devastation. Upon analysis of the information, general consensus among scientists was that since conditions were too harsh and too cold for life to have evolved on the planet at its current position in our solar system, Isis must have been part of another star system in the Universe. The star exploded or died and the planets were released from the stars gravitational pull and wandered off to different parts of the Universe. Isis traveled through space until it was caught by the gravitational pull of our sun, thus becoming the tenth planet.

### Statistics for Isis:

|                                   |                 |
|-----------------------------------|-----------------|
| Mean distance from Sun            | 6.5 billion km  |
| Period of orbit                   | 341 earth years |
| Period of rotation                | 47 earth hours  |
| Diameter                          | 28,940 Km       |
| Mass relative to Earth            | 5.3             |
| Surface gravity relative to earth | 1.25            |

### Historical Time Line

1996 - Discovery of 10th planet.

- 2011 - First unmanned landing probe reaches Isis - Discovers ancient civilization once flourished on Isis when it was part of another Solar System.
- 2012 - United Nations organizes the International Space Federation (ISF).
- 2015 - First manned spacecraft sent to Isis.
- 2017 - Scientific team arrives on Planet. Discovery of Dylidium, a new element.
- 2020 to 2030- Five more scientific expeditions are made to Isis.
- 2031 - Development of Laser Fusion Drive, cuts travel time to planet to 1.2 years.
- 2035 - First Martian Colonies developed and settled.
- 2037 - Miners arrive to collect Dylidium and other precious metals on Isis.
- 2041 - Alphan War Period begins when an ISF spacecraft accidentally destroys and alien vessel. Skirmishes between Alphan spacecraft and ISF spacecraft continue.
- 2043 - Major battle of Alphan war takes place over what is now Zone 106, Area A-2. Five ISF spacecraft destroyed; three Alphan spacecraft destroyed.
- 2045 - Contact finally made with Alphan officials and a non-aggression pact is reached. However, isolated random attacks still occur.
- 2054 - McAdams Penitentiary established on Isis. Prisoners of this facility are used to mine Dylidium.
- 2056 to 2081 - Exploration and mining continues - Many new colonies established between earth and Isis.
- 2082 - Prison riots occur at McAdams Penitentiary, 350 prisoners escape. Over 200 prisoners and guards are killed. ISF closes the Penitentiary.
- 2083 - Pirates begin raiding ISF facilities. Many pirates are believed to be escapees from the prison. Others are colonists who have grown disenchanting with ISF controls and regulations and want to set up their own systems of commerce.
- 2093 - Raid on Isis outposts continue. Pirates begin to control and dominate the area. Pirates have developed sophisticated disruption equipment which allows them to block communications between ISF spacecraft and their bases. In addition, Pirate spacecraft are equipped with stealth capabilities and are undetectable on long range scanners. The Pirates are not strong enough for a full attack on the ISF, but their guerrilla tactics have become increasingly more effective.
- 2094 - Establishment of ECHELON headquarters on Isis. Patrol Zones are set up to cover selected areas of the planet. Eight of the more strategic Patrol Zones have stationary orbit Base Stations for refueling, maintenance, supplies and sleeping quarters. These Base stations are fully automated and have a level 3 perimeter defense system. Only top military personnel are assigned to Echelon. Its presence on Isis will hopefully help the ISF regain control of this area of space from the Pirates. 2095 - Major Thomas Allen attempts to infiltrate the pirate organization. He is not heard from again. 2096 - The completion of a new combat and exploration vehicle, C-104 Tomahawk. The C-104 spacecraft has the latest in advanced weaponry and scientific equipment. A limited number of new spacecraft being delivered to Echelon will be flown by only the best ISF pilots.

### Your Mission - Classified

Briefing: Space pirates have been a problem to the ISF since their appearance over a decade ago. Their past raids had mainly been restricted to isolated spacecraft and outposts. Then three years ago, major technological improvements in their equipment and weaponry occurred. Since then, their raids have become more daring. Equipped with electronic disruption equipment and stealth

capabilities, they have caused an increasing amount of damage to ISF facilities.

The ISF established Echelon two years ago to regain firm control inside the area. Progress, however, has been marginal. Major Thomas Allen was given the task of infiltrating the pirate organization over 16 months ago, but his status at this point is unknown. Pirates continue to use the element of surprise and have enjoyed an increasing amount of success against ISF facilities throughout the area.

Objective: Your assignment is to locate the Space Pirates Main Base of operation. According to Intelligence reports, it is somewhere inside your Patrol Zone. Your investigation requires to retrieve artifacts and information throughout the zone to find the answer. Any pirate spacecraft spotted inside your assigned area should be neutralized. Good Luck, Commander!

## The Pirate Code

The Pirate base is somewhere inside your Patrol Zone. Finding the base will take a great deal of 'detective work'. Through intelligence reports, we know that the space Pirates have developed a secret code to encrypt all messages and transmissions. Your teleporter's material analyzer is programming to decipher as much of this code as possible. Many of the objects and artifacts that you teleport aboard will contain writings and inscriptions. Some of these are clues and many are written in Pirate Code. Breaking the code is essential to the solution of the game.

## The Six Steps

We also know that the Pirates have developed a sophisticated cloaking system which constantly keeps their base invisible and undetectable by our scanners. Latest reports indicate that there is a special sequence of 6 steps that can be performed to de-activate the cloaking devices. Apparently the designers set up this sequence to serve as an emergency override in the event of a major malfunction in the system. These steps must be performed in the proper sequence. If any of the steps are executed out of order, one must start again.

## The Six Maps

Each of the six steps is represented by a map. The maps are in your Data Link System. The Maps have no information to begin with, but portions of a map will fill in each time an object is teleported aboard. Each map has a graphic and text section. Every time an object is teleported, a new piece of text and graphic will be revealed. (If you cash in the object for credit).

The Maps are identified by color. When an object is teleported, the computer will give its description, the number of credits available, and the color of its associated map.

|              |                        |
|--------------|------------------------|
| Description: |                        |
| Space Debris |                        |
| Credits: 10  | White <----- Map Color |

If you cash the object in for credit, the map will be shown and the graphic and text pieces will appear. (Note: Be sure to save the game periodically. This must be done to preserve the map pieces between playing sessions.)

When all the objects in the patrol Zone have been teleported, all 6 maps will be filled in. The text with each map gives instructions on how to complete one of the six steps. This text, however, is in pirate code and must be deciphered.

## Completing Your Mission

To solve the mystery and complete your mission, do the following.

1. Fill in the maps by teleporting objects aboard your spacecraft.
2. Write down clues. Each map has its own important clues that pertain to that particular map. Most important clues will be encoded.
3. Break the Pirate code and interpret the instructions for each of the 6 steps. Scattered throughout the Zone are clues to the meanings of the Pirate Code. These clues are on teleported objects as well as written on walls or buildings. Each time you decipher a letter or number, write it down.
4. Determine the correct order of the steps. Once you finish all 6 maps and break the code, you will be able to read the instructions on how to complete each of the 6 steps. All steps involve flying to a specific point and performing specific maneuvers with your spacecraft. If you successfully follow the instruction for that step, a sign will be given. Thus you will receive 6 signs for successfully completing 6 steps. There is a problem, however. You must complete the 6 steps in a specific order to deactivate the cloaking system and win the game.
5. Complete the 6 steps in their proper order. As each step is completed, the sign for that step will be given, but there will be no indication given as to whether or not you are still on the correct sequence. You will have to wait until all 6 steps are completed to find out. If you find the proper order, you'll know it. If not, try again. Use the PRECEDES clues. Without them, you may have a rough time. There are 720 different combinations.

-END-

===== DOCUMENT echelon.info =====

Echelon - Patrol Zone Highlights

A-1: Ancient bridge spans a frozen river bed in Sector H-7. Elements of bridge date back 3,000 years.

A-2: Major battle of the Alphan War took place over this area. Several destroyed spacecraft of the Alphan and ISF configuration can still be found on the surface throughout the area. The Echelon target range is located in sectors H-4 thru H-10. Only ISF personnel with level 1 security clearance are authorized within these sectors.

A-3: The Echelon training simulator Floating Tunnel in Sectors F-7 through F-10. Only ISF personnel with Level 1 security are authorized within these sectors.

A-4: Remains of ancient Isis city can be found in Sector C-9.

A-5: The research station located in sector I-7 was set up by Dr. Adrian Van Kempe, his daughter Sonja, and his research assistance. Van Kempe was generally considered to be top of his field in the Science of Astro Physics. In April 2092 he sent a message to his old Univerity informing them that his experiment with Lithicite crystal was a failure and that he was closing down his research facility to accept a position with a private corporation. Van Kempe, his daughter, and research assistance have not been heard from since. It is assumed their spacecraft was lost on its return back to Earth.

A-6: Mining and drilling operations were set up in Sectors D-10, E-11, and H-12 after rich deposits of dylidium were located in this area in 2082.

B-1: Probes sent to this area have been unable to verify a report that an ancient civilization lies somewhere in this area. Ships on patrol are requested to report this find if any evidence is found.

B-2: Echelon Target Range located in Sectors F-8, G-8, H-8, I-10, and J-11. Only authorized ISF personnel with Level 1 security clearance are allowed within these sectors.

B-3: The Echelon Obstacle Course is located in B-12. Only ISF personnel with Level 1 clearance are authorized within this sector. A landing airstrip is in Sector J-10. Try your luck landing here.

B-4: The Echelon Ground Obstacle Course is located in Sectors F-4 through F-7. Only ISF personnel with Level 1 clearance are authorized within these sectors.

B-5: No information available. Area has several structures photographed by satellite, but large tracts of the area are unexplored.

B-6: Gigantic Rock Figures in Sector L-11 display detailed work of great craftsmanship. Many scientists have suggested that these figures had religious significance to the early inhabitants of the planet.

C-1: Large Ancient Dam is located on a frozen river bed in Sector F-10.

C-2: During an exploration of this area, and extraordinary and startling image was found. A huge star figure, covering an area of several sectors was discovered. A concentrated study has been made of this figure and comparisons have been made between the star figure and similar figures found on Earth in South America. So far, the purpose and origins of this star have not yet been established.

C-3: Ancient bridge spans a frozen river in Sector M-9.

C-4: In sector M-12 is an early refuel and supply area known as the Crossroads. The Crossroads was an early outpost used extensively in the early and mid 21st

Century for scientific expeditions. More modern facilities at other sites were later constructed and the Crossroads was abandoned. The Echelon Training course (touch and go) is located in Sectors H-6 thru H-10. Only ISF personnel with Level 1 security clearance are authorized within these sectors.

C-5: One of the most severe blows to the ISF occurred in Sector C-5. After 16 months travel from Earth, Largo, the largest of the ISF superfreighters was nearing Echelon. The Pirate raids had been taking their toll on Echelon reserve supplies and many items aboard the Largo were in short supply at the base. The freighter was under military escort and at last report, indicated at current speed they would reach Echelon within the next week. That was the last message received from the Largo. At Echelon HQ, the position of the superfreighter was being routinely scanned. Suddely the large ship stopped and vanished from the monitor screen. Six LC-24s were scrambled to the last known heading. When they arrived, all that was found were the remains of several escort fighters but the freighter itself was gone. A thorough search was undertaken, but the huge freighter was never found. The loss of supplies nearly spelled disaster for the base. Supplies of food and medical equipment nearly ran out before an emergency shipment could be received from surrounding colonies. It is assumed that pirates attacked the Largo. By employing communication disrupters and stealth equipment, the distress message was blocked. The mystery of what happened to the freighter after the attack, however, remains to be solved.

C-6: Area C-6 was opened up in 2039 to independant mining operations. Isolated settlements can be found throughout the area. Most are abandoned now because of the Pirate attacks in the area.

D-1: Independant Mining Facilites are located throughout this area.

D-2: No information available. Area has several large structures photographed by satellite. Large tracts remain unexplored.

D-3: Remains of Ancient Isis City can be found in Sector H-3. City has several large buildings that are sill intact.

D-4: No information available. Area has many large structures which have been photographed by satellie but large tracts remain unexplored.

D-5: The Refinery located in B-7 was built in 2042 to process Dylidium and Titanium into a high strength alloy. The facility was built to furnish replacement parts for spacecraft during the Alphan War.

D-6: Tha McAdams Penitentiary located in Sector I-10 was built in 2054 for prisoners who were considered too dangerous to be housed in other facilities. The inmates were required to work in the Dylidium mines. When Lithicite, a very unque crystal, was discovered at the mine, many prisoners were killed in a strange accident. Apparently the laser used to mine Dylidium can excite the crystal and under the right conditions cause an explosion. This led to riots in 2082 where 350 inmates escaped in a prison freighter. Most of the prison itself was destroyed in the revolt and the remaining inmates were transferred to other facilities. The prison was officially closed in March 2082.

E-1: The Abandoned Landing Strip in Sector C-7 was established in 2021 as the original ISF base of operations. The landing strip was attacked during the early phase of the Alphan War and personnel were evacuated to a more defensible postition.

E-2: The Research Radio Telescope in Sector C-9 was built in 2037. Information and data at this site are analyzed by astronomers at Echelon.

E-5: No information available. Area has several large structures photographed by satellite but large tracts remain unexplored.

E-6: The Mining Facility located in Sectors C-7 was set up in 2039 when large deposits of the element Dylidium were discovered. Dylidium when combined with Titanium makes an extremely strong alloy and is used primarily in the construction of the outer hulls of spacecraft. The mining operations began using prisoners from the McAdams Penitentiary in 2054. In 2079, Lithicite crystal was

discovered at the site. This crystal is extremely and can explode if not handled correctly. Efforts to mine the Lithicite crystal were unsuccessful and over 30 prisoners were killed in mining accidents. The mine was shut down in 2083 when more plentiful Dylidium deposits were discovered at other locations. This location, though deserted is considered dangerous and only military and mining officials with Level 3 security clearance may visit the site.

F-1: Remains of an Ancient Isis city can be found in sector F-6.

F-2: Sector L-6 features a large object that has been nicknamed the Great Horn. The 'Horn' was constructed by some alien civilization over 20 million years ago. The material is metal that is not found anywhere in our solar system as far as we know. It is so hard that it is virtually indestructible.

F-3: The Space Platform in K-11 is owned by a private mining corporation. Remains of an ancient Isis town in Sector I-6 has been dated over 4000 years old.

F-4: No Information available. Area is unexplored.

F-5: Ancient remains of a small town located in Sector E-7.

F-6 No information available. Area is unexplored.

-END-

=====
DOCUMENT ecpl6
=====

Extended Command Processor - 16

-----
Copyright 1987
By Don Elton
Carolina System Software

+-----+
| RELEASE 0.24 |
+-----+

This program is Shareware and sells for \$40 and includes ECP-8 and documentation for both ECP-8 and ECP-16.

Shareware means that you download this software or obtain it from a friend and then you pay me the \$40 fee if you decide to keep and use the program. In return for your money you get online technical support, the latest version of the software, as well as the documentation for the program package. This way I eliminate lots of middle men and you get good software at a very low price compared to what the competition has to offer (if indeed there really is any competition).

If you like being able to download products like this then by all means say so by paying the modest fee. Thanks.

Requirements: This program requires ProDOS 16 Version 1.3 or later on an Apple IIgs. The System Loader must also be version 1.3 or later. These are found on System Disk 3.1 available from your dealer and are included with the ECP-16 package when you pay for it.

ECP-16 should run fine under the minimum memory configuration provided that you don't have 100K of desk accessories or other things installed on your system.

Introduction:

ECP-16 is a ProDOS 16 System program, program selector, controlling program, and operating system shell. This encompasses a lot of functions for this one program but it is basically a replacement to the Apple supplied FINDER for users who would rather control their ProDOS 16 environment via a command line interface such as that familiar to users of ECP-8, CP/M, MS-DOS, or UNIX. ECP-16 shares some features in common with APW (Apple Programmer's Workshop) and with ORCA/M (ORCA/M for the Apple IIgs). The product duplicates or improves on many of the features found in APW/ORCA and adds other features not found in the other shells.

ECP-16 doesn't replace APW/ORCA but can work well with either product.

Goals for ECP-16:

ECP-16 is aimed at two types of users. First for power users who would rather have fast functionality than a huge and cute desktop based operating system shell. Secondly, ECP-16 is offered as an alternative to APW for developers who would like to sell or give away ProDOS 16 shell based applications without requiring that the end user own APW (which currently costs about \$100 or so). ECP-16 will launch any program you can create using any of the native ProDOS 16 compilers or assemblers and can also launch any ProDOS 8 program including the ability to pass a startup string to any ProDOS 8 or ProDOS 16 program that follows the standard ProDOS conventions.

ECP-16 also supports two APW/ORCA specific shell calls. These are the Init\_Wildcard and Next\_Wildcard calls.

ECP-16 takes responsibility for launching your program and for passing the command line to the shell program (EXE file).

This latter feature is handy. As an example, I downloaded a public domain C source for a file squeezing program. I made no modifications to this file at all. I compiled the program using APW C (pre-release version) and I can now execute this program under ECP-16 the same way you would do so on UNIX, CP/M, or MS-DOS by just typing the name (pathname) of the program along with any arguments that might be required by the program. I'm including the object code to this program in the library with ECP-16 for you to play with. I'm sure you can see the potential for this. C sources from MS-DOS (and there are a lot of them and many in the public domain) are useless under the DeskTop and before now could only be executed from APW (a huge package that's ok as a development environment but who wants to wait for it to load when all you want to do is some quick file manipulation?).

## Licensing:

Oh yes, ECP-16 will be licensable to developers who would like to include it with thier ProDOS 16 applications and utilities that they sell. All I ask is that you pay me \$60 per product per year and that you encourage your users to buy the full package (so they can get support and updates with the latest docs and all).

## Feedback:

As with all of my programs I welcome suggestions and comments on my software and how it might be improved. If you want to wait until a more functional version of the software is ready before paying your shareware fee then that's fine. If you pay the fee right now you won't get any printed documentation for ECP-16 but you will get a bootable disk with ECP-16 and the full ECP-8 package (complete with docs). To a great extent the operation of ECP-16 will mirror ECP-8 when possible without sacrificing the nice features available under ProDOS 16.

You can launch the following types of files:

- S16 These are ProDOS 16 system programs. Right now ECP-16 stays resident.
- SYS Note that calling a SYS program prevents you from automatically returning to ECP-16 but ECP-8 can relaunch ECP-16 if commanded to do so.
- BAS You must have a copy of BASIC.SYSTEM in your CMDS subdirectory named as "BASIC" and you must have a copy of SYSTEM.LAUNCHER in your CMDS subdirectory.
- TXT You can launch BASIC EXEC files by typing "BASIC FILENAME" where FILENAME is the name of the TXT EXEC file you wish to launch.
- BIN The same rules that apply to BAS files apply here. BIN files are executed by BASIC.
- EXE These are ProDOS 16 shell programs. Some will only run under APW but most will run under APW or ECP-16.
- BAT These are ECP-16 Batch files. (Described below)

## Filenames:

ECP-16 supports any valid ProDOS-16 file naming convention. The following are all valid pathnames for any command in ECP-16 that requires a filename as an argument:

- .dl/subdir/file (uses device name in place of volume name)
- 1/subdir/file (uses a numbered prefix)

- ../subdir/file (references directory levels above the current one)
- /a/subdir/fi= (accept all file names that begin with "fi")
- /a/subdir/fi? (as above but prompt for matches)

## Setting up your system disk:

ECP-16 can be set-up in a couple of different ways. One is to make the ECP-16 S16 file the START file program selector. To do this you just put ECP-16 in the SYSTEM subdirectory as shown below and name it as START. The second method is to name the ECP-16 S16 file as ECP16.SYS16 and put it in the volume directory of your ProDOS 16 system disk and make sure it appears in the directory before any other S16 or SYS files.

```

/SYSTEM.DISK
 PRODOS
 ECP16.SYS16 (put ECP-16 here or below as the START file)
 CP.KEYS (autostart batch file for function keys etc)
 CP.STARTUP (second autostart batch)
 CMDS/
 BASIC (really basic.system but must be named BASIC)
 SYSTEM.LAUNCHER
 SYSTEM/
 P8
 P16
 SYSTEM.SETUP/
 TOOL.SETUP
 TOOLS/ (this dir must contain current tool files)
 DESK.ACCS/
 FONTS/
 DRIVERS/
 START (put ECP-16 here or above as the ECP16.SYS16 file.)
 (Note that a START file has priority over a
 (xxx.SYS16 file in the volume directory.

```

## The CMDS subdirectory:

You may set PREFIX 6 to the directory you want ECP-16 to look to if it can't find a file (EXE or S16) in the current directory. The default value is a subdirectory named CMDS in the boot directory for ECP-16. You may set this anywhere you like.

## The HISTORY buffer:

ECP-16 keeps a 'history' buffer to store your most recently entered commands. As a typing aid, you can scroll back and forth into this buffer and re-edit or re-enter previously entered commands with just a few keystrokes. To go back in the buffer, press the up arrow key. To go forward in the buffer just press the down arrow key. Try it.. you'll figure it out.

## Batch files:

Like ECP-8, ECP-16 supports powerful disk based Batch files. These files are standard ProDOS text files whose file type has been changed to BAT (\$F5). These files can contain any valid ECP-16 command, either internal or external. When you enter a BAT file, the command line arguments for the BAT file are stored in the variables &1 - &9 with the argument count stored in &0. Bat file command lines are expanded into their full form prior to parsing and execution.

Example: The Move Bat file

```

ifeq &0 0;say "No arguments supplied^G^M^J";stop
copy &1 &2
delete &1

```



The above Bat file would be called from the command line as

```
:move <source> <destination>
```

When the Bat file is executed, the following statements are parsed:

```
ifeq 2 0:say "No arguments supplied^G^M^J";stop
copy <source> <destination>
delete <source>
```

Startup BAT files:

ECP-16 supports two types of auto-start BAT files. The first file searched for at boot time is CP.KEYS. This file should be kept in the same directory with the ECP16.SYS16 program file. It is typically used to define function keys but it can be used for any activity you'd like to take place when ECP-16 is initially loaded. Next, ECP-16 looks in the current PREFIX 0 directory for a file named CP.STARTUP. This file can also contain any command but you may have more than one CP.STARTUP file on your disk, perhaps one in the directory of each other program you frequently run from ECP-16. i.e. if you exit AppleWorks and AppleWorks is stored in /a/appleworks then you might want to put a CP.STARTUP file in /a/appleworks that would do any clean-up activities you'd like executed when you exit from AppleWorks. This could include backing up a ram disk or just setting the prefix back to your root directory.

I/O Redirection:

-----

ECP-16 currently supports only Output redirection. You may direct output to the printer ".PRINTER", to the null device (i.e. no where) ".NULL", or to a named slot device ".S1, .S2, etc.", or to a file specified by the pathname. Output redirection currently routes only the STDOUT vectors. STDERR will be included in future versions. The following syntax is valid:

```
cat /vol >.printer route to printer with init string sent
cat /vol/subdir >spool.file route to 'spool.file' with no line feeds
cat /vol/subdir >>spool.file route to 'spool.file' but append to end
 of file if it already exists.
cat /vol/subdir >.s2 route to slot 2 pascal compatible device
```

Note that output redirection only lasts for the command that includes the ">" output specifier. You can output all command output to the printer by using the SET PRINTER ON command.

Commands Documentation:

-----

Below are descriptions of the command that have been implemented in ECP-16 as of this version of the software.

```
! Anything Type: Internal
 Batch: Yes
 Keyboard: Yes (though not useful)
 Wildcards: No
```

This is a comment command. The remainder of the current line is ignored by the command processor.

```
Anything Type: Internal
 Batch: Yes
 Keyboard: Yes (though not useful)
 Wildcards: No
```

This is a comment command. The remainder of the current line is ignored by the command processor.

```
? <No Argument> ! <Command Name> Type: Internal
 Batch: Yes
 Keyboard: Yes
 Wildcards: Yes
```

Use this command to display a help file in the HELP subdirectory (designated by Prefix 5). Pressing any key will pause the display. Use ESC to abort this command. If no argument is supplied then the file "5/CMDLIST" will be displayed.

```
BOOT <No Argument> ! <1-7> Type: Internal
 Batch: Yes
 Keyboard: Yes
 Wildcards: No
```

This command will boot the disk device in the slot (1-7) specified. If not slot is specified then the online devices will be searched in the default scanning order.

```
CAT <Directory names> Type: Internal
 Batch: Yes
 Keyboard: Yes
 Wildcards: Yes
```

The selected directories will be displayed. If no argument is supplied then the current prefix directory will be displayed.

```
CHTYPE <file> <typename>!<type in hex> Type: Internal
 Batch: Yes
 Keyboard: Yes
 Wildcards: No
```

This command changes the ProDOS file type of <file> to the type specified. Types may be specified either by their 3 letter identifier or by their hexadecimal type number.

```
COPY <Src file> <Dest file>!<Src file>!<Src file> <Dest Dir> Type: Internal
 Batch: Yes
 Keyboard: Yes
 Wildcards: Yes
```

Copies the <Sourc file> to either the <Destination file> or the <Destination Directory> or to the Prefix directory if no destination is specified.

```
CREATE <directory names> Type: Internal
 Batch: Yes
 Keyboard: Yes
 Wildcards: No
```

The specified subdirectories are created.

```
DELETE <pathnames> Type: Internal
 Batch: Yes
 Keyboard: Yes
 Wildcards: Yes
```

The files specified by <pathnames> are permanently deleted from the

disk directory.

DUMP <pathnames> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: Yes

The specified files are displayed to the screen as a hexadecimal dump with file offsets.

ECHO <No Argument> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: No

Batch file statements will be displayed to the screen as they execute after this command has been entered.

ERASE <device name> <volume name> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: No

Erases the volume directory of a previously formatted volume and rewrites a volume directory and boot blocks using <volume name> as the name of the new volume. Note that this command will essentially destroy all data on the target device. You should use the ONLINE command to see a listing of the contents of each device prior to using this command. You will be asked to confirm twice that you actually want to erase a volume.

Example:

Erase .d4 /new.volume

The above command would erase the volume in device .d4 and would create a new volume named "/new.volume".

FKEY <No Argument> ! <0-9!A-Z> ! <0-9!A-Z> <string> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: Yes

This command is used to display (with no arguments), cancel (with number or key argument only), or define user-defined function (macro) keys. Control characters are coded after the "^" character such that a carriage return is represented as "^M". Any character that may be typed into the line editor may be represented and multiple lines of input may be defined. Function key definitions are limited to 127 characters.

Example:

Fkey 1 "^XCat^MOnLine^M"

The above definition assigns the indicated string to the Open Apple - 1 key combination. Pressing OA-1 will enter Cat, press return, enter Online and press return again.

FORMAT <device name> <volume name> Type: Internal

Batch: Yes

Keyboard: Yes  
Wildcards: No

Formats the media in <device name> and creates the ProDOS volume named <volume name>. A volume directory and boot blocks are also written to the new volume at <device name>. Note that this command will destroy all data on the target device. You should use the ONLINE command to see a listing of the contents of all online devices prior to using this command. You will be asked to confirm twice that you actually want to format a volume.

Example:

Format .d4 /new.volume

The above command would format the media in device .d4 and would create the new volume "/new.volume".

GOTO <label> Type: Internal

Batch: Yes  
Keyboard: No  
Wildcards: No

Use this command to unconditionally branch within a BATCH program. A <label> is defined as the first word or quoted argument after a comment character in a Batch file. The following are legal labels:

```
<label>
! label
"label"
```

HELP <No Argument> ! <Command name> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: Yes

Use this command to display a help file in the HELP subdirectory (designated by Prefix 5). Pressing any key will pause the display. Use ESC to abort this command. If no argument is supplied then the file "5/CMDLIST" will be displayed.

IF <pathname> Type: Internal

Batch: Yes  
Keyboard: Yes (though not useful)  
Wildcards: No

If the specified pathname exists on an online device then execution will continue with the statements that follow the IF command on the same line. If the file does not exist or if the name is improperly specified then execution will continue with the following line.

IFEQ <String 1> <String2> Type: Internal

Batch: Yes  
Keyboard: Yes (though not useful)  
Wildcards: No

If the two arguments are equal (case ignored) then execution continues with the statements on the rest of the current line. If they are not equal then the rest of the line is skipped with execution continuing on the next line.

IFNOT <pathnames> Type: Internal

Batch: Yes  
 Keyboard: Yes (though not useful)  
 Wildcards: No

If the specified file does not exist on an online device then execution will continue on the same line. If the file does exist then execution will continue with the next line.

IFSHELL <ECP16> ! <ECP8> Type: Internal

Batch: Yes  
 Keyboard: Yes  
 Wildcards: No

This command, implemented in both ECP-8 and ECP-16 allows a running BATch program to determine which shell is executing it. This allows you to know which commands are available to you so you can have your BAT program branch to use appropriate syntax based on which shell is active. You can thus use the same BAT file under either ECP8 or ECP16.

IFYES <No Argument> Type: Internal

Batch: Yes  
 Keyboard: Yes (though not useful)  
 Wildcards: No

This command will display a cursor on the screen and wait for a Y or N keypress. If the user presses the "Y" key then execution continues with the statements that follow on the same line. If the user presses anything else then the remainder of the current line is ignored with execution continuing with thje next line.

LOCK <pathnames> Type: Internal

Batch: Yes  
 Keyboard: Yes  
 Wildcards: Yes

The specified files are locked (made read only).

MAKEB <vol name list> Type: External

Batch: Yes  
 Keyboard: Yes  
 Wildcards: No

This command writes the boot block for the named volumes. This is typically used to allow you to boot from a ram disk without having to format the disk. You still need to have a copy of the operating system on the volume to make it capable of booting.

MEM <No Argument> Type: Internal

Batch: Yes  
 Keyboard: Yes  
 Wildcards: No

This command shows memory usage statistics.

MON <No Argument> ! <Monitor commands> Type: Internal

Batch: Yes  
 Keyboard: Yes  
 Wildcards: No

With <No Argument> this command will drop you into the system Monitor program. Press Control-Y <RETURN> to return to ECP-16. If you specify an argument, it will be passed to the system Monitor as a

command with control staying in ECP-16.

NDA <No Argument> Type: External

Batch: Yes  
 Keyboard: Yes  
 Wildcards: No

This is an Apple IIgs Desktop program that merely sets up the desktop and allows you to execute NDA's or New Desk Accessories. The only other options are to display the copyright information and to quit back to ECP16. NDA's can only be launched from desktop programs which is why this external command is necessary.

NOECHO <No Argument> Type: Internal

Batch: Yes  
 Keyboard: Yes  
 Wildcards: No

Batch file statements will not be displayed to the screen after this command is entered. This is the default condition.

ONLINE <No Argument> Type: Internal

Batch: Yes  
 Keyboard: Yes  
 Wildcards: No

All OnLine disk devices will be displayed along with their device names, volume names, operating system type, and block usage statistics.

PAUSE <No Argument> Type: Internal

Batch: Yes  
 Keyboard: Yes (though not useful)  
 Wildcards: No

The string "More..." is displayed to the screen and the command then waits for any keypress to continue.

PREFIX <No argument> ! <directory> ! <prefix number> <directorType: Internal

Batch: Yes  
 Keyboard: Yes  
 Wildcards: No

This command either sets or displays system prefixes.

QUIT <No Argument> Type: Internal

Batch: Yes  
 Keyboard: Yes  
 Wildcards: No

Returns control to the program that started ECP-16.

RENAME <Original pathname> <New pathname> Type: Internal

Batch: Yes  
 Keyboard: Yes  
 Wildcards: No

Renames <Original pathname> to <New pathname>. On a future version of ProDOS 16 this command will actually move a file entry from one directory to another but under version 1.1 only a simple renaming operation is supported.

SAY <string> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: No

<string> will be displayed to the screen. <string> may contain control characters by coding them after a "^" character. Thus a carriage return becomes ^M and a line feed becomes ^J. Use ^^ to display the "^" character. Note that line feeds and carriage returns must be specified separately to implement the newline function.

SET <No argument> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: No

This command, entered without arguments, will display all environment settings that are in effect at the time the command is entered.

SET PINIT <string> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: No

This command allows you to specify the printer initialization string. The string may be enclosed in quotes and may include control characters by using the currently defined control token (default = ^). The default printer initialization string is "^I80N".

SET PRINTER <ON ! OFF> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: No

This command will cause all subsequent command output to be routed to the printer device attached to PSL0T (normally 1) or it will turn off such output previously enabled.

SET PROMPT <prompt character> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: No

This command allows you to set the prompt used when ECP gathers input from the keyboard. The default value is ":".

SET PSL0T <0-7> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: No

This command determines which slot your printer is attached to. The default value is 1. A slot setting of 0 designates that you do not have a printer.

SET TOKEN <token character> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: No

This command determines which character will be used as the control character token character. The default value is "^". Tokens are used by the FKEY,

SAY, SET PINIT commands and others.

SET VERBOSE <ON ! OFF> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: No

This command determines whether ECP will issue warnings before overwriting existing files when you tell ECP to do this via the COPY command. The default setting is "ON".

SHELL <S16 Pathname> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: No

This command will execute a ProDOS 16 SYSTEM (S16) program while keeping ECP-16 active and in memory. If you just enter the name of an S16 program then ECP-16 normally shuts itself down and remains dormant. With the SHELL command you can execute S16 programs from BAT files provided that the S16 program doesn't close the BAT file being executed.

SHIFT <No Argument> Type: Internal

Batch: Yes  
Keyboard: No  
Wildcards: No

Shifts the command line arguments down by one variable thus eating the next argument to be parsed.

STOP <No Argument> Type: Internal

Batch: Yes  
Keyboard: No  
Wildcards: No

Terminates execution of the current BATCH program.

SHIFT <No Argument> Type: Internal

Batch: Yes  
Keyboard: Not useful  
Wildcards: No

This command shifts all command line arguments down one variable and decrements the argument counter.

TEST Varies Type: Internal

Batch: Varies  
Keyboard: Yes  
Wildcards: Varies

This is a command used by the program author to debug parts of the program. It may not be present in your release and could potentially cause a system crash so don't use it.

TIME <No Argument> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: No

Displays the current date and time using the format specified in the Control panel.

TYPE <pathnames> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: Yes

The specified files are displayed to the screen. Pressing any key will pause the display and pressing the ESC key will abort the display. Control characters and non-printing characters are displayed as periods.

UNLOCK <pathnames> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: Yes

The specified files are unlocked (changed to read/write/rename/destroy enabled).

VIEW16 <AppleWorks word processing AWP file> Type: External

Batch: Yes  
Keyboard: Yes  
Wildcards: No

This command allows you to display an AppleWorks AWP word processing file to the current output device as if it were a text file viewed with the TYPE command.

\ <No Argument> Type: Internal

Batch: Yes  
Keyboard: Yes  
Wildcards: No

The current prefix is backed up one directory level. The new prefix is then displayed to the screen.

Information:

For more information, contact the author, Don Elton at:

Carolina System Software  
3207 Berkeley Forest Drive  
Columbia, SC 29209-4111

CIS: 72010,37

ProLine: delton (619-281-7222 login:register)  
(803-776-3936 login:register)

UUCP: crash!pro-carolina!delton

```
=====
DOCUMENT edd.part1
=====
```

ESSENTIAL DATA DUPLICATOR (EDD) PROGRAM LIST #3-8 BROUGHT TO YOU BY THE  
[--] MINUTE MAN [--]

Pardon all the typing errors

What is an Essential Data Duplicator Program Information List??? This is a list of copy-protected programs which Edd has been known to copy. This list would contain the program name, the publishers name, and all known instruction for making back up copies. We compile this list from information gathered from EDD owners all around the world.

FINDING INSTRUCTIONS FOR COPING DISKS:

First of all ... note: if you are backing up Apple III software, remember to always use one of the synchronize track processing modes; mode#2, #5, #6. If you are using a IIE or IIC, the CAPS LOCK key must be in the DOWN position for EDD to run properly. This list is divided into two sections; Programs listed by name and Protection used by companies.

The "Programs listed by name" section is an alphabetical order listing of protected programs by program name. To the right of each name, references the software company in the "Protections Used By The Company" sections to actually find information for copying that disk.

Since many software companies will use the same protection on all or most of their disks, if the name of the disk you are trying to copy is not located in the "Programs Listed By Name" section, try locating the company who publishes that disk in the "Protections Used By Company" section of the list. You have a very good chance that one of the instructions will work for that particular disk.

Here is an example for using this list to find the instructions for a disk. Suppose you want to make a back up copy of the disk named, "MICRO COURIER". First, look up MICRO COURIER in the "Programs Listed By Name" section of the list. It says, "MICRO COURIER:MICA#a". This tell us that the protection used on this disk is "MICA#a". Now we look up "MICA" in the "Protections Used By Company" section of the list. This shows that we used the abbreviation "MICA" for the company "MICROCOM INC." (who is the publisher for this disk). Since we know that the protection used is protection "#a"; locate protection #a for this company. Here we find instructions for copying this disk:

a. t22  
t0-t23 parm 28=3

HOW TO USE THE INSTRUCTION FOUND IN THE LIST:

To make a back up copy of a program found in the list, you will need to know the coding used:

```
key: t = TRACK START and/or END
 inc inc = INCREMENT TRACK value
 parm mode# = PROCESS MODE#
 normal = NORMAL; default values (push Return for all prompts
```

Here is an example: Let's say you want to copy a program with the instruction

t0-t23

To copy this disk you will need to copy the range of tracks from track "0" through track "23". So, when copying the disk, enter the value "0" when EDD ask you for the START TRACK (it's already preset to "0"), and enter the value "23" when EDD asks for the END TRACK. Since the instructions don't tell you to change anything else, don't. Simply just press Return for all prompts.

Here is an more involved instruction example:

```
t0 parm 28=1
t1-t9 inc 4
tA-t22
```

mode#2 You will notice these instructions use three lines of information. Since there are three lines to this instruction and each line starts with a "t" (track) this means that there are three ranges of tracks to copy on this disk. The first range, "t0 parm 28=1" means that you will need to change the parameter "28" to the value of "1" (see OPTION 2). After the parameter is changed (any parameters that need to be changed for a range of tracks are always changed first), enter a "0" for the START TRACK. Since "t0" (track 0) is the only track specified, you will also need to enter it for the END TRACK. There is no additional information for this range, so, just press return for all other prompts. After EDD is done processing track "0", EDD will say "process done". At this point, one range of tracks has been copied. The second range of tracks says, "t1-t9 inc 4". Enter the value "1" for the START TRACK, and a "9" for the END TRACK. When EDD asks you for the INC TRACK value enter a "4". After you copy this second range of tracks, EDD will again say "process done". The third range of tracks, "tA-t22 mode#2" is the last range that needs to be copied. Enter an "A" when EDD asks for the START TRACK, and a "22" for the END TRACK. When EDD asks for the PROCESS MODE, enter a "2" (synchronize tracks mode).

NOTE: You MUST copy the ranges of tracks in the order they are listed. One reason for this is because any parameter that may have been changed for a previously copied range of tracks stays changed for the next range. If the list tells you to "write-protect before running", be sure you put a write-protect sticker on the duplicate disk covering the notch, BEFORE attempting booting that disk! A good rule of thumb is: If an original disk has a write-protect sticker on it, always put a sticker on the duplicate disk before running it. Disk drive speed can be very critical on some disks.

-END-

```
=====
DOCUMENT edit.pro
=====
```

```
Introduction to EDIT.Pro
=====
```

EDIT.Pro was created by Ken Kashmarek of Living Legends Software, and is being marketed on a "user supported" basis. To receive your copy of the EDIT.Pro disk, users manual, registration number, and the use of our Customer Support Line, please send a contribution for \$30 or more to:

Living Legends Software  
1915 Froude St.  
San Diego, Ca. 92107

```
Overview
=====
```

EDIT.Pro runs under ProDOS on any Apple II or III series machine, and clones.

The download file [ EDIT.PRO ] on CompuServe DL3 contains only the BASIC line editor portion of the program. There are a total of seven different files that make up the entire EDIT.Pro package, as well as various subroutine and text files. The main program files are:

EDIT.PRO : contains LIST,XLIST,AUTO,EDIT,FIND,CHANGE,RENUMBER,MOVE,COPY SPLIT,EXIT and M

DISK : contains MERGE,VIEW,SCAN,PSAVE,TYPE,DUMP,REPRO,XVIEW and EXIT

HEX.MEM : contains HEX,DEC,PEEK,POKE,WPEEK,WPOKE,WHERE,MEM and QUIT

OPTIMIZE : contains XVIEW,XREF,VREF,GREF,LREF and QUIT

DOS : contains DCAT,DLOAD (for loading/editing DOS 3.3 files),QUIT

HELP : installs the online "help" feature

COMPARE : compares two BASIC programs, giving detailed results

All of these files, plus the support routines, take up almost the whole disk -- which is why I chose not to upload them all here. Not only would it cost me a fortune to send them here, but you would spend nearly twice the \$30 donation just downloading them from CompuServe -- and you wouldn't have the manual or support line to show for it!

```
Editor Command Summary
=====
```

The following is a brief summary of the commands available in EDIT.Pro:

```
LIST [first][,last][,tab][,length][,end][,/search/]
XLIST [first][,last][,length]
AUTO [new][,incr]
EDIT [first][,last][,/search/]
FIND [first][,last][,/search/]
CHANGE [first][,last]/search/replace/
RENUMBER [first][,last][TO or ,][new][,incr]
MOVE [first][,last][TO or ,][new][,incr]
COPY [first][,last][TO or ,][new][,incr]
SPLIT first TO new /search
EXIT (disconnect EDIT.Pro)
M (enter the monitor -- ^C to return to BASIC)
```

Most of the commands can be abbreviated -- for instance you could type:

E10 instead of EDIT 10

The control characters used for editing a line of BASIC code are:

```
control-A Shift lock to allow lower case entry
control-B Move cursor to beginning of line
control-C Cancel editing of current line
control-D Delete character under the cursor
control-F Find next character typed and move cursor to it
control-G Ring ProDOS bell (different than BEEP)
control-H Left arrow or backspace function
control-I Insert character(s) at the cursor
control-L Change case of character under the cursor
control-M Carriage return -- end of line edit
control-N Move cursor to the end of the line being edited
control-O Set insert mode to insert a special (control) character
control-P Pack the line -- remove blanks
control-Q Truncate the line being edited at the cursor, end edit
control-R Restore line to former (pre-editing) state
control-T Same as control-Q
control-U Right arrow or forward space function
control-X Cancel edit, edit range without changing current line
control-Y Same as control-Q
control-Z Zap (delete) characters up to next character typed
ESCAPE Same as control-A
```

A Few Last Words

=====

Once you use EDIT.Pro I think you'll find it becoming an indispensable part of your hackers toolkit. Everyone that we've sent a copy to has nothing but the highest of praise for the job Ken has done in compiling and creating the latest in "state-of-the-art" utilities for Apple programmers. Val Golding called EDIT.Pro "one of the best utilities I've ever seen for the Apple programmer" -- and we think you'll agree once you've had a chance to put it through it's paces.

If you have any \*brief\* questions or comments about EDIT.Pro, leave E-mail for me [ 75746,2550 ] and I'll get back to you with an answer. If your question or comment requires some in-depth discussion, \*do\* \*not\* leave it as E-mail on this system!!!

Please direct any lengthy questions or comments (or just general BS!) to our bulletin board system in San Diego, Cal. The number is (619) 463-0176 and the password is 'guest'. The ProLine Message System operates 24 hours a day at 300/1200 baud -- except when Morgan or Joe are updating the software. If you would rather correspond in a different manner, please write to us at the address given at the beginning of this message or call us between 9 A.M. and 6 P.M. at (619) 222-6138. Remember we're on the West Coast, and make adjustments as necessary to your calling time..

Thanks for your interest -- hope to hear from you soon!

Jerry Hewett                      Living Legends Software

```
=====
DOCUMENT electronic.juke
=====
```

+++

Welcome to UPTIME's...

^: ELECTRONIC JUKEBOX :@

Every other month we will present you with three new songs that may be enjoyed on your Apple. Each song was transcribed to its electronic counterpart with the help of Electric Duet by Paul Lutus. If you have written any songs using this package send them to us. It may just put some extra money in your pocket!

^ Files Needed @

The following files are needed to run this program:

```
ELECTRONIC JUKEBOX -Program
PLAYER -Machine Language Player
M.FUR ELISE -Song File
M.MINUET -Song File
M.HUNGARIAN DANCE NO.5 -Song File
~~~
```

~~~

===== DOCUMENT eliminator =====

ELIMINATOR SOFTDOCS
BY: DISK WIZARD

ELIMINATOR IS DESIGNED TO OPERATE WITH KEYBOARD, PADDLES, OR JOYSTICK. THE KEYBOARD IS ACTIVE REGARDLESS OF YOUR CHOICE. THIS ALLOWS YOU TO USE THE KEYBOARD WITH THE PADDLES.

KEYBOARD MODE

A -TOGGLES THRUST ON/OFF
S -TOGGLES DIRECTION OF SHIP
D -FIRES MISSLES
-> -MOVES SHIP UP
<- -MOVES SHIP DOWN
SPACE -STOPS SHIP
ESC -PAUSES GAME

PADDLES MODE

PADDLE (0) -SET DIRECTION AND THRUST
BUTTON (0) -FIRE MISSLES
PADDLE (1) -MOVES SHIP UP OR DOWN
BUTTON (1) -OPERATES THRUST

WHEN USING PADDLES, SET PDL(0) TO CENTER AND USE PDL(1) FOR VERTICAL MOVEMENT WHILE USING THE KEYBOARD FOR MISSILES AND DIRECTION. THE ADDITION OF A JOYSTICK WILL PROVIDE FOR MAXIMUM ENJOYMENT AND EASE OF PLAY. YOUR SHIP CAN BE MOVED VERTICALLY, REVERSED HORIZONTALLY BACK AND FORTH, AND THRUSTED WITH MOVEMENT OF THE STICK, REQUIRING ONLY A FREE FINGER TO FIRE MISSILES.

ELIMINATOR HAS FIFTEEN LEVELS OF PLAY. THE SPACE BAR WILL INCREMENT THE STARTING LEVEL AND ANY OTHER KEY WILL START THE GAME. NOTICE THE BLINKING SCORE IN THE CORNER. THIS IS THE BONUS YOU GET FOR COMPLETING THE FIRST LEVEL. AS YOU COMPLETE HIGHER LEVELS YOU WILL BE ALLOWED TO START AT HIGHER LEVELS. HOWEVER, THE MAXIMUM STARTING LEVEL IS FOUR. BONUS SHIPS ARE AWARDED EACH LEVEL IF YOU ELIMINATE ENOUGH ALIENS.

SHIELD TEMPERATURE IS INDICATED BY THE GAUGE AT THE TOP OF THE SCREEN. YOU ARE ALLOWED 16 HITS OF THE SMALL BOMBS EMITTED BY THE ALIENS BEFORE YOUR SHIP IS DESTROYED.

THE BLUE BAR MOVING ACROSS THE TOP OF THE SCREEN INDICATES YOUR TIME IN THE PRESENT LEVEL. THE COMPUTER WILL STOP GENERATING ALIENS WHEN IT REACHES THE FAR RIGHT.

===== DOCUMENT empire =====

Club 96 Presents...

EMPIRE 128K

"Wargame of The Century"

Lock-Picked by : The Mechanic and THE KID
Supplied by : Senkrad
Command Dox by : The Mechanic, THE KID, The Terminator, and Senkrad!
ROOF Reading : Taxcee (my dog)

COMMAND AND ORDERS

Command	Orders	Keystroke
Activate	Command	A
Center Cursor	Command	Control C
Center Screen	Command	C
Clear Orders	Orders	O
Commanders	Misc	Z*
Delete	File	Control G*
Display	Misc	Control D
Escort Ship	Orders	E
Exit Game	File	Control E
Flight Paths	Command	F
Go Direction	Orders	D
Go Home	Orders	H
Go Random	Orders	J
Ground Paths	Command	G
Info	Reports	I
Load	File	Control L*
Load Ship	Orders	L
Map Editor	File	Control M*
Move Mode Commands	Command	M
Move To	Orders	T
New Game	File	Control N*
Patrol To	Orders	P
Production Map	Reports	Control P
Save	File	Control S
Save As	File	Control A
Sea Paths	Command	K
Sentry	Orders	S
Set Production	Reports	Control X
Ship Report	Reports	Control R
Skip Move	Orders	Space Bar
Sound	Misc	Control O
Status	Reports	Control T
Surrender	Misc	Control U
Survey Mode	Command	V
Unload Ship	Orders	U
Wait	Command	W
World Map	Reports	Control W

* Not Available in DeskTop while game is in Progress.

Combat Unit	Production	Times
Army	6	5
Fighter	12	10
Destroyer	24	20
Troop Transport	30	25
Submarine	24	20
Crusier	35	30

Aircraft Carrier	48	40
Battleship	60	50

EMPIRE WORLD BUILDING COMMANDS

Command	Order	Keystroke
~~~~~		
All Land	Pieces	Ctrl T
All Seas	Pieces	Ctrl C
Blotch Land	Growth	B
Blotch Seas	Growth	Ctrl B
Build a World	Growth	W
Center Screen	Other	C
Delete	File	Ctrl D
Exit Editor	File	Ctrl E
Grow Land Mass	Growth	G
Grow Sea Mass	Growth	Ctrl G
Load Map	File	Ctrl L
Put City	Pieces	X
Put Land	Pieces	L
Put Sea	Pieces	S
Save Map	File	Ctrl S
Save Maps As	File	Ctrl A
Set City Info	Other	I
Sprinkle Cities	Growth	K
Validate Cities	Other	V
World View	Other	Ctrl W

## COLORS USED IN EMPIRE

Item	Color
~~~~~	
Land	Green
Sea	Blue
Unexplore Areas	Black
Neutral Cities	Purple
Player One Units *	White
Player Two Units *	Yellow

* Player's Units Include Conquered Cities, as well as, Armies, Fighters, Ships.

Call : The LookOut (403) 457 - 0114
 "Where Quality Kracks Count!"

Illegal Access (804) 740 - 7660
 Apple Tree MWII (816) 826 - 4158

Special Greetings To : The Freestyler and The F.U.C.K.

End of File.

=====

DOCUMENT emu.ctrl.chars

=====

The following are just the control keys and descriptions of what they do in ProTERM v1.9p and up

^A - Go to beginning of current line
 ^B - Go to end of current line
 ^C - Nothing?
 ^D - Delete one character to the right
 ^E - Nothing?
 ^F - Insert one space
 ^G - Beep <Wow!>
 ^H - Backspace
 ^I - Tab <Move 8 spaces to the right>
 ^J - Move cursor down
 ^K - Move cursor up
 ^L - Clear screen and home
 ^M - Return/Carrage Return
 ^N - Set normal text
 ^O - Set inverse text
 ^P - Set MouseText
 ^Q - Nothing?
 ^R - Does something, but cant really find out, ?Waits for 2 keypresses?
 ^S - Pause Start/Stop
 ^T - See not on bottom
 ^U - Forward one character
 ^V - Insert a blank line
 ^W - Clear screen under/past cursor
 ^X - Go to top of screen without clearing <Including ProTERM Status Bar>
 ^Y - Clear line to the right
 ^Z - Delete current line

Ok, well, with ^T, it sends a tone when you type 3 more keys after it. Or if

```
=====
DOCUMENT emu.d1500.ctrlc
=====
```

```
[:]------[:]
[:]                                     [:]
[:]           DataMedia 1500 Notes      [:]
[:]                                     [:]
[:]           Written By:               [:]
[:]           FlAsHbAcK WhIpLaSh       [:]
[:]                                     [:]
[:]           In Association With: The TraxSter [:]
[:]                                     [:]
[:]------[:]
[:] Call These Boardz:                 [:]
[:]                                     [:]
[:]           The Fourth Dimension..... [305]/792-2024 BBS/AE 2400/1200 20mg [:]
[:]           The Hotel.....[305]/431-3977 BBS 1200/300 10mg [:]
[:]                                     --- The TraxSter [:]
[:]------
```

```
=====
Format 80 columns
=====
```

Ascii Express/Datamedia 1500 screen control

```
-----
Written by FlAsHbAcK WhIpLaSh
Formatted in 80 columns
```

Cursor control:

The cursor can be moved through a control character and two following characters. The format is as follows:

<CTRL-^(x,y)>

The (Control (Shift 6)) character must be sent before the codes. The 80 column codes are as follows:

```
0123456789012345678901234567890123456789012345678901234567890123456
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNO PQRSTUVWXYZ[\]^_`abcdefghijklmnopq
! 1
" 2           B
# 3
$ 4
% 5
& 6
' 7
( 8
) 9
* 10
+ 11
, 12
- 13
. 14           A           G
/ 15
0 16           Q
1 17
2 18
3 19
4 20
5 21
6 22
7 23
```

I.e. To get the cursor to point 'A' terminal should receive: (Ctrl-^?.)
 To get the cursor to point 'G' terminal should receive: (Ctrl-^F.)
 To get the cursor to point 'Q' terminal should receive: (Ctrl-^?Q)
 To get the cursor to point 'B' terminal should receive: (Ctrl-^-")

Capitals and other forms of letters are VERY IMPORTANT.

Text Management:

```
-----
For Inverse text: Ctrl-O
For Normal text : Ctrl-N
Flashing: Non existant
```

```
To Clear Screen: Ctrl-L
To Clear screen BELOW cursor: Ctrl-K
Send cursor to top of screen: Ctrl-Y
Clear line that cursor is on: Ctrl-Z
```

More coming soon,

Call: The Fourth Dimension [305] - /792/-\2024\

FlAsHbAcK WhIpLaSh

[B]y [T]he [W]ay: [BTW]:

About the boards listed at the top...

[/ The Fourth Dimension /] is going 60 megs, and 9600/17.4k baud. Now supporting IIgs/IIe warez.
 [/ The Hotel /] will hopefully be going to a transfer system and is going 20 or 30 megs.

Just A little Note From:

- The TraxSter -

See ya later...

JAMMIN'

=====

DOCUMENT en.decrypt

=====

Encrypt/Decrypt Information File

by Ed Watkeys

November 4th, 1990

Encrypt/Decrypt is an application which allows you to gain fairly good security. It was written in ZBASIC by Zedcor, Inc. Copy this program freely; if you find it useful please send me \$10 at:

Ed Watkeys III

1616 Upper State Road

North Wales, PA 19454

By the time you read this, I should be able to be reached on America Online at EdWatkeys. Please send your suggestions.

ED encrypts files in the following manor:

1. Uses the key as random number seed.
2. Takes random numbers and processes them through a third degree polynomial.
3. Uses the bottom eight bits to XOR with a byte of data.

While this is no DES, but it works rather well when you aren't sending war plans or anything of that nature. If your security needs are that pressing, DO NOT USE THIS PROGRAM!

Each byte of the file is processed in the above manor until it is complete. You specify a source and a destination file, which ED reads from and writes to, respectively. The prefix should be set to the folder in which ED is run, because ED needs to find the run-time file(s).

Oh yes, when you enter the key, it should be a 16 bit signed integer (-32768 to 32767, if I remember correctly).

As far as plans for future versions, go, I think it would be nice if the program could encrypt batches of files with the same key, instead of requiring the user to go through the process however many times. Also, if ShrinkIt (the only NuFX program I know of) would include an option for encrypting files or putting some sort of password protection, there would be no use for this program. Unfortunately, the last time I checked, ShrinkIt has about two bytes of memory before it steps on the ProDOS global page, so this could be a problem. Perhaps I'll write a version which will encrypt files inside of a NuFX archive, although I've looked at the NuFX file format file, and it looks pretty imposing.

=====

DOCUMENT eos

=====

EARTH ORBIT STATIONS

Typed by Old Man Art

Start A New Game

LOADING EOS - Insert your game disk in drive 1, and turn on the computer. In a few moments, the title screen appears, followed shortly by a menu that asks whether your screen is in color or b/w. Type the letter C for color, or B for b/w. A second, similar menu asks if you are starting a new game or resuming an old (saved) game. Press Return or the first joystick button to select New Game. At the prompt, insert the Archive Disk, then press Return. The Archive disk contains program information for starting a new game.

MAKE A MISSION DISK - Each new game requires a new Mission Disk, where you'll store your game as it progresses. Select MAKE M DISK, and press return. A prompt asks you to put a blank disk (formatted or not) in drive 1, and press Return. If you have one drive, it takes about nine disk swaps to copy the disk. If you have two drives, put the new disk in drive 1, and the Mission Disk in drive 2, then press Return again. When the copy is completed, put the original Mission Disk in a safe place: you'll need it again whenever you start a New Game.

LOADING A NEW GAME - After you've made a new Mission Disk, you're ready to start the game. At the prompt, insert the Archive Disk in any drive. The onscreen menu offers you a choice of seven missions. If this is your first encounter with EOS, we suggest you begin with the "Research" mission. Select RESEARCH, and press Return. The game begins automatically.

LOADING AN EXISTING GAME - Follow the Loading EOS instructions above, but select OLD GAME. At the prompt, insert the Mission Disk for the game you want to play, and press Return. The game loads automatically.

Note: EOS WILL NOT RUN ON THE APPLE IIGS.

Moving Around

You can control the EOS menus with a joystick, or from the keyboard. Both options are available at all times during the game. you may move the cursor to any part of the screen at any time during the game.

JOYSTICK CONTROL - Use the joystick to move the cursor right, left, up or down. Menu items are highlighted as you move over them. Press either the joystick button to select a highlighted command or module.

KEYBOARD CONTROL - Use the cursor arrows to move up or down through the menus. Press the Space Bar to move between the Tools, Goodies, and View menus, the Station Widow, and the Command Window.

Highlight Up or Down on the menu to raise or lower the amounts of prices, payments, or other monetary figures. To change these values slowly, hold down Return or the first joystick button. If you want to change them faster, hold down the G key or the second joystick button (NOTE: To use the G command, you MUST have the Cap Lock key depressed)

If you have more than 24 space stations, are using the keyboard, and are viewing the CHOOSE A STATION window, press the Space Bar once to see the

stations on the bottom row of the screen. Use the right and left cursor arrow keys to select the station you want to work with.

Leaving EOS

If you'd like to continue with the current game at a later time, select SAVE from the Goodies menu, and follow the prompts. (You can only save one game on each Mission Disk.) To leave the program, simply turn off your computer.

-END-

=====
DOCUMENT escape.arcturus
=====

ESCAPE FROM ARCTURUS

OBJECTIVE: THERE ARE TWO GAMES ON THE ESC DISK. (SPACE FORTRESS & ESC). IN SPACE FORTRESS THE OBJ. IS TO DESTROY THE ATTACKING SHIPS AND ESC TO THE NEXT GAME.

SPACE FORTRESS : (Y) - UP

(G) - LEFT

(J) - RIGHT

(SPACE) - DOWN

THE ABOVE IS FOR KEYBOARD CONTROL.

IF YOU ESCAPE THE SPACE FORTRESS ATTACKS YOUR MISSION IS TO PROTECT THE PLANET (ESCAPE GAME)

PADDLE 0 STEERS SHIP UP AND DOWN. BUTTON 0 FIRES LASER. IF 4 SHIPS PASS YOU AND BOMB THE PLANET, IT WILL EXPLODE AND GAME ENDS.

```
=====
DOCUMENT evil.eye
=====
```

+++

EVIL EYE
By: John Romero

In this fast-paced shoot-em-up, you are an eyeball moving around shooting different enemy objects.

You can play using the keyboard or the joystick. The keyboard controls are A,Z,<,-,>. To switch between keyboard and joystick, use CTRL-J (activate joystick) and CTRL-K (activate keyboard) commands. At the game demo, pressing a key will put you in keyboard mode, while pressing a joystick button will put you in joystick mode. Pressing [ESC] will freeze the game and give you the opportunity to return to the UpTime desktop.

Files needed:

EVIL EYE
EVIL.OBJ
~~~ommands. At the game demo, pressing a key will put you in keyboard mode, while pressing a joystick button will put you in joystick mode. Pressing ESC will freeze the game.

To get back to the UpTime main menu, answer Y to the question "Do you really want to quit? (Y/N):" in the ESC mode. Enjoy!

John Romero,author of EVIL EYE

NEEDED FILES:

EVIL EYE -fast loader  
EVIL.OBJ -actual game  
~~~

```
=====
DOCUMENT fatcat
=====
```

FATCAT SOFTDOC
by
Mr. Floppy

Fatcat is a disk directory manager from Beagle Brothers. It will make a text file containing all of your floppy's catalogs. It will work with both DOS 3.3 and Prodos automatically. The commands for this program are as follows:

Key	Action
---	-----
1	Catalog of disk in drive 1
!	Catalog of disk in drive 2
2	Disk name command: 1=Display disk names in memory 2=Display name of disk in D2 3=Change name of disk in D2
3	Add disk in D2 to file in memory
4	Clear memory [asks if sure first]
5	Load file from disk to memory
6	Save memory to disk
7	Turn printer on
8	Print file in memory
9	Add descriptions to files in memory
0	Delete an entry in memory
:	Sort files in memory
-	Search for specific file, etc.
esc	Quit or abort

These commands assume that you have configured Fatcat to read from drive two, if you have not, the commands above will always access drive 1. To change the parameters (drives, 40/80 columns, etc.) just run the program and when it asks if the current parameters are OK, respond with No and change the parameters you wish to change. Fatcat will remember the parameters you used last time so that you will not have to modify them every time you run Fatcat. The rest of the questions asked by Fatcat are self explanatory.

NOTE: Do not write protect your Fatcat disk, because Fatcat sometimes writes to the disk (when running Fatcat at first, when changing parameters, etc.)

===== DOCUMENT fellow.creature =====

Creatures of Western Middle-earth

Typed: Otay and Beowulf

AN OBSERVER'S GUIDE

DWARVES: A long-lived race of valiant warrior/craftsmen. Dwarves and elves harbor a deep and abiding dislike of one another, due to an unfortunate history of mutual competition and mistrust.

ELVES: An ancient noble race if immortal folk. Elves are fair to the eye, and wise beyond human understanding.

HOBBITS: A race of cheerful, strong-willed folk who chiefly inhabit The Shire. Shorter than dwarves, and lacking the latter's over-developed musculature, hobbits are quite nimble and dexterous. Most hobbits cannot swim (Merry is an exception). Of all the party, Pippin is the most agile, Sam the most sturdy, and Frodo the smartest. Sam, being Frodo's devoted friend and retainer, will always attempt to stay by his side.

MEN: Many different nations of men inhabit Middle-earth. The inhabitants of some, such as Rohan and Gondor, are implacable foes of the Dark Lord. Others, such as Umbar and Harad, aid Sauron with troops, war elephants, and gold.

ORCS: Orcs (or goblins, as hobbits call them) are the soldiers of the Dark Lord. They are powerful, stooped and twisted creatures, with long arms, hairy knuckles, and muzzles crammed with far too many teeth. Orcs hate sunlight, except for Uruk-hai, a new, more powerful breed recently spawned in the pits of Mordor.

TROLLS: Trolls are huge, flinty creatures; they have lumpen minds and brutal instincts and serve the cause of evil. They turn to stone when struck by daylight. In recent years, the Olog-hai - a wittier, more agile version of the troll that can withstand sunlight - have appeared on the scene. Observers report that they are similar in appearance to enormous, black Orcs of unusual ugliness.

WARGS and WOLVES: The wolves of the wildlands are particularly large and ferocious, and are frequently misnamed "Wargs." Wargs proper are werewolf-phantasms which only assume their real (and deadly) shapes after darkness has fallen. Sunlight nullifies their power.

WIZARDS: A mysterious race of magicians who first appeared in Middle-earth several millenia ago.

-END-

===== DOCUMENT fellow.legends =====

The Fellowship of the Ring

LEGENDS AND COMMON KNOWLEDGE

Typed: Otay and Beowulf

For those new to Tolkien's Middle-earth, we provide the following information on items, people, and places that were either legendary, common knowledge, or were known only to antiquarians such as Bilbo and Frodo.

ANGMAR: "Iron-home," a long-dead evil realm which fell to the armies of the last alliance of men and elves many millenia ago. The king of the realm was a victim of the One Ring, and later became the chief of Sauron's Ringwraiths.

ARNOR: In ancient times, Arnor was the northernmost realm of the men of Numenor, which fell before the onslaught of Angmar in the Second Age of Earth. The ruins that dot the trollshaws and old sites, such as Weathertop, are all relics of the ancient Arnor.

BAG END: The ancestral home of the well-to-do hobbit family of Baggins (not to be confused with their cousins, the Sackville Bagginses).

BALROG: An evil spirit raised from Hell during the great wars that rocked the First Age of Earth. At least one has survived to the period of our adventure by hiding in the roots of the Misty Mountains, and was responsible for the destruction of Moria several centuries ago.

BARROW-DOWNS: A source of dread legends within the Shire. It is a place of ancient burial mounds and hostile spirits.

BLACK RIDERS: Ringwraiths of Nazgul. The Dark Lord's most loyal and trusted servants. The Nine Black Riders are forever enslaved to the Ring of Power.

BREE: A small town at the edge of the wilds. It has a mixed population of men and hobbits.

ELROND: Elrond the Half-elven, Lord of Rivendell, is an ancient and learned figure who has dwelt in Middle-earth since time immemorial. His wisdom is without question.

GANDALF: Gandalf the Grey is the second most powerful Wizard in Middle-earth. He is an old friend of Bilbo and Frodo.

HOLLIN: An ancient, long-vanished kindom of elves.

MORIA: A deep labyrinth beneath the Misty Mountains. Called, in the Dwarven tongue, "Khazar-dum," Moria was once the most fabled and powerful of the Dwarven kindoms of Middle-earth. It was here that mithril, or "Grey-flame," was mined, the basic material of magic swords, runes, and armor. The inhabitants were mostly slain by the Balrog many centuries ago, and now orcs infest its dark halls.

RADAGAST: Radagast the Brown is a Wizards learned in ancient lore. Radagast has many special skills and responsibilities concerning beasts and birds.

RIVENDELL: The dwelling of Elrond the Half-elven, called the Last Homely House East of the Sea. Rivendell is not a fortress, or a city, but a place of learning, healing, and merriment. The Wisdom of the Ages can be found within its walls.

SARUMAN: Saruman the White is the chief of the Order of Wizards, and the most accomplished of the Middle-earth's wizards. He presides over the White Council, the defense committee of the forces of good.

SAURON: The Dark Lord, Sauron is the embodiment of evil in Middle-earth. Once thought to have been destroyed during the wars against him in the Second Age, Sauron has risen again and seeks to recover his Ring of Power, which will give him the ability to vanquish the weakened forces of good and enslave right thinking people everywhere.

SHIRE: The Shire is the area between the Brandywine River and the Tower Hills which the hobbits have made their own. It is a peaceful land of small rivers, gentle woodlands, and well-tended fields.

-END-

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DOCUMENT fellow.ring.1
=====

[Complete Fellowship of the Ring Documentation]

Typed By: Otay and Beowulf



INTRODUCTION

Welcome to Middle-Earth. You are about to begin a journey into the land of hobbits, wizards, and dwarves, of Gandalf the Grey, Sauron the Great, and the Rings of Power. This is the Magical world of J.R.R. Tolkien's The Fellowship of the Ring.

This is the story of Frodo Baggins, Bilbo's heir and now the possessor of the One Ring. In the Fellowship Adventure, you play the part of the hobbit Frodo or any of his hobbit companions, Merry Pippin, or Sam. Your mission is to keep this Master-Ring from the Black-Riders, servants of the Dark Lord Sauron, as you search out the woods of Loth Lorien, the goal of the first adventure in the series. But your journey is a perilous one, fraught with danger and adventure. Each time you play the game, your path may lie in a different direction bringing new mysteries at each turn.

The fate of Middle-earth is in your hands, Frodo, but don't let that worry you. Good luck, and may you return home to tell the tale!

BRINGIN TOLKIEN TO THE COMPUTER

In playing this adventure game, you will assume the roles of the characters from J.R.R. Tolkien's fantasy world. You must specify the actions and movements you want to perform, and the computer will react accordingly.

In producing the Fellowship of the Ring Adventure, it has been necessary to expand beyond the scope of the original book. It was not possible to follow the book precisely and still allow players to make their own decisions or to tread paths the characters never walked in Professor Tolkien's novels. To limit the game that way would leave you little reason to play; you could simply read the book and save yourself a great deal of trouble.

As it is, you, the player, will be faced with situations that are entirely unfamiliar - even if you are deeply versed in The Lord of the Rings - but that are totally in keeping with the fantasy world created by Tolkien. Even familiar situations can prove to be dangerous and challenging. Fans of the books may be in for a nasty surprise if they plunge confidently into the depths of dire (but expected) encounters, secure in the knowledge that familiarity with the books is enough to ensure easy victory.

To those unfamiliar with Professor Tolkien's works, the game is readily playable. At no point of the game is a knowledge of the book assumed, although it is recommended that the book be read, if for no other purpose than to become more familiar to Middle-earth and its inhabitants.

So play well, have fun, and if the wargs get you, just remember: you knew the job was dangerous when you took it!

A BRIEF HISTORY OF THE RING WARS

In the middle years of the Second Age of Middle-earth, Sauron the Great, master of the evil realm of Mordor, beguiled the great Elvin Smith Celebrimor of Eregion to teach him the craft of making Rings of Power. Three rings were made to grant the Elf lords their powers of wisdom and magic. Then Sauron and Celebrimor labored together to create the Seven and the Nine, which were given to the great lords of Middle-earth. Unknown to Celebrimor, Sauron had betrayed him. Deep within the bowels of Mount Doom, Sauron constructed the Ruling Ring, a ring that could enslave the wearers of other rings to him forever. So powerful was the spell that Sauron bound much of his power into it, forever linking his fate with that of the ring. When Celebrimor realized that Sauron had betrayed him, he hid the Three Elvin-rings from him. Over the ages, the Dwarven rings were nearly destroyed by the Dragons, but their wearers were even so brought into all-consuming greed and folly before they fell. The Nine-Mortal Lords "faded" from use of the rings and became the Nine Ringwraiths, forever enslaved in Sauron's will. A bitter war took place, with the prize being the fate of Middle-earth. At last Sauron was over-thrown, and the ring was cut from his finger by the human King Isildur.

Isildur was in turn slain by orcs in an ambush many years later, the ring slipping from his finger as he tried to swim across a river to safety.

Several millenia later, the ring was plucked from the river by a hobbitlike creature named Deagol. Deagol was tricked into giving up the ring by Smeagol, a skulking character, who saw the ring and coveted it. Smeagol was soon corrupted by the ring and eventually fled with his prize to the heart of Misty Mountains. There he hid himself in the darkness, and became to be known as Gollum. The ring sustained his life force for many dark centuries before it sensed its master stirring once again.

Many years ago, Bilbo Baggins found the ring in a goblin's den, where it lay falling from Gollum's finger. After many adventures, Bilbo returned at last to his home in the Shire. (much of this background material is covered in the book *The Hobbit*.)

The ring has now passed onto Frodo Baggins, Bilbo Baggins heir, Bilbo having long since retired and moved to Rivendell. In recent times, Gandalf the Wizard (an old and trusted friend) has told you of the ring's dark history. The servants of the enemy even now are seeking the One Ring, and the hobbit Baggins who possesses it.

Gandalf tells you to take the ring to Rivendell, far to the east, and there to seek Elrond, who will advise you what to do with the now dangerous treasure. As the Enemy is watching the roads he advises you to travel by circuitous routes, and to adopt a pseudonym for the time being.

To aid you in your quest are your three hobbit companions: Merry, Sam, and Pippin joining you at the Bag End, your comfortable home in Hobbiton-on-the-Hill. Merry awaits the group at the house in Crickhollowm to the east of Hobbiton, by the western bank of the Brandywine river.

A quality inherent in the ring is that it makes the wearer invisible to all but the most powerful creatures. Gandalf has warned you not to make use of the ring yourself, lest you also "fade" and become a Ringwraith. Gandalf will aid you as much as he can, but he has many tasks to perform to make the passage to Rivendell as safe as possible for you. For all intents and purposes you are on your own.

COMMUNICATING WITH THE PROGRAM

The Fellowship of the Ring includes a very sophisticated communications program called *English*. *English* will allow you to enter commands and converse with other characters in familiar sentences. Those of you who

have played the *Hobbit Adventure* will find that the *English* language has been enhanced in this program.

More details are given later about the power of *English*, but the important thing is that you can enter your commands in simple, everyday language, instead of computer terminology.

The Fellowship of the Ring has a very large vocabulary, so you should have little difficulty expressing your ideas and commands. Commands will usually take the form of actions, and this guide contains an abbreviated list of some of the actions you can use. The list, however, includes only some of the most common commands and words; the program actually knows over eight hundred words, and hundreds of these are available to you in playing the game. The best thing to do is to try a word. The computer will tell you if it does not know it. In some cases, if the computer does not understand your command, it will ask for a clarification.

THE SCREEN DISPLAY

The Fellowship Adventure screen is divided into two windows; the description window and the communications window. The adventure descriptions-the text that describes your surroundings and the activities around you - appear in the description window at the top of the screen. Whenever you enter a new location, the computer will give you a full description of the area, the objects that are in plain sight, and a list of exits that are visible.

The second time you enter a location, the computer will give you only a brief description of the location. If you wish to obtain a more complete description, simply enter the command, *LOOK*, and the computer will reply the lengthy text.

The description window is also the area where the location graphics appear. The picture will appear the first time you enter a location, each time you use the *LOOK* command. The graphics provide you with pictures of the immediate location, though no characters will be pictured. These are left to your imagination.

Below the adventure script, an arrow indicates the communications window, or the space in which you type in the actions you wish to perform. These action commands will appear on the screen in capital letters.

Once you have typed in and entered your commands, the computer will perform and otherwise acknowledge your action, or inform you that it does not understand the command. Once the computer has acknowledged an entry, it will print any new text that results from your actions, and then indicate that it is ready to receive a new command.

ROLES YOU CAN PLAY

One of the most fascinating features of the Fellowship of the Ring is that it offers you the opportunity to play any one of seven roles within the game, and even switch roles while playing. This not only allows you to "be" hobbit characters throughout the game, but it also allows up to four people to play the game simultaneously.

SINGLE-PLAYER GAME

When you first load the Fellowship Adventure one of the questions you will be asked is:

WHICH HOBBIT CHARACTERS DO YOU WISH TO PLAY?

Frodo, Merry, Pippin, or Sam?

At this point you will choose all of the characters you might like to be

during that session of play. If you are playing for the first time, it is a good idea to choose only the role of Frodo. The first character you enter is the first character you will "be" in the game.

Whenever you chose to play just one character, the computer will take control of the other three characters and ensure that their actions are in keeping with their personalities. It also means that whenever you wish these characters to perform specific actions for you, you will need to instruct them by talking to them directly, using the SAY TO command (see the section of the English language).

When you play more than one character, the computer will look after the characters you are not controlling at the moment, but only in situations where you have not instructed them to do anything for a while, or when the entire party moves somewhere else. This means that you will need to instruct each character much more carefully than if you had chosen only one character for the same session.

When you are ready to change characters, simply enter the command:

BECOME (name)

and you will be playing as that character. You may also change characters by entering:

I AM (name)

or omit either command and simply enter the name of the character you wish to become, as in:

PIPPIN

Once you have changed characters, it is a good idea to enter the LOOK command, since you may very well find yourself in a different place and situation.

MULTIPLE-PLAYER GAMES

The easiest way to play with more than one character is with a friend or three, each of you controlling one of the hobbits. In this way, you can help eachother throughout the adventure, and the human interactions on top of the computer will make the game that much more fun.

The initial selection of characters and the commands to change characters are the same for a multiple player game as for a single player game. You select all the characters you want to play at the very beginning of the game. To change characters use the BECOME or I AM commands, or simply enter the name. By using these commands, you and your friends can "take turns" playing the different characters you have selected.

THE ENGLISH VOCABULARY

Included here is a llist of actions you can use when playing The Fellowship of the Ring. Please note that this does not include the "magic words," or special verbs for actions that can be used only in certain areas and at certaing times. Finding out what these words are and how to use them is all part of the fun of the game. Remember that this is only and abbreviated vocabulary list. You can always try a new word to see if the program will understand it.

MOVEMENTS

North (N) Northeast (NE) Northwest (NE)
 South (S) Southeast (SE) Southwest (SE)
 Up (U)
 Down (D)

ACTION VERBS

ATTACK	GO THROUGH	SHATTER
BLOW	HELLO	SLASH
BREAK	KILL	SLICE
BUY	KNOCK ON	SMASH
CARRY	LIFT	SMOKE
CLIMB	LIGHT	STRANGLE
CLOSE	LOCK	STRIKE
CROSS	OPEN	SWIM
DRINK	PAY	TAKE
DROP	PICK UP	THANK
EAT	PULL	THROW
EMPTY	PUT ON	TURN
EXAMINE	PUT OUT	UN LOCK
FILL	READ	UNROLL
FOLLOW	RUN	WAIT
GET	SAY TO	WEAR
GIVE TO		

SPECIAL COMMANDS

BECOME	LOOK	SAVE
HELP	NOPRINT	SCORE
INVENTORY	PRINT	LOAD
QUIT		

-END PART 1 OF 2-

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DOCUMENT fellow.ring.2
=====

RULES OF ENGLISH

English is a very sophisticated language-recognition program developed especially for micro-computers. It allows you to communicate with the program in a language and a structure familiar to you.

The rules of English are simple. The main thing to keep in mind is that each instruction must be in the form of verb + noun where the noun (or pronoun) is explicit or implied. Each sentence must have a verb.

You can use punctuation to separate sentences. Use commas and periods as you normally would. The only limitation on commands is that they should not be more than 128 characters long.

The following are some examples of the way English sentences can be constructed. Note, however, that the specific example shown may not be valid in this adventure.

When an action does not directly relate to an object, only a verb is necessary.

WAIT

RUN

This is also the case if you simply wish to travel in a particular direction.

SOUTH OR S

EAST OR E

If the action relates to an object or a character, it must be identified by a noun. English grammar applies, any order of different parts of a sentence is usually not critically as in:

WEAR THE RING

GO THROUGH THE DOOR

DROP THE ROPE ONTO THE TABLE

Adjectives must precede the nouns they describe. If it sounds in English, it's probably good English.

THROUGH THE HEAVY AXE AT THE HORRIBLE ORC

LIGHT THE WOOD PIPE WITH THE MATCH

Commands you give the computer must be specific and unambiguous. If there are two doors in a room, one red and one green, and you were to say:

GO THROUGH THE DOOR

The computer is placed in a quandary as to which door to put you through. In such situations, the program will put you through the first door it finds, which may not be the door you intended.

In this case, it would be better to specify exactly which door you mean.

GO THROUGH THE GREEN DOOR

The meaning of many verbs can be altered by the use of prepositions, such as:

ON, OFF, ONTO, and so on. Examples of English sentences are:

ATTACK WITH THE SWORD

PICK UP THE RING

In English, prepositions usually go before the noun, but in some cases it sounds more natural to put them after the noun, such as:

TURN THE LIGHT ON

PICK THE GOLD UP

Prepositions can also be used to specify the position of an object, or where you wish an action to be performed, such as:

PUT THE GOLD INTO THE BAG

TAKE THE PIPE FROM THE BOX

USE OF AND

You can use the word "and" with all its normal meaning in English. This means, among other things, that you can enter more than one sentence or perform more than one action at a time.

TAKE THE LAMP AND THE MATCH FROM THE CUPBOARD

DROP THE SHORT AND THE LONG SWORD

TAKE THE GOLD AND RUN

ABBREVIATION OF COMMANDS

You can abbreviate commands. For instance, to attack a green knight, you can say

KILL GREEN WITH SWORD

The computer will see that "green" corresponds with "green knight". Note also that the definitive article "the" can be omitted. In most cases, the computer will understand exactly what you mean.

Unfortunately, if the green knight is standing before a green door, then the word "green" is no longer enough to identify the knight only, in which case you should say:

KILL KNIGHT WITH THE SWORD

Multiple commands can be entered by placing a comma between instructions.

OPEN BOX, TAKE AXE, GIVE AXE TO SAM

Each of the commands will be carried out by the computer in the order in which they are listed.

SPECIAL COMMANDS

In addition to the extensive English vocabulary, there are few commands specific to the Fellowship of the Ring. The following is a list of these special commands.

LOOK (which can be abbreviated to L) lets you see where you are, and all

that can be seen at a particular location, and all possible exits. This command should also be used after you take over the role of another character at another location (that is, after you use the BECOME command).

INVENTORY (which can be abbreviated to I) gives a full description of all inventory you are currently holding or carrying.

EXAMINE is a standard English word, but special mention of it is made here because it is also very useful when trying to obtain more information about your surroundings in Middle-earth. Examining objects also reveals information about those objects that is not readily apparent from a brief look.

SAVE allows you to save the game for play at a later time.

LOAD loads a previously saved game. After loading, play continues from the point where the game was saved.

SCORE tells you what your percentage of play is.

PAUSE suspends the game until you press another key.

PRINT allows you to send text of the adventure to your printer and to the screen.

QUIT stops the game and returns you to the beginning.

INTERACTING WITH OTHERS

CONVERSING

The Fellowship of the Ring allows you to converse with the characters you meet on your journey. When you encounter a character you wish to speak to, the general form of the command is:

SAY TO (name) "(sentence)"

As in:

SAY TO GANDALF "HELLO"

Saying hello is usually enough to draw most characters into conversation.

You can ask the characters within earshot to perform specific commands that are of use to you, such as:

SAY TO GANDALF "KILL THE ORC WITH THE SWORD"

SAY TO PIPPIN "TAKE THE GOLD FROM THE ORC"

It is not necessary to use the full form of:

SAY TO (name). You can just use the name of the character you wish to speak to, followed by the message, such as:

PIPPIN "GIVE THE GOLD TO ME"

Of course, because all the other characters act independently there is no guarantee that they will do as you ask. Their decision will be based on a number of factors, including their allegiance to you, what they are currently doing, and so on.

A few of the characters you encounter will have messages they will deliver only when you identify yourself or ask certain questions.

To solve some of the problems you will face in The Fellowship of the

Ring, you will need to cooperate with other members of your party. Thus you will need to become familiar with the SAY TO command. Remember, too that each character has its own limitations, such as degree of strength, and so on.

COOPERATING

In the Fellowship of the Ring you must lead a group of Hobbits through perilous situations. It will be necessary to tell other characters, including members of your own group, what you would like them to do in given situations.

Be warned that, in order to succeed, certain actions must be performed by certain characters. Thus you will need to become familiar with the varied talents of each member of your party.

Since you will often be in a group, it is comforting to know that it is not necessary to instruct each and every character on what he should be doing every moment. Most will follow your lead without any prompting. It is also possible to instruct characters to perform actions that will exclude the rest of the party, as in:

SAY TO SAM "CLIMB THE TREE"

This instruction will not result in a mass exodus to the treetops by all members of your party within earshot. Only Sam will climb the tree. If you leave without instructing him and he can still see you, Sam will follow you and perhaps eventually, catch up with you.

You can speak directly to any character and ask him to perform an action involving another character, as in:

SAY TO PIPPIN "GIVE ROPE TO FRODO"

Friends and members of your party are more likely to respond favorably than strangers, unfriendly creatures, or followers of Sauron. But even friends may say no from time to time.

Besides following your lead, most members of your party will come to your defense if you are attacked by enemies. There is no cosmic law that stops you from ruthlessly attacking a member of your own party. Do not be too surprised, however, if the other members of the party are a little cooler toward you afterward.

You can talk to yourself, but the result is not going to be impressive. Suicide is quite possible, as long as you name your character as in any other attack. You could say (while playing the part of Frodo)

KILL FRODO WITH AXE

In all probability, the result will be something like: "You attack you with the axe. With one well placed blow, you split your skull." If you find this an attractive alternative, then by all means be our guest.

The Fellowship of the Ring allows you another method of instructing the hobbits in your party using the BECOME command you can take over another character for a short time. (It is recommended that you become familiar with the adventure from a single player point of view before tackling the multi-character game). You can say:

BECOME PIPPIN

This technique can be used whenever a player wishes to put a character through a series of complex actions, or react to ongoing situations that will confront the character. This is a useful means of conducting operations without endangering the Ring, or for controlling the party if you want the hobbits to split up and go separate ways.

Remember that you can only become one of the four hobbit characters you selected at the beginning of the game. For example, if you enter FRODO, you can only become FRODO. If you enter FRODO, SAM, MERRY, you can not become PIPPIN.

Note: The Original copy of The Fellowship of the Rings comes with a copy of J.R.R. Tolkien's The Lord of the Rings (partly for reference).

GENERAL CONCEPTS

During the adventure, you will encounter many objects. Some are useable as weapons, others are intended as food or drink, still others are used as containers in which to carry things. In Middle-earth liquids behave as they do in our world: they cannot be carried without a container. Also, a character cannot lift too heavy an object or carry too great a load.

Most containers must be opened in order to reach their contents. Once a container is opened, you may look into it or take out the objects in it. Once the objects inside a container have been exposed, they may be used. Some containers may be transparent, allowing you to see the contents without opening the container itself.

Some doors are locked. This means that you need either a key or magic to unlock them, or that someone on the other side of the door must open the door for you.

FINDING YOUR WAY AROUND

There are 10 possible directions of travel: NORTH, SOUTH, EAST WEST, NORTHEAST, SOUTHEAST, NORTHWEST, SOUTHWEST, UP, AND DOWN. You can also abbreviate directions for each word.

PASSING THROUGH THE PORTALS

If you want to go through a portal, such as a door or a window, it is quite possible to say so directly, as in:

GO THROUGH GREEN DOOR

When you first enter a location and are given the full text description, all visible doors will be mentioned. However, on a second visit to the location, the brief description may not include all doorways, but only mention objects that can be seen in the immediate area. This doesn't mean that the doors or portals have disappeared, you can always get the full description by typing look or L.

FOLLOWING

If a character you have an interest in leaves an area, you may wish to follow him or her. For instance, if Strider suddenly said that he was going to leave, you might decide to:

FOLLOW STRIDER

LIGHT AND DARK

In some areas, there will be no natural light. Unless you have the means to create light - such as matches and a candle - you will receive no description of the area in darkness. Once a light has been struck, you will be able to see.

If you choose to travel in darkness, you may avoid meeting some unwanted characters. Remember, however, that orcs can see perfectly well in the dark.

MAPPING THE ADVENTURE

You should keep a map of your travels to assist you in finding your way. However, even your own carefully constructed maps cannot be entirely relied upon. Some locations can be revisited in a straightforward manner. With others, the direction you traveled to get from Point A to Point B may not be the opposite of the direction you must travel to get from Point B to Point A. For this reason, you would be wise to construct a grid listing locations you have already entered and directions you used to get to them from other locations.

COMBAT

Hobbits are poor fighters, albeit brave, but can often surprise even themselves by their abilities in one-on-one combat (don't let this give you any false confidence, however.) To attack an opponent, you must tell the computer that you wish to KILL it with a specific weapon, such as:

KILL WOLF WITH SWORD

If you do not specify a weapon, the program will assume that you wish to ATTACK with your bare hands. This is never a good idea.

It is not possible to attack inanimate objects. They must be BROKEN.

No matter how well you arm them, be wary of throwing hobbits into the midst of a gory battle. Being rather slight little creatures, they have a tendency to die with spectacular suddenness.

Persistence in combat is rewarded, but be careful: Most opponents hit back, and an already-wounded character is much more susceptible to being killed than a healthy one.

Some weapons (like axes) can be thrown at an opponent. This removes the weapon from your character, and drops it into the area in which you stand. If you throw your only armament, you will, of course, become unarmed, and unfortunate situation.

CARRYING ITEMS

During the course of play, you will have to pick up and carry inanimate objects. Once you have found and item, simply TAKE the item in order to pick it up and carry it, as in:

TAKE ROPE

To check in equipment you are already carryingm take inventory of your character by typing INVENTORY or I. If you do not want the item you have picked up, you are carrying too much at once, or you already have a rope, you can say:

DROP ROPE

As an alternative, you may give the item to another member of the party, as in:

GIVE ROPE TO SAM

Some objects not only add weight to your burden, they increase your effective size. This can be troublesome if you intend to go through a small door or tunnel, so beware of adopting the pack rat syndrome.

FATIGUE, WOUNDS, AND EATING

All characters are rated for strength and stamina. During the game these characteristics may suffer due to combat fatigue, wounds or simple weariness.

As a character is wounded, its strength ebbs, and its hold on life grows more tenuous. And, as time passes, a character becomes more and more

tired as energy is used up. Highly strenuous activities, such as combat, may exhaust it even more.

The best remedy for depleted strength or stamina is a good meal and some rest. In your travels, you may encounter skilled healers and magical herbs that cure fatigue and damage. Needless to say, these items are rare.

REAL TIME

In Middle-earth a wandering party might encounter a variety of characters. Some are friends, some are foes, but many simply ARE. Such characters live lives of their own, traveling about the lands attending to their own affairs. If a character you meet does not fall over himself to help you, try being patient. Just say hello, or try waiting until he notices you.

Remember, while you and your band of hobbits are busy saving Middle-earth from the terror of Sauron the Great, other creatures and characters are busy with their own lives and adventures. As time goes on and things change for you, so they change for Middle-earth. Things may not be as they were when you return to a particular location.

A FINAL WORD

The best hints for playing the Fellowship of the Ring can be gained through reading the book. Otherwise, the only real hints that can be given here are these:

Be careful. If you race through the game, you will only limit your enjoyment of it, but will fail to pick up valuable details that might come in handy later on in the game.

Be smart. Hobbits are neither wise, strong, nor magical. If you are going to get anywhere, you will have to use your wits.

Don't be scared to try risky actions. If you take no risks, you will find no rewards. In other words, "Nothing ventured, nothing gained." And keep a good pair of running shoes handy.

You're on your own!

-END PART 2 OF 2-

=====
DOCUMENT fetus
=====

Senseless Violence I:
Survival of the Fetus

(C)1989 Pangea Software
Written by: Brian Greenstone
Artwork by: Dave Triplett

Game Completed 11/14/89

The Deal:

This program is SHAREWARE, but only in a weak sense. We aren't going to tell you to delete it if you don't pay in 10 days, rather, we are simply asking you, the public to help support us in our efforts to keep the GS alive since nobody else seems willing to do it. We have spent over \$300 in long distance phone bills to get this game finished, but in order for us to continue to create games like this, we need some financial help. All that we are asking is that you send us ---> \$5 <--- so that we can pay our bills and continue to do more of these things. Please, if you like this game or any of our other freeware games like Grackel, Copy Killers, or Quadronome, then please please please send us the \$5 donation. The future of the GS depends on it. If you do not want to pay \$5, then we ask you to at least donate \$5 to the American Cancer Society or some other charitable organization as a gesture of good will. A third alternative would be to buy our MEGA game "Xenocide" which is published by Micro Revelations (1-800-442-6002). The game is about \$32 from the mail order places.

Send \$5 contributions to:

Pangea Software
10918 Kirwick
Houston, TX 77024

The Game:

The object of Senseless Violence I is to get all 5 of the baby bottles in as little time as possible. Use the keypad to move the baby. Try to avoid falling in the water by jumping on logs and rafts, and avoid being hit by the fireballs or the cars. To pick up a bottle, simply walk the baby over it. You will then need to return to the bottom of the screen in order to drop the bottle off (dropping is automatic when you return). If you are killed on your way back home, then the bottle you picked up will be put back. You can only carry 1 bottle at a time, and you get 3 lives. The timer is a thermometer meter that runs up from 0 to 6. If the meter reaches 6, you will not be killed, but you have done a poor job. Play against a friend and see who can get the best time (my best time to date is 2.3). When the game is over, press a key to return to the main menu.

The Keys:

's' : toggles the internal speaker on and off.
', ' : lowers the game volume
'.' : raises the game volume
<-- : lowers the music volume
--> : raises the music volume
<ESC> : pauses the game and the music
'q' : quits the game

7 8 9 : upleft up upright
4 6 : left right
1 2 3 : downleft down downright

The Other Stuff:

When the program boots, there is a very loud "static screen." If you would like to prevent the static from blowing your eardrums out, hold down the Open-Apple key until you see the screen.

To skip or terminate the opening title sequence, press the <spacebar>.

This program was developed under System Disk 5.0 running on a 1.75 meg GS. I have no idea how much memory this game requires, but it will probably run on a 512K GS. If it doesn't, then try booting it from Prodos16 V1.6. If this still does not work, then get more memory.

To contact either Brian or Dave, here is some info:

Brian Greenstone:

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 USMail: 10918 Kirwick
 Houston, TX 77024
 ** or, for a faster response **
 USMail: 709 W. 21st #203 (ONLY until April 1990)
 Austin, TX 78705

Dave Triplett:

America Online/AppleLink: DTriplet
 Genie: D.Triplett1
 Compuserve: 72220,1763

The Support:

* Pangea Software now has its own section on America Online in the Direct Connect section. Visit us there for talk about this and all of our other games including the critically acclaimed XENOCIDE!

* B&D Productions also has a support BBS where you can talk to us and download our other products. Call (916)894-0483 over at Dave's place.

We are always looking for new game ideas, so feel free to send us your ideas.

The Disclaimer:

* The characters and events portrayed in this game are fictitious and are not based on anyone, living or dead.

* Yes, this game does contain some material which may be offensive to some viewers, but even the most prude of humans should be able to take a joke which is exactly what this program is... a JOKE!!! HAHAAHAHAHA!!! So if you are a prude, don't give us a hard time or call us Sadists. Just laugh and enjoy it. This game is an amalgam of ideas that OTHER people gave to us, so blame them if you want to get all upset about a harmless joke.

P.S. If for some strange reason you don't like this game, just ask yourself one question: How much did you pay for it, eh?

DOCUMENT file.a.trix.doc

File-A-Trix

File-A-Trix is a file-utility Classic Desk Accessory (CDA) for the Apple IIgs. It allows you to perform various operations on files and disks without leaving whatever application you happen to be working in. Because it is a CDA, you can use File-A-Trix from within virtually ALL applications, desktop or text-based, GS/OS or ProDOS 8.

File-A-Trix can perform the following functions (or "Trix"):

- + Catalog any online disk, showing the contents of any folder
- + Copy files from one disk or folder to another
- + Move files -- i.e., copy and then delete the original
- + Delete files
- + Lock and unlock files, or change their type or auxtype
- + Rename files
- + Create a new folder
- + View or print text files, and the text content of other files
- + Find a file on a disk, using its name or partial name
- + Initialize (format) 3.5" disks

File-A-Trix is freeware. You are welcome to keep it, use it, and to distribute it freely to anyone. Don't expect much in the way of user support, however. No further updates to File-A-Trix are planned.

New Stuff

For those familiar with earlier versions of File-A-Trix, here is a list of the features added since version 1.0:

1.01: Manual path entry under GS/OS allows "/" as a separator. First-letter keypress file selection now cycles around to the start of file list. The number of volumes File-A-Trix can display is no longer limited to ten. "View" now displays the name of the file being viewed, shows percentage position in the file, allows viewing of any type of file, jumps to start of the file being viewed with OpenApple-1, and allows printing of files.

1.02: Fixes some problems with copying Macintosh files on HFS disks, and with accessing over a network. Other minor bug fixes and changes.

1.03: Fixes a problem causing incomplete disk names when doing a "Volumes" under ProDOS 8.

1.1: Move function added. Find File function added. Set Preferences function added. Files being viewed can now be searched for occurrences of a word or phrase. Prefix numbers can be used when manually entering a path under GS/OS. OpenApple-X exchanges prefixes after copying, moving, or finding. OpenApple-A selects all files in current folder. OpenApple-I shows additional info on highlighted file in file dialogs. <Clear> key clears input when entering text for renaming, etc.

1.1.1: Fixes a bug in Find File that sometimes appears under ProDOS 8.

Installing File-A-Trix:

As with all CDAs, File-A-Trix is installed by copying it to the System:Desk.Accs folder of your startup disk, and restarting your computer. File-A-Trix requires System 5.0 or later. (Note to beginners: to access the CDAs installed in your system, press OpenApple, <control> and <esc> simultaneously.)

Using File-A-Trix:

I've tried to design File-A-Trix to be as easy to use as possible. For the most part, the use of File-A-Trix should be pretty self-evident from the on-screen prompts. You should read these instructions, however, to avoid any confusion. In this section I'll go over each of the available functions in turn.

File-A-Trix's opening screen shows its main menu, listing the functions available (Catalog, Delete, etc.). Highlight the function you want by using the up/down arrow keys, or pressing a letter key, then press <return>.

File-A-Trix's File Dialogs

In most of File-A-Trix's functions, a text based file-selection dialog is used. Instead of clicking mouse buttons, the keyboard is used to navigate with this dialog.

As on-screen prompts in the file dialog note, you open a highlighted folder with <return>, close the current folder with <esc>, choose a volume with <tab>, and if you are selecting a file or files, use the space bar to select and deselect. To toggle the select status of ALL the files in the current folder, press OpenApple-A. The up/down arrow keys are used to scroll through the list of files, and OpenApple together with an arrow key will hop you through the list a screenful at a time. OpenApple-1 and OpenApple-9 send you to the beginning and end of the file list, respectively. Pressing a letter key will scroll the highlight bar to the next file (if any) that begins with that letter.

If you like, you can manually type in a path (that is, the volume name, followed by any nested folder names) by first pressing either "/" or ":", and then typing the rest of the path. Under GS/OS, you can use a prefix number as part of an entered path, for example: "8:Old.Files". To do this you must first delete the ":" or "/" that normally begins a pathname.

In any function's file dialog, you can get some additional information on the highlighted file by pressing OpenApple-I. This will cause the following information to be printed at the bottom of the screen: The file's type in hexadecimal (rather than the usual three-letter abbreviation) its AuxType, the date and time the file was created (the last-modified date and time are shown in the file dialog listing), and the file's size in bytes.

And finally, OpenApple-period will always exit you from the file dialog, returning you to File-A-Trix's main menu.

Catalog

This function lets you simply browse through your volumes and folders. For informational purposes, locked files are flagged with a "*", and extended GS/OS files are flagged with a "+".

Copy

Copies files. First you select the file or files you want to copy (again, pressing <space> selects and deselects files), and then press <return> to proceed and choose a destination folder for the files. In this second stage, the file-selection dialog will only show folder files in its list, with the words "Select Current Folder" as the first item in the list. When you have navigated to the folder you want, press <return> with "Select Current Folder" highlighted. The files will then be copied. Because of limitations to ProDOS 8 (see below under "Limitations") extended GS/OS files can't be copied under ProDOS 8.

File-A-Trix supports disk-swapping -- you can copy files between two disks using one disk drive -- but you'll find that this requires a large number of disk swaps.

After copying, the folder that File-A-Trix initially opens for subsequent functions will be the destination path you selected for the copy. You can quickly switch back to the source, or "copied-from" folder by pressing OpenApple-X in the file dialog.

Move

This function is the same as Copy, except that after copying a file, the original will be deleted. The instructions for using Move are identical to those for copying, so I won't repeat them. One point of interest is that if you are under GS/OS and you are moving a file from one folder to another on the same disk, then File-A-Trix will use the GS/OS "ChangePath" command, which allows files of any size to be moved almost instantly.

Delete

Deletes files. You select files -- as usual -- with the space bar, and then press <return> to execute the deletes. As the files are being deleted, a list of the selected files will appear in the file dialog window. A slight delay will occur before each file is deleted to allow you to cancel the operation by pressing OpenApple-period. If you are deleting several files and want to speed up the process, you can hold down the space bar to bypass the delay. Locked files must be unlocked before they can be deleted, and folders must be empty before deleting. Because of

limitations to ProDOS 8 (see below) extended GS/OS files can't be deleted under ProDOS 8.

Lock/Unlock, Set Attributes

Most users will probably only be interested in the lock/unlock portion of this function. The "Set Attributes" portion allows you to change the type and auxtype of files; this is more for the "power user". To perform either operation, first select the files you want to modify, and then press <return>. Each selected file will then be presented to you in turn, and you will be allowed to lock or unlock it and/or to enter a new type and/or auxtype for it. After making these modifications to a file, pressing <return> will save the changes to disk and proceed to the next selected file.

Rename

Allows you to rename files. As usual, select the files you want to rename, and press <return>. Each selected file will then be presented, and you will be prompted for a new name. Press <return> and the new name will be written to disk, and File-A-Trix will proceed to the next selected file. Extended GS/OS files can't be renamed under ProDOS 8.

Create New Folder

With this function, the file dialog will prompt you to select a location for the new folder. As when you are selecting a destination folder for copied files, only folder files will be listed, with the words "Select Current Folder" at the top of the list. When you have navigated to the disk and folder you want, press <return> with "Select Current Folder" highlighted, and you will be prompted for a name for the new folder. Enter this, press <return>, and the folder will be created.

View Text File

This File-A-Trix function allows you to display ASCII text files (type TXT), source code files (SRC), and AppleWorks word processing files (AWP). When you use File-A-Trix under GS/OS, you can also view Teach files (type GWP). Teach files can't be viewed under ProDOS 8 because they are extended GS/OS files, and can't be opened by ProDOS 8.

View behaves a little differently from the other File-A-Trix functions, most notably in the fact that you can only select a single file at a time for viewing. When you select "View Text File" from the main menu, the file dialog will only display folders, TXT, SRC and AWP files, and Teach files if GS/OS is active. A file is selected by pressing <return>, and that file will then be displayed. As prompt buttons on the text-display screen note, you can view the next page (screenful) of the file by pressing down-arrow, the previous page with up-arrow, and exit from the text with OpenApple-period.

As another prompt button mentions, you can also print a text file from the View function by pressing OpenApple-P. When you do this, the text will (with no further prompts) be sent to a printer connected to your IIgs's printer port. A printing in progress can be canceled by pressing OpenApple-period or <esc>.

As is noted by yet another prompt, you can find any occurrences of a word or phrase in the file you are viewing by pressing OpenApple-F. When you do this you will be prompted for the text you want to find. Enter this and File-A-Trix will scan through the file. If and when the text is found, the scan will stop at that page and the searched-for text will be highlighted. This search is not case sensitive; entering "Cat" will also find "cat" and "CAT".

The View option can also be used to display the text contents of ANY type of file, rather than just the various types of text files mentioned above. To do this, hold down the OpenApple key when you press <return> with "View" highlighted. When you do this the file selection dialog will display ALL types of files. If a file is an extended GS/OS file and you are under GS/OS, the data fork of the file will be displayed.

Find File

Much like the Find File NDA provided with System 6, this function allows you to locate files by entering their name or partial name. First you select the volume you want to search, and then you enter the full or partial name you want to search for.

While entering the filename, you also select whether you want File-A-Trix to find files that match, start with, or include the text you type in. This selection is made by using the up/down arrow keys to highlight "matches", "starts with" or "includes" in the text-entry prompt. After you enter the text to search for, File-A-Trix will scan the disk you selected. If a match is found, the contents of the folder the matching file is in will be displayed, and the matching file will be highlighted. At this point you can navigate around the disk as if you were doing an ordinary "Catalog" function with File-A-Trix. You can also continue the search by pressing OpenApple-F (as a prompt button notes) to find any other matching files. The search will be resumed from wherever the highlight bar is when you press OpenApple-F. A disk search in progress can be canceled by pressing (and holding for a moment) OpenApple-period or <esc>.

After successfully finding a file, File-A-Trix's other functions (Copy, Delete, etc.) will initially open the folder containing the found file. If more than one matching file was found (via OpenApple-F to find again), then you can switch back to the folder in which the previous matching file was found by pressing OpenApple-X in any function's file dialog.

Initialize 3.5" Disk

Initializes, or formats, 800K 3.5 inch disks. First you are asked to select a drive, and then to enter a name for the new volume. If GS/OS is active and you have the HFS FST (available with System 6.0 and later) installed, you will be given the option of initializing the disk as an HFS volume.

Set Preferences

The final item in the main menu is Set Preferences. This allows you to customize certain aspects of File-A-Trix's behavior. The procedure for changing preferences is clear from the on-screen prompts: The up/down arrow keys select an item in the preferences list, and the left/right arrow keys modify the selected preference. Pressing OpenApple-period will exit you from the function and keep the preferences you've entered, but they will not be saved to disk. <Return> also exits, saving the new settings to disk so they will be the same the next time you boot your computer. To ensure that your preferences are indeed saved to disk, use the Finder's (or another launcher's) "shut down" procedure before turning off your IIgs. Here is a list of the preferences you can set:

Hot keys in Main Menu: With this item set to "on", pressing a letter key under File-A-Trix's main menu will send you directly to the function corresponding to that letter. With the default, "off" setting you press a letter key and then <return>.

Alphabetize file lists: Normally File-A-Trix displays the list of files in its file dialogs in alphabetic order. By setting this preference to "off", files will be displayed in their true order.

Auto-scrolling when selecting: This affects File-A-Trix's behavior while you are selecting files in any of the functions that requires selecting (Copy, for example). When it is set to "on", the highlight bar will automatically scroll to the next file after you select a file with <space>.

Delay between deletes: As mentioned above, File-A-Trix normally pauses briefly between files when deleting several files at once. You can bypass this delay by setting this preference to "off", or by holding down the space bar during the delete process.

Default in Find File: This controls whether the default option in the Find File function is "matches", "starts with" or "includes".

Limitations, etc.:

There are two types of limitations that may effect your use of File-A-Trix: Limitations of File-A-Trix itself, and limitations of ProDOS 8. The former are unlikely to be significant, and the latter are only a factor when you use File-A-Trix from within a ProDOS 8 application.

File-A-Trix Limitations:

File-A-Trix will not show more than 255 files in a folder. If you have more files than that in a folder, only the first 255 will be listed. You should manage your folders better than that.

When selecting files for any of the functions that require selecting, a maximum of 100 files can be selected at once.

The maximum path length (The volume name, plus all nested folders, plus the name of the file being worked on) that File-A-Trix allows under GS/OS is 200 characters. (ProDOS 8 limits path lengths to 64 characters.)

With HFS disks, filenames can contain special characters that aren't in the standard character set. Since these characters can't be displayed on the text screen that File-A-Trix uses (they require the graphical desktop screen), File-A-Trix will display any such characters as "--".

ProDOS 8 Limitations:

Probably the most notable limitation of ProDOS 8 is that it can't perform certain functions on "extended" GS/OS files (also called "forked" files). Such files cannot be deleted, copied, moved or renamed under ProDOS 8, though they can be locked and unlocked. As noted above, extended files are marked with a "+" beside their name in File-A-Trix's listing when you select files for deleting, copying, moving or renaming under ProDOS 8. Such files can be deleted, copied, moved and renamed if you are using File-A-Trix from within a GS/OS program, so they aren't flagged with a "+" under GS/OS.

If you use OpenApple-I to get information on a highlighted file while under ProDOS 8, and the file is extended, the "Bytes:" count will be approximate rather than exact. The number will be preceded with "~" to signify this.

Under GS/OS, File-A-Trix makes use of the various FST's (File System Translators) that allow you to work with Macintosh HFS disks, DOS 3.3 disks, and other "foreign" filing systems. These FST's do not function under ProDOS 8, so any non-ProDOS disks you have online will not appear in File-A-Trix's Volumes list when ProDOS 8 is active.

As noted above, ProDOS 8 limits path lengths to 64 characters. Since the maximum file name length under ProDOS is 15 characters, File-A-Trix will limit prefixes to 64-15, or 49 characters.

When renaming or copying a file under ProDOS 8, or creating a folder under ProDOS 8, the use of lower case letters in the file's name is not supported. If you rename a file under ProDOS 8 that was previously named under GS/OS, the order of upper/lower case letters will be preserved in the new name. Thus, "Old.Name" will become "BettEr.name", for example.

For technical reasons it is impossible to absolutely guarantee that File-A-Trix will function properly from within ALL ProDOS 8 programs. However, it works perfectly with the vast majority of such applications.

Occasionally, you may call up File-A-Trix and see the message: "ProDOS is busy right now; press a key to exit, and try again in a moment." If this happens, it's typically because you are in a program that has a frequently-updated time display. Usually, you can "get through" to File-A-Trix by just trying again, but sometimes you may have to go to some other part of the application you are using for File-A-Trix to work.

Enjoy!

Karl Bunker
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Brookline, MA 02146

GENie: K.BUNKER
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CIS: 71540,1767


```

CTRL - I = INVERSE
CTRL - J = LINEFEED
CTRL - K = REVERSE LINEFEED
CTRL - L = SET LINEFEED SPACING (CTRL-L + #)
CTRL - M = CARRIAGE RETURN
CTRL - N = NORMAL (CANCELS INVERSE)
CTRL - O = OVERLAY (CANCELS R & T)
CTRL - P = POINT MODE (DRAW WITH A SINGLE DOT)
CTRL - Q = QUIT (BACK TO GRAPHIC WRITER MENU)
CTRL - R = REPLACE (CANCELS O & T)
CTRL - S = SET SPACING BETWEEN CHARACTERS (CTRL-S + #)
CTRL - T = TRANSPARANT. INVERT BACKGROUND (CANCELS R & O)
CTRL - U = FORWARD SPACE
CTRL - V = VIEWPORT. VIEW FILE PARAMETERS
CTRL - W = SET WINDOW (USE I,J,K,M TO SET)
CTRL - X = BACKSLASH CHARACTER
CTRL - Y = YANK SCREEN FROM GRAFILE (RESTORE)
CTRL - Z = ZERO CURSOR (MOVE TO TOP LEFT OF SCREEN)
ESC      = USE I,J,K,M TO MOVE CURSOR.

```

FONTRIX FONT EDITOR
=====

SET PARAMETERS:

```

SET NAME - 1 TO 15 CHARACTERS (ALPHANUMERIC AND PERIOD ONLY)
TOTAL CHARACTERS - 1 TO 94
FIRST CHARACTER - "!"-FIRST "-"-LAST
HORIZONTAL CELL SIZE - 1 TO 32
VERTICAL CELL SIZE - 1 TO 32
PROPORTIONAL - YES/NO

```

EDIT SET COMMAND KEYS:

```

I,J,K,M, AND ARROWS = MOVE CURSOR TO CHOOSE WHICH CHARACTER TO EDIT
V = VIEW THE ENTIRE SET (AGAIN TO CANCEL)
C = COPY ONE CHARACTER CELL INTO ANOTHER
O = OVERLAY ONE CHARACTER CELL OVER ANOTHER
RETURN = SELECT A CHARACTER FOR EDITING
Q = QUIT AND RETURN TO FONT EDITOR MENU

```

EDIT SINGLE CHARACTER COMMAND KEYS:

```

I,J,K,M,AND ARROWS = MOVE CURSOR WITHIN CHARACTER CELL
SPACE-BAR = CHANGE A PIXEL(ON/OFF)
CTRL - E = ERASE CONTENTS OF CHARACTER CELL
CTRL - P = POSITION WITHIN CELL. (I,J,K,M,ARROWS)
CTRL - X = RETURN TO EDIT SET WITHOUT SAVING CHANGES TO CHARACTER
RETURN = RETURN TO EDIT SET AND SAVE CHANGES TO CHARACTER

```

NOTES ABOUT GRAPHICS
=====

ONE VERY IMPORTANT ASPECT OF FONTRIX IS THE ABILITY TO PRINT GRAPHICS ALONG WITH YOUR GRAFILE. IN OTHER WORDS, YOU WANT TO BE ABLE TO NOT ONLY WRITE WORDS AND PRINT THEM OUT; YOU WANT TO BE ABLE TO INCLUDE PICTURES ALONG WITH THE WORDS. WELL, FONTRIX CAN DO THIS. THERE IS THIS THING CALLED A GRAPHIC; WHICH IS JUST A FANCY WORD FOR A HI-RES PICTURE (YOU KNOW, THE KIND YOU SAVE AT \$2000 AND \$2000). IF YOU HAVE A SPECIFIC PICTURE THAT YOU WANT TO LOAD, JUST USE THE COMMAND THAT LOADS THE GRAPHIC, AND MAKE SURE THAT YOU ARE ALREADY POSITIONED IN YOUR GRAFILE (WHICH SHOULD ALREADY BE OPEN AND READY) SO THAT WHEN THE PICTURE IS LOADED, IT WILL LOAD INTO THE SPOT IN YOUR GRAFILE THAT YOU WANT IT TO. THIS WAY YOU COULD LOAD ABOUT 16 SCREENS ACCROSS AND ABOUT THE SAME DOWN WORTH OF GRAPHIC PICTURES AND PRINT THEM ALL OUT AT THE SAME TIME! THIS SPECIAL FEATURE CAN BE VERY USEFUL ONCE YOU FIND THE USE.

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=====

DOCUMENT fontrix.app

F O N T R I X
BY DATA TRANSFORMS
Arrakis - 612/561-0939

BOOT-UP
=====

FIRST, CONFIGURE YOUR FONTRIX DISK FOR YOUR COMPUTER AND PRINTER.

MAKING A GRAFILE
=====

WHAT IS A GRAFILE? A GRAFILE IS A BINARY FILE WHICH HOLDS ALL OF THE EXTENDED SCREENS THAT YOU WILL BE WRITING ON. THE GRAFILE MUST BE MADE BEFORE YOU START WRITING ON THE SCREEN. ONCE MADE, THE GRAFILE RECORDS INFORMATION EACH TIME YOU GO OFF THE SCREEN YOU ARE DRAWING ON AND THEN GIVES YOU MORE ROOM, UNTIL YOU ARE OUT OF IT.

FIRST, CHOOSE THE "G" COMMAND FROM THE MAIN MENU AND GO TO THE GRAPHIC WRITER SECTION. ONCE THERE, YOU SHOULD LOAD YOUR FONT THAT YOU WISH TO USE ON THE GRAFILE. IF YOU DON'T KNOW WHAT FONT YOU WANT TO USE, JUST HIT THE "D" COMMAND AND CATALOG THE DISK. ONCE YOU'VE FOUND THE FONT YOU WANT TO LOAD, JUST LOAD IT BY HITTING THE "F" COMMAND AND TYPE IN THE FILE NAME, WITHOUT THE "SET" PART, IT LOADS THAT AUTOMATICALLY.

NEXT, YOU NEED TO OPEN THE GRAFILE. DEPENDING ON THE SIZE YOU WISH TO OPEN IT AS, YOU WILL NEED, ROOM ON ANOTHER DISK FOR IT. IT'S A GOOD IDEA TO HAVE 1 DISK COMPLETELY FOR GRAFILES. ANYWAYS, CHOOSE DTHE "O" COMMAND AND ENTER THE HORIZONTAL AND VERTICAL SECTORS (A TABLE FOR DIFFERENT SECTORS ARE AT THE END OF THIS SECTION). THE DISK WILL WHIR FOR A WHILE AND THEN, THE GRAFILE WILL BE MADE.

NEXT, CHOOSE THE "W" COMMAND AND MAKE SURE THE GRAFILE DISK IS IN THE DRIVE. YOU WILL NOW BE PROMPTED IN FRONT OF A BUNCH OF COMMANDS, THESE ARE THE HELP COMMANDS, AND CAN BE DISPLAYED AT ANYTIME BY HITTING <CTRL-A>. NOW YOU CAN TYPE WHATEVER YOU WANT, AND WHEN YOU ARE READY TO CLOSE THE GRAFILE, JUST TYPE <CTRL-Q> AND THEN YOU WILL BE BACK AT THE MENU.

NOW, TYPE "C" FOR CLOSE AND THE GRAFILE WILL BE CLOSED. YOU CAN NOW GO TO THE DUMP SECTION AND PRINT OUT YOUR GRAFILE. IN THAT SECTION ALL YOU HAVE TO DO IS INPUT THE NAME OF THE GRAFILE AND THEN JUST MAKE SURE YOUR PRINTER IS ON.

HORIZONTAL & VERTICAL SECTORS
=====

HORIZONTAL SECTORS FOR A RGUALAR 80 COLLUMN PIECE OF PAPER IS 16.
HORIZONTAL SECTORS FOR A LABEL IN PERFORATED HOLDER IS 6.
MINIMUM HORIZONTAL SECTORS IS 5.
MAXIMUM HORIZONTAL SECTORS IS 20.
MINIMUM VERTICAL SECTORS IS 6.
MAXIMUM VERTICAL SECTORS IS 20.

GRAPHIC WRITER COMMAND CONTROL KEYS
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```

CTRL - A = ASK FOR HELP (DISPLAYS SCREEN)
CTRL - B = SET BACKGROUND COLOR (CTRL-B + #)
CTRL - C = CAPS LOCK & UNLOCK
CTRL - D = DEFAULT WINDOW (RESELECTS WINDOW TO FULL SCREEN)
CTRL - E = ERASE WINDOW
CTRL - F = SET FOREGROUND COLOR (CTRL-F + #)
CTRL - G = GRAPHIC INPUT SELECTS CURRENT GRAPHIC INPUT DEVICE
CTRL - H = BACKSPACE

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DOCUMENT gale.ctl.codes
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/\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
/\
  G.A.L.E. CONTROL CODES
  BY: THE PENGUIN
  FOR
  THE SOUTH POLE.....[312] 677-7140
/\
/\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\

```

IMMEDIATE MODE COMMANDS

COMMAND	MEANING
/linenum	NORMAL edit
//linenum	COMPACTED edit
CTRL-G	GET edit directly
.A linenum (,inc)	AUTO numbering
.B	BLOAD parameters
.C d-srchstr-d-chngstr-(d)-(innum or rng)	CHANGE - regular
.C d-srchstr-d-d-(lnnum or rng)	CHANGE - delete
.D	DISK space free
.E	ESCAPE function
.H	HIDE
.L linenum	LINEFIND
.M	MANUAL numbering
.P	POINTERS
.R (N-lnnum)(,I-inc)(,F-lnnum)(,L-lnnum)	RENUMBER
.S d-srchstr-(d)-(lnnum or rng)	SEARCH
.U	UNHIDE
.V	VARIABLE XREF
.X	EXHUME
.+	APPEND
CTRL-@	HELP screen
decnum	DECIMAL to hex
\$ hexnum	HEX to decimal
<--- and --->	See .A

EDIT MODE COMMANDS

COMMAND	MEANING
CTRL-A	CASE TOGGLE
CTRL-B	COMPACT
CTRL-D	DELETE
CTRL-E	END OF LINE
CTRL-F	FIND
CTRL-I	INSERT
CTRL-K	KILL
CTRL-O	OVERRIDE
CTRL-P	PEEK
CTRL-Q	QUIT
CTRL-R	RESTORE
CTRL-S	START OF LINE
CTRL-T	TRUNCATE
CTRL-Z	ZAP
CTRL-@	HELP SCREEN
ESC	MACRO INSERT/RETURN

```
EXIT EDIT MODE
TYPEOVER
```

STANDARD ESCAPE FUNCTIONS (MACROS)

CODE	CHARACTER STRING	CODE	CHARACTER STRING
CTRL-@	BRUN MACROSCOPE-CTRL-M	A	ESC-A
CTRL-B	BLOAD	B	ESC-B
CTRL-C	CHR\$(	C	ESC-C
CTRL-D	DELETE	D	ESC-D
CTRL-F	FLASH	E	ESC-E
CTRL-G	GOSUB	F	ESC-F
CTRL-H	CTRL-H,H,H,H,H,H,H,H,H-*	G	GOTO
CTRL-I	FOR I = 1 TO	H	HTAB
CTRL-J	FOR J = 1 TO	I	ESC-D-*
CTRL-K	MID\$(	J	ESC-B-*
CTRL-L	LEFT\$(	K	ESC-A-*
CTRL-N	NORMAL	L	LIST-CTRL-M
CTRL-O	INVERSE	M	ESC-C-*
CTRL-P	POKE	N	NORMAL
CTRL-R	RIGHT\$(	O	ONERR GOTO
CTRL-S	STR\$(	P	PEEK(
CTRL-U	CTRL-U,U,U,U,U,U,U,U,U-*	Q	HOME-CTRL-M
-		R	RETURN
/		S	SAVE
0	LIST	T	TEXT
1	CATALOGD1-CTRL-M	U	UNLOCK
2	CATALOGD2-CTRL-M	V	VTAB
CALL-151-CTRL-M			
? (Z)	?PEEK(Z)+PEEK(Z1)*256-^M	<	D\$=CHR\$(4)
>	D\$=CHR\$(13)+CHR\$(4)	^	ESC-D,D,D,D,D,D,D-*

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DOCUMENT game.of.chess

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[[[]]][][[[]]][][[[]]][][[[]]][][[[]]][][[[]]][][[[]]][][[[]]]

How About A Nice Game of Chess

By Larry Atkin

*** Softdocs by Buffalo Bill ***

[[[]]][][[[]]][][[[]]][][[[]]][][[[]]][][[[]]][][[[]]][][[[]]]

How about a nice game of Chess is very similar to Odesta Chess 7.0 except that it is designed for the beginner and has a 6 chapter tutorial that teaches you the basics of chess. The game itself will play up to 10 levels of difficulty (0-9).

The game is designed to operate in the Apple //c or //e with 64 k and a mouse if you have one, if you don't then you can use a paddle or the cursor keys to move about the menu and the board.

The screen contains a chess board, a menu to the right and along the bottom and 2 status lines at the bottom left. When you first boot, the program goes through an intro which you can terminate by pressing the space bar or the return key.

To use the menu, move the cursor to your selection and then press return or the appropriate paddle button or mouse button,

The main menu is as follows:

Flip

Switches white and black on the board at any time, during or before play.

Change

Allows you to change a piece for another piece or clear the board and set up your own situation.

Level

Change level of play (degree of difficulty).

List

Show moves in standard chess notation.

Inward

This feature will show what chess pieces are affecting any specific square (attacking or defending). To use this feature, move the square white cursor to the square you are interested in using the appropriate device and then press return or the paddle or mouse button.

Outward

Shows which squares or pieces are affected (attacked or defended) by the piece in question. Used the same way as inward.

<-Board

Allows you to begin a game by moving to the chessboard and selecting and moving a piece.

Manual

Computer will not move, allowing 2 players to play against each other.

Switch

Computer will switch sides.

Auto

Computer will play itself. You will be able to select the level of play for the other side also.

Restart

Sets up Board for a new game

Quit

Just what it says.

Tutor

Takes you to the chapter menu at the bottom of the screen so that you can go through the tutorial chapters

Conditional Features.

Advice

Chess will suggest a move for you.

Option

Allows you to return to board from menu in order to continue play.

Back

Take move back, try again.

Replay

Shows a replay of a move that was taken back.

Program

When playing in manual mode, this instructs Chess to make the next move and return control to you.

Rerun

Replay all the moves in the game up to that point.

Resume

Restore Game to most advance point. Used if rerun is halted before entire game has been replayed.

Messages will appear at the bottom of the screen explaining what each function is.

To move a chess piece, select it with the cursor, press return. Then select the square you wish to move to and press return again.

Using the mouse with Chess is a little different all you have to do is move the cursor to where you want and click, this goes for commands as well as moves, (much easier isn't it). Then move the mouse to the final location and click, if the move is valid the square will light up and all will go well, if it's not, you'll find out.

Skill Levels

0...Introductory

2...Intro level, Chess averages about 5 sec./move + opening lib.

5...Moderate Strength, Chess averages about 20-40 sec/move

The opening library contains around 7000 moves. Advice is usually only available above level 3.

Levels in depth:

Level	time/move	Search ply
0-2 Intro.	1-5 sec	0-1
3-6 Intermediate	10-80 sec	0-4
7-9 Advanced	1-6 min	2-6

Every Command is explained in a message line at the bottom of the screen, so it is very difficult to get lost. If you are in the middle of a game, pressing the "A", "I", or "O" keys will access the advice, inward or outward functions directly, without the need to go to the menu (that is if they are available at the time). Experiment with the tutorial as it is quite good and will allow you to practice. Pressing return at any point in a demo or tutorial will interrupt the computer and put you back in control, however sometimes it is fun to just watch. Have patience though, the computer moves slowly. Have Fun !!!

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DOCUMENT gamma
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Gamma Force in Pit of a Thousand Screams

Cracked by Space Pirate

Thanks to: Beowulf & The Sentry

Call : The Silver Tongue (312) 759-1916

This exciting superhero series features a water beast of indomitable strength, a human gifted with flight of future visions, and an elfin princess of unearthly power! In Gamma Force No. 1, see the origins of the trio as they team up to free their planet from an evil overlord and his pit of a thousand screams!

Everything you need to know about Infocomics:

You need only 4 keys...

The RETURN key to "jump" when you see a turned-down page,

The LEFT ARROW key (-) to rewind

The RIGHT ARROW key (->) to fast forward

The SPACE BAR to stop rewinding or fast forwarding or to pause

But, you can use...

The A key to advance one frame

The 1 key to change speed to SLOW

The 2 key to change speed to NORMAL

The 3 key to change speed to FAST

The B key to insert a Bookmark (story will restart from this point)

The R key to restart from the beginning

End of File

Lobbers: Lobbers attack by throwing rocks over the tops of dungeon walls. They run away so if you intend to fight them you have to corner them.

Sorcerers: Sorcerers can disappear while moving. They will attack evasively by flickering in and out of sight. They are immune to attack when invisible. Fight them hand to hand or shoot them.

Death: The Dark Prince drains health from you. He will steal up to 200 points from you and then die. Death cannot be killed by any weapon except magic.

Dungeons:
=====

The dungeons are filled with a variety of objects...some good some evil. You should collect the good ones and avoid the evil ones. Here are a few pointers to help you tell the difference.

Potions: Poisons grant magical powers to those who know how to use them. When a potion is collected and used, all the monsters on the screen will be affected by the proportion to the magical power of the hero wielding the potion. Some potions. Some potions can be activated by a shot, but the effect is not as great.

Special Potions: These are just like regular potions when they are shot, but if they are collected, they give special bonuses to the player.

Food: Plates of cold food increase both your health and your score by 100 points.

Cider: Cider is the same as food, except it can be destroyed by a careless shot.

Poison: Looks a lot like cider, but it takes one special power and 100 points of health when consumed.

Keys: Score 100 points for collecting each key. Keys are used to open doors.

Treasure: Treasure chests are worth 100 points each.

Amulet: A magical device that confers invisibility for a short time.

Walls: Most walls are impenetrable, but some of the older ones can be crumbled by multiple shot.

Traps: Glowing floor patterns that make some walls disappear

Transporters: These powerful devices transport you to the nearest visible transporter. If there are several within the same distance then one is chosen at random. There are ways to influence the direction of travel if you can find them.

Exits: These labeled holes lead down to specified level. If you do nothing for 30 seconds, then all walls will disappear, freeing all monsters. After another 30 seconds (if you avoid and combat) the walls turn into exits.

When you use an exit, there is a chance that you will end up in a treasure room. Collect all the valuables you can and escape within the time limit for bonus points. No score will be awarded if you do not escape.

In general, players are immune to each others shots, but in some portions of the dungeon, they may be stunned or injured by careless fellow adventures.

Keyboard Control:

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Player one: The right Apple key is your fire button. Return may also be used as a fire button. The following keys define movement.

[U] Up Left	[I] Up	[O] Up Right
[J] Left		[L] Right
[N] Down Left	[M] Down	[.] Down Right

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DOCUMENT gauntlet

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Gauntlet Instructions:

Heroes:

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Thor the Warrior

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Armor: Tough Skin (eliminates 20% of damage)
Shot Power: Excellent (twice the normal power)
Hand to Hand: Excellent (battle axe can destroy generators)
Magic Power: Poor (damages most monsters and no generators)

Thyra the Valkyrie

=====

Armor: Shield (eliminates 30% of damage)
Shot Power: Poor
Hand to Hand: Good (sword, can destroy generators)
Magic Power: Moderate (damages most monsters and generators)

Merlin the Wizard

=====

Armor: None
Shot Power: Good
Hand to Hand: Poor (bare hands cannot destroy generators)
Magic Power: Excellent (destroys all monsters and generators)

Questor the Elf

=====

Armor: Leather (eliminates 10% of damage)
Shot Power: Poor
Hand to Hand: Moderate (dagger cannot destroy generators)
Magic Power: Very good (destroys almost all monsters and generators)

The Goal:

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The goal is for one or two adventurers to survive the perils of the dungeon while collecting valuables and destroying evil creatures. Each level is determined by your health score, which will go up and down as you progress thru the levels.

The Villains:

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Scattered throughout the depths of the dungeon you will find Monster Generators. Creatures spew forth from these generators at regular intervals. Each generator creates a specific type of villain. There are three generator levels, creating monsters from merely strong to awesomely deadly. You can destroy the generators by shooting them or, for the tougher heroes, by pounding them into rubble or by using magic.

The monsters come in three levels of toughness (except death, more on him later). A level one ghost will take one hit to destroy, while a level three demon will take three hits to destroy.

Ghosts: Stay away from ghosts. They will only hit once then disappear. That one hit can hurt a lot, so shoot them don't run into them.

Grunts: Grunts will immediately move up and attack you with their clubs. Either fight them hand to hand or shoot them from the distance.

Demons: Demons will shoot fire balls at you from the distance, and they will bite fiercely when they get in range. The fireballs are far more harmful than their bite. Fight them hand to hand or shoot them.

The arrow keys may also be used to move player ones character.

Player two: The left Apple key is your fire button. Use the D button to fire if player one is using a joystick. The following keys define movement.

[W] Up Left	[E] Up	[R] Up Right
[S] Left		[F] Right
[Z] Down Left	[X] Down	[C] Down Right

Reminders:

- =====
- Hold the fire button to shoot.
- Release to fire button to move.
- Shoot the generators to destroy them.
- Move toward monsters for hand to hand combat.
- Hand to hand combat score more points than shooting.
- Food increases scores by 100 points.
- Poisoned food looks a little different than regular food.
- Treasure is worth 100 points
- Team play gives the best chance for survival
- Avoid death unless you have a potion and someone who can use it effectively
- Cooperate in treasure rooms

END OF INSTRUCTIONS

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DOCUMENT gba.1

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GBA Championship Basketball Two-on-Two

Player's Guide for Apple IIgs Computers

Documentation by: The Doc

Released by Surfer Bill

King of the Court

Basketball. The lightning-paced sport for super-athletes. The game of strategy, guts, stamina, and--most of all--teamwork.

It's all here, in GBA Championship Basketball: Two-on-Two.

Two-on-Two helps you develop the strategies and skills to make you play like a pro. You can play with a teammate and learn teamwork. You can can pick your offensive alignment while your opponent sets his defense. And when your opponent has the ball, you can choose among several defensive strategies.

Two-on-Two gives you lots of ways to compete: one player against the computer, two players against a computer team, two players against each other, practice sessions, and even a 24-team league competition climaxing in the GBA Championship Game.

This Player's Guide includes all the information you'll need to play Two-on-Two. The first section, "Getting Started," tells you how to load the program into your computer.

"The Chalkboard Menus" describes all your options for playing the game, from the two practice modes to the four game modes. There's also a DEMO mode that lets you watch two computer-controlled teams go head-to-head against each other. This section also tells you how to use the joystick and command keys.

"The Scouting Report" shows you how to rate your playing skills for inside and outside shooting, dribbling, stealing, quickness, and jumping. In addition, you'll get your first look at your computer opponents--all the teams you'll have to beat to make it to the GBA Championship game.

In "How to Pass and Shoot," you'll find all the information you need to develop your passing game and become a team player. And you'll learn all about jump shots, hook shots, slam dunks, tip-ins, and rebounds.

"The Player Draft" tells you all about your superstar computer teammates-- 10 players in all, each one patterned after a real professional basketball star.

"Calling Plays" describes the offensive and defensive strategies you'll need to outsmart and outplay your opponents.

The "Penalties" section explains fouls and other violations and describes how you can use the clock to your advantage by calling time-outs.

"After the Game" tells you how to read the box scores from the game you just played and how to start a new game.

Getting Started

You must have version 2.0 ROM chips in your Apple IIgs to play GBA Championship Basketball. If your computer is not so equipped, see your Apple

dealer.

To load GBA Championship Basketball: Two-on-Two into your computer, follow these steps:

(Note: Do not write-protect your GBA Championship Basketball diskette.)

You may use a joystick or the keyboard to play a one-player game of GBA Championship Basketball. During a two-player game, player one uses the joystick and player two uses the keyboard. See "Joystick and Keyboard Controls".

If your computer is off:

1. Insert the GBA Championship Basketball diskette in your disk drive, label side up.
2. Turn on your computer and monitor. (Press the <esc> key to skip the title and credit screens.) After the title and credit screens appear, the PLAY OPTIONS chalkboard appears.

If your computer is already on:

1. Insert the GBA Championship Basketball diskette in your disk drive, label side up.
2. Hold down the command and control keys and press the reset button at the top left of the keyboard.

Sound

If you like, you may press <control> and <s> at the same time to turn the sound on and off. You can also press the up and down arrow keys to gradually raise and lower the sound level.

The Chalkboard Menus

Following the introductory music and credit screens, a green chalkboard appears on your screen with three choices: DEMO, GAME, and PRACTICE. You'll notice the GAME option is highlighted in white. If you're using a joystick, pull back or push forward on it to highlight the option you want, then press the button. If you're using the keyboard, use the up and down arrow keys to highlight the option you want, then press <return> to make your selection.

(Note: Both players can use the up and down arrow keys to highlight selections and the <return> key to make selections while at any of the chalkboard menus.)

A new chalkboard then appears. What you see depends on which type of action you've selected.

If you selected PRACTICE or GAME you are prompted to select between ONE-PLAYER or TWO-PLAYER action. You should now skip to "Practice Options" to practice or "Game Options" to play a real game.

If you selected DEMO, the computer controls all players, and you're allowed to choose between SELECTED PLAYERS or RANDOM PLAYERS.

When you select RANDOM PLAYERS, the computer picks both players for both teams, then displays a chalkboard showing who was drafted. Press <return> to start the game.

When you select SELECTED PLAYERS, a chalkboard displaying the name of 10 players appears, and you're allowed to pick both players of both teams. You're prompted to first pick TEAM ONE PLAYER ONE and TEAM ONE PLAYER TWO, the repeat to process for TEAM TWO PLAYER ONE and TEAM TWO PLAYER TWO.

To make your selections, use the joystick or appropriate up or down key to highlight the player you want. Then press the button (with the joystick) or <return> to make your selection.

After you've selected a player, highlight CONTINUE and press <return> or the joystick button to move to the next chalkboard.

You'll then see a screen that confirms your choices and tells you what color jersey each player will wear when play begins.

Press <return> to start the game. The computer-controlled cagers will play four six-minute quarters, moving up and down court automatically each time the ball changes hands.

You can pause play by pressing <esc> (this does NOT stop action if a player is shooting). To return to the initial chalkboard menu and select another game before the demo contest is complete, press <control> and the <r> key together.

Practice Options

No one wants to hit the courts cold. Just as in real basketball, it's a good idea to warm up a little before playing a game, so you may want to select PRACTICE from the opening chalkboard menu. Two-on-Two offers you two practice modes: ONE- and TWO-PLAYER.

Use the joystick or the up and down arrow keys to highlight the option you want, then press the joystick button or <return>.

ONE-PLAYER (one player on the court by himself)

You can practice with either the keyboard or the joystick; use the up and down arrow keys to highlight your choice-- JOYSTICK or KEYBOARD-- then press <return> to practice. See "Joystick and Keyboard controls" for instructions on controlling your player.

If you selected JOYSTICK, make sure your joystick is plugged into your computer's joystick port. You can practice shooting inside and outside and work on your hook shots, jump shots, slam dunks, tip-ins, and rebounds. The scoreboard shows you how many points you've run up during this practice session. When you hit a basket or toss the ball out of bounds, the ball is automatically returned to you. Press <esc> to return to the chalkboard menus when you're through practicing.

TWO-PLAYER (two players on the court)

Player One uses the joystick, Player Two the keyboard in two-player practice games. Notice that Player One is always in the blue jersey, Player Two in light red. You can practice different shots, from hooks to dunks, as well as dribbling, rebounding, and tip-ins. (All tip-ins are scored to the shooter.) You can play straight one-on-one or other "pick-up" games such as "Around the World" and "HORSE"

How to Play "Around the World." Player One tries a shot from the baseline-- say, at the edge of the key (the key is the area between the inner white line and the basket). Every time the player makes a basket, he or she moves further along the edge of the key, working around the key to the baseline on the other side of the basket. If Player One misses a shot, Player Two gets a turn. When a player misses a shot, he must shoot again from the same spot on his or her next turn, and stay in that spot until he or she makes a basket. The first player to go "Around the World" wins.

How to Play "HORSE." Player One makes a shot from anywhere on the court. Player Two must then make the same shot or he will get an "H." When Player One misses, Player Two can make a shot from wherever he or she wants, and Player One has to make the same shot. Everytime a player misses, he gets another letter until the word HORSE is spelled. Whoever gets all the letters first, loses. (Note: The letters in HORSE do not appear on the screen. You

must keep track of the "score" yourself).

As with the ONE PLAYER option, each basket you hit is recorded on the scoreboard, and there are no fouls or time clock.

To leave the practice game and return to the chalkboard menus, press <esc>.

The Scouting Report

Once you're warmed up and ready to play ball, you still have to rate your playing abilities on a screen called The Scouting Report. It might look like this:

```
INSIDE.....2      OUTSIDE.....6
DRIBBLING.....3   QUICKNESS.....5
STEALING.....5    JUMPING.....3
```

RACE: BLACK/(WHITE)

INSIDE refers to your shooting accuracy inside the key.

OUTSIDE refers to your shooting accuracy outside the key.

DRIBBLING rates your maneuverability with the ball.

QUICKNESS rates your maneuverability both on defense and when you're not handling the ball on offense.

STEALING rates your ability to outmaneuver the ball handler and steal the ball.

JUMPING rates your ability to block shots and come down with rebounds.

The highest rating you can give yourself is 6 (very skilled), and the lowest is 2 (minimally skilled). Notice that INSIDE and OUTSIDE are grouped together, as are DRIBBLING and QUICKNESS and STEALING and JUMPING. Within each of these groupings, the total skill level always equals 8.

So if you choose to rate yourself 3 as an outside shooter, you must be a 5 inside. If you choose a 6 rating at stealing, you'll only be a 2 at jumping. After all, you can't be great at everything. Remember, too, that in a game situation you'll want to select your offensive and defensive strategies according to your strengths and weaknesses.

Game Options

TWO-PLAYER HEAD-TO-HEAD

Each player has a computer teammate. Each player names his team, then types in his own name and rates himself when the Scouting Report screen appears (see page 7). (When entering your name or a team name, you may use up to 12 letters.)

Player One uses the joystick to highlight the choices and the joystick button to change the ratings and move between BLACK and WHITE. Player Two then uses the arrow keys to highlight CONTINUE and presses <return> to make the selection.

Each player also picks a computer teammate from the Player Draft, which includes ten pros, each one patterned after a real-life basketball superstar. (For details of the Player Draft, see the appropriate section).

A STARTING LINEUP SUMMARY screen lists player names, with corresponding uniform colors, and shows which team is "home" and which is "visitor".

TWO PLAYER TEAMMATES

When you select this option, you and a friend team up against a hard-driving

computer team. You first type in a TEAM NAME of 12 letters or less, then pick a DIVISION to play in. The division you choose determines the caliber of your computer opponents. NORTH is the easiest division, SOUTH is tougher, EAST is tougher still, and WEST is the toughest of all.

Take a look at the chart. It gives you a breakdown of all the teams in every division. Notice that the rating totals are higher in the tougher divisions.

For example, in the easy North, the INSIDE and OUTSIDE ratings total 7; but in the tough West, they total 10. Since the players in the West are better, the West teams have higher ratings.

When Player One types in his name (12 letters or less) and presses <return>, the Player One Scouting Report allows Player One to rate his abilities. Then Player Two types in his name and rates himself. In this mode, Player One has the light blue jersey, Player Two the dark blue one.

ONE PLAYER EXHIBITION GAME

You and your computer-controlled teammate challenge a computer team. Type in your TEAM NAME and YOUR NAME and pick a DIVISION. Again, the division you select determines how tough your opponents will be. Next, rate yourself on inside and outside shooting, dribbling, stealing, quickness, and jumping.

Finally, you select your computer-controlled teammate from the Player Draft. Do you want the great outside shooting of Larry Berg or the dynamite inside moves of Kareem Ugrin? Strategy is important, because you'll want a player whose talents will complement your own, someone who's going to be effective against your opponents. (Again, use the chart "Your Computer Opponents" to scope out your opponents' strengths and weaknesses).

Your team will always be the HOME team, with the player you control in the light blue uniform.

ONE PLAYER LEAGUE PLAY

This game mode allows you and a computer teammate to play in league competition that can take you all the way to the GBA Championship.

You first choose a division to play in (North, South, East, or West), then play a five-game season against the other five teams in that division.

Once you've selected League Play, the computer screen will ask if you want to GET TEAM or assemble a NEW TEAM. If you select GET TEAM, you'll continue to play with a team you've already created--that is, your current team. Select NEW TEAM to create a new team; your old team (if you had one) and its league record will be ERASED from the game disk. In other words, you can have only one team at a time. (If you try to create a new team and there's already a team on the disk, the screen will display the message "Warning: Selecting new team will erase your current team.") However, you can go from League Play to Exhibition Play without erasing your League Team from the game disk.

You'll play a five-game schedule. The computer will select your opponents within your chosen division until you've played all five. Playing in the easier divisions will of course mean easier games-- until you get to the playoffs. At the end of the season, the computer will compare your win/loss record with the records of the other teams in your division. If you have the best divisional record, or if you're tied for the division lead and have beaten your co-leader, you'll advance to the playoffs. The playoff schedule is set up so that the easiest division (North) plays the hardest division (West) in Game 1; in Game 2, South meets East. The winners from Game 1 and Game 2 then meet in the GBA Championship Game.

Your Computer Opponents

Divisions	Teams	Player #:	OUTSIDE		INSIDE		STEALING		JUMPING	
			1	2	1	2	1	2	1	2
North	Cougars		4	3	4	3	4	3	3	4

Unicorns	2	5	5	2	2	5	5	2
Wildcats	5	2	2	5	5	2	2	5
Sharks	4	3	3	4	3	4	4	3
Generals	3	3	3	3	3	3	3	3

South D - deletes last line entered. if followed by a number, the corresponding line is deleted. you can also enter a range of lines. (ex: .Dx,y)

- .E - allows you to edit last line entered. also can be followed by a number.
- .H - displays help file for the editor.
- .I - inserts a line of text, must be followed by a number.
- .L - lists current content of editor.
- .N - clears contents of editor and starts over.
- .O - saves the file directly, does not give chance to edit.

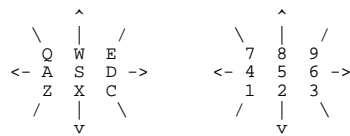
.S - same as .O (saves file, skMarvels	4	4	4	5	3	5
5 3						
Hawks	4	5	5	3	3	5
Wizards	5	4	3	5	4	4
West Stars	5	5	5	5	5	5
Dragons	5	5	5	4	5	5
Cosmics	5	5	4	5	5	5
Waves	4	5	5	5	4	4
Lazers	5	4	5	5	4	5

How to Pass, Shoot, and Move Around

Joystick and Keyboard Controls

In one-player games against a computer-controlled team, you may use either a joystick or the keyboard to move your player around. In two-player games, the home team player uses the joystick and the visiting team player uses the keyboard.

The joystick works as described in "Passing" and "Shooting." The keyboard works as shown below; you may use either cluster of keys shown.



To move your on-court player in a particular direction, tap and release the key corresponding to that direction. Press the <S> or <5> key to stop the player. Use the <option> key as your "fire" button to jump and shoot.

Passing

Naturally, good teamwork means getting the ball to your teammate when he's in he open. And to do that, you've got to become a good passer.

To pass to your teammate when you have the ball, quickly press and immediately release the joystick button. If your teammate has the ball and you want him to pass to you, quickly press the button. Your teammate will usually pass you the ball, but not always-- after all, any player can become a ball hog now and then. Your teammate may also pass the ball to you if he sees that you're open, even if you don't pass the joystick button-- unless you're moving, in which case he'll never pass to you unless you press the

joystick button. If you pass to your computer teammate while he's moving, he'll stop to try to catch the ball.

In order to catch the ball you must be directly in line with it. Otherwise, the ball will go out of bounds or will be stolen by your opponents.

Shooting

Shooting Basics

When you have the ball and want to make a shot, first hold down the joystick button. Your player will begin his shot by jumping and will release the ball at the same time you release the button. You must time the release to the jump. If you release the ball at the top of the jump, you have a better chance of scoring.

So your success in shooting depends on your ability to release the joystick button at just the right moment. If you look very closely, you'll notice that at the very top of his jump, your player will cock his wrist slightly, preparing to shoot. It is at this moment that you should release the button. If you release the button too early or too late, you will still make some of your shots, but a smaller percentage than if you time it perfectly. You should also be aware that if you fail to release the button before your player comes back to the floor, you'll be charged with traveling (See "Penalties"). In addition to your timing, the other factor that will determine your shooting percentage is your Player Scouting Report-- that is, your rating as an inside and outside shooter.

Hook Shots

To make a hook shot, you must be downcourt, near the baseline, with your back to the basket (as you look at your player on the screen, he must be facing 9 o' clock or 3 o' clock). With a hook shot, the ball is released as the player's arm "hooks" over his head. The advantage of this type of shot is that it cannot be blocked.

Slam Dunks

A slam dunk may be the most satisfying shot in basketball. What could be better than actually stuffing the ball through the hoop? To slam dunk, you must have a 4, 5, or 6 rating as an inside shooter. You must be at the baseline, as far downcourt as you can go, and you must shoot when you're in one of three areas: under the basket, half a step left or low post left (LPL), or half a step right of low post right (LPR) (see "Zones on the Court"). Finally, there must be NO DEFENDERS under the basket. If all of these conditions are met, a slam dunk will ALWAYS be successful.

Tip-Ins

If an offensive player grabs a rebound while directly facing the basket (as you look at him on the screen, facing 12 o' clock with his back to you), he'll tip the ball in for a basket. As long as the player is facing the basket and underneath it, the tip-in will be automatic if you make your player jump. Again, only an offensive player can tip the ball in. (In the practice mode, either player can tip the ball in.)

Rebounds

A player can rebound only when he's in the area immediately surrounding the basket. To rebound press the joystick button in the same way you do to make a shot-- your player will jump for the ball. Timing your jump is the key to successful rebounding.

Shooting Percentages

Nobody can make every kind of shot every time. But you can increase your shooting percentage by working on the timing of your release. (Of course, it also helps to have a high rating). The following charts show the percentage

of outside and inside shots you'll make based on the timing of your release and your outside shooting ability.

Outside Shooting Percentages

Outside Rating:	6	5	4	3	2
When release is:					
very early.....	10%	10	10	10	10
early.....	30%	20	10	10	10
a little early.....	50%	40	30	20	10
perfect.....	70%	60	50	40	30
a little late.....	60%	50	40	30	20
late.....	40%	30	20	10	10
very late.....	20%	10	10	10	10

Inside Shooting Percentages

Inside Rating:	6	5	4	3	2
very early.....	30%	20	10	10	10
early.....	50%	40	30	20	10
a little early.....	70%	60	50	40	30
perfect.....	90%	80	70	60	50
a little late.....	80%	70	60	50	40
late.....	60%	50	40	30	20
very late.....	40%	30	20	10	10

3-Point Shots

If a player shoots a basket from outside the white 3-point line (see illustration on page 21), that basket is good for 3 points instead of the usual 2. Successful 3-point shots are based on a player's outside shooting rating and the timing of his release. However, if a player shoots from outside the white 3-point line, the odds of that shot's being good are only half the odds of a regular outside shot. For example, if a 6-rated outside shooter releases the ball perfectly from beyond the 3-point line, he has only a 35% chance of making that shot.

Shooting From Under the Basket

Whenever a player shoots directly under the basket, his chance of scoring is based only on his inside rating, not on his timing. As long as he releases the ball before he's called for traveling, it's assumed that his timing is perfect.

Notes on Defense: Stealing the Ball and Blocking Shots

To steal the ball from the offense, you must "bump" the ballhandler on the side on which he's dribbling or holding the ball. Any player's success at stealing the ball will be based on his rating at STEALING-- see "The Scouting Report."

To block a shot, move in close to the ballhandler and press your joystick button to jump just as he goes up for a shot. Your success in blocking the

shot will depend on how close you are to the ballhandler and your rating at JUMPING-- see "The Scouting Report."

Your Computer Teammate

Your computer teammate is an intelligent player. If he's under the basket, he'll shoot. If he sees that you're open under the basket, he'll pass the ball to you. If the block is about to run out (either the 24-second shot clock or the quarter clock), he'll shoot if he has the ball. If he's being covered and he realizes he can't drive to the basket, he'll pull up and shoot from as close as he can get.

Remember, just as in real basketball, the key element in Two-On-Two is teamwork. Your computer teammate is designed to work with you to beat your opponents. Not matter how good you are as an individual player, you'll never make it to the GBA Championship unless you learn to play as a team.

The Player Draft

After you've rated your abilities, you get to draft a computer-controlled teammate. In the two-player mode, each player gets to draft a computer teammate unless you're playing the TWO PLAYER TEAMMATES option. You have ten players from which to choose, each patterned after a real basketball superstar.

When the player draft screen appears, you'll see ten names in white letters, with the two "pointer" basketballs on either side of a name. Use your joystick to line up the basketballs next to the name of the player you want, then release the joystick and press the joystick button. This will highlight your choice in yellow. Finally, move the balls down to the word CONTINUE and press the joystick button to go to the next screen.

Your Superstar Teammates

Here are the computer stars you can play with:

Magic Lyndon. One of the best players in the game, famous for his sleight-of-hand passing. Now you see it, now you don't. Magic provides that extra magic that can take you all the way to the GBA Championship.

Jerry Orr. A consistently high scorer, Orr has been known to score over 50 points in a game. He knows how to draw fouls from opponents and almost never misses from the free throw line.

Elgin Cutter. Some say he's the best pressure player in the game. He once scored 61 points in a GBA playoff game-- a record. Cutter has some deadly inside moves.

John Madland. An excellent defensive player. When Madland's on the court, expect lots of turnovers. Also a dynamite outside shooter.

Larry Berg. If you want a teammate who can do it all, Berg's your man. A real team player who knows how to win. Great all-around abilities. Berg can shoot and pass with either hand. He received the GBA Most Valuable Player Award two years in a row.

Kareem Ugrin. Some say he's getting too old, but Ugrin seems to just get better. A great inside shooter with an almost unstoppable hook shot, Ugrin recently became the highest scorer in GBA history. He's also a ferocious rebounder.

Walt Barnett. A superb rebounder and one of the best defensive players around.

Julius Keith. Dr. K. When he's not selling basketball shoes or soft drinks on TV, Keith can be found driving defenders crazy on the court. He averages over 30 points a game and has some of the best moves in the game.

Oscar Dunbar. A player with all the right moves, Dunbar is considered the best guard of all time. A great player at any position, he's equally adept at inside and outside shooting.

Wilt Dulmage. a.k.a. Wilt the Tilt. This man is great at blocking shots and coming down with the ball. Also one of the few unstoppable inside shooters.

The Super Teammate Player Draft chart rates the talents of your computer teammates. The numbers indicate their skills at inside and outside shooting, dribbling, stealing, quickness, and jumping. Unlike the ratings for yourself, these are fixed. Because all these stars are excellent players, they rate no lower than 4. A 6 is the highest rating a player can have.

Notice that the total within each grouping (Inside and Outside, Dribbling and Stealing, and Quickness and Jumping) totals 10 for your superstar teammate, as opposed to 8 for your other player.

Superstar Teammate Player Draft

THE PLAYERS:	Outside	Inside	Dribbling	Stealing	Quickness	Jumping
Magic Lyndon	5	5	5	5	5	5
Jerry Orr	6	4	5	5	6	4
Elgin Cutter	4	6	5	5	6	4
John Madland	6	4	4	6	5	5
Larry Berg	6	4	4	6	4	6
Kareem Ugrin	4	6	5	5	4	6
Walt Barnett	5	5	4	6	4	6
Julius Keith	4	6	6	4	5	5
Oscar Dunbar	5	5	6	4	5	5
Wilt Dulmage	4	6	4	6	4	6

Calling Plays

In all the game modes except two-player teammates, you must choose an offensive and defensive alignment every time you're on offense or defense. The PLAYCALLING SCREEN comes up whenever there's a change of possession because of a basket, steal, defensive rebound, or penalty.

Although the game is actually played on a full court, you see only half the court at a time. Every time there's a change of possession or a basket is good, the players run down the court and the offense brings the ball up from mid-court.

The playcalling screen replaces the scoreboard for about seven seconds while the players automatically run down the court and bring the ball back into play. The playcalling screen disappears when the ball handler crosses center court. So you have seven seconds to select a play. If you fail to select a play, the computer will automatically pick one for you. (On defense the computer will pick LOW ZONE (LZN) and on offense it will pick BASKET (BKT)).

The playcalling screen is divided into OFFENSE and DEFENSE. For offense the screen shows a picture of your joystick surrounded by the abbreviations BKT, RHT, TOP, LFT, and SCRN, which stand for the five offensive plays you can choose from. For defense the screen shows a picture of your joystick surrounded by the abbreviations LZN, HZN, MMD, and MML, which stand for the for defensive alignments you can choose from.

You select a play by moving your joystick forward, back, right, or left to "point to" the play you want: forward for BKT or LZN, back for TOP or HZN, right for RHT or MMD, and left for LFT or MML. On offense you can also use the joystick button if want to select the SCRN play.

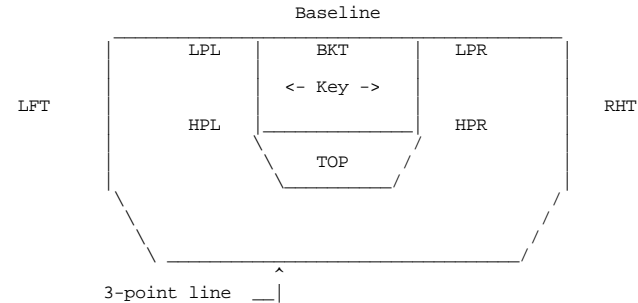
If you've called a play, but change your mind while the playcalling screen is still visible, simply push the joystick in the direction of the new play you want. Whenever you call a play, you'll hear a tone at the same time the word

OFFENSE or DEFENSE flashes.

Whenever you call a play, whether on offense or defense, you are telling your computer teammate what to do.

Following is a complete rundown of the plays. It will help you to understand the plays if you also study "Zones on the Court"

Zones on the Court



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DOCUMENT gba.2

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[Part II - Continued from Part I]

GBA Championship Basketball Two-on-Two

Documentation by: The Doc

Released by Surfer Bill

Offensive Plays

You have five offensive plays from which to choose:

Left Wing	LFT
Right Wing	RHT
Top of Key	TOP
Basket	BKT
Screen	SCRN

Left Wing (LFT). Your teammate runs to the high post left or high post right (HPL or HPR) and stays there for one second. Then he runs to the left wing (LFT), stays there for two to four seconds, and runs a random pattern on the left side of the court.

Right Wing (RHT). Your teammate begins by running to the high post left or high post right (HPL or HPR) and waits there for one second. Then he runs to the right wing (RHT) and waits there for two to four seconds before running a random pattern on the right side of the court.

Top. Your teammate runs to either the right or left high post (HPR or HPL), waits there for a second, and then runs to the top. He stays there for two to four seconds and then runs a random pattern at the top of the key.

Screen (SCRN). You see your teammate as a screen to block out any defenders trying to cover you. Your teammate runs to HPL or HPR and stays there for six seconds, allowing you to dribble around him as he blocks the defender. Then he runs a two-step pattern between the high posts.

Basket (BKT). Your teammate runs to the high post left or right (HPL or HPR), then drives under the basket. He waits there for two seconds and then runs a random three-step pattern under the basket.

Defensive Plays

You have four defensive plays to choose from:

Low Zone	LZN
High Zone	HZN
Man-to-Man Light	MML
Man-to-Man Dark	MMD

Low Zone. When you call low zone, your teammate will stay in the key (between the basket and the inner white line on the court). When an offensive player enters his zone, he covers him man-to-man. If the offense floods the low zone (which means BOTH offensive players enter the key), your teammate will cover the ball handler. In this case, you should cover the offensive player without the ball. When your opponents are not flooding the low zone, your teammate always takes the man in the low zone, and you take the man outside the key in the high zone.

High Zone. If you assign your teammate to the high zone, he covers the ball

handler when that player is in the high zone. When the ball handler enters the low zone area around the key, YOU cover him, and your teammate covers the player without the ball.

Man-to-Man Light. Your teammate covers the opposing player who wears the light-colored uniform. He stays with that player everywhere on the court. You cover the player in the dark uniform. The goal in man-to-man coverage is to stay between the man you're guarding and the basket, trying to keep him from getting under the basket and making an easy shot.

Man-to-Man Dark. This is the reverse of man-to-man light. Your teammate covers the man in the dark uniform, and you cover the man in the light uniform.

Strengths and Weaknesses of Zone Defense

The zone defense is very effective against inside shooters. If the ball handler breaks away from the man playing the high zone, the man playing the low zone can usually cover the ball handler before he can get into position near the basket. The weakness of the zone defense is that one defender is always the key, resulting in a two-on-one situation outside the key. This sometimes means that one of the offensive players can take an easy outside shot.

If you're playing against the computer, it's easier to beat the computer when you play a zone defense. If you want a more challenging game, play man-to-man.

Playcalling and Loose Ball

If nobody grabs a rebound and the ball is loose, the computer will sometimes allow you to regroup your offense and call another play. You'll know this is happening if the playcalling screen appears.

Penalties

 Bumping into an opposing player continuously for more than one second results in a foul in the following situations:

A defensive foul occurs when one of the defensive players bumps into the ball handler. The penalty is either the ball out of bounds to the offense or free throws.

Charging occurs when the ball handler bumps into a defensive player. The penalty is change of possession or free throws.

Fouls and other penalties are displayed on the scoreboard in flashing letters right after they occur. However, if a player is fouled while shooting, the foul won't be displayed on the scoreboard until after the shot has either gone in for a field goal or missed. Fouling the shooter results in one free throw if the basket is good and two free throws if he misses his shot.

The number of TEAM FOULS is also displayed on the scoreboard. Teams get five fouls per half; the count is reset to zero at halftime. If a team accumulates more than five fouls in a half, this results in bonus free throws for the other team.

Other Violations

Traveling is called if you jump to shoot but don't release the ball in time. It won't be called if your shot is blocked by an opponent and you come down with the ball. Traveling results in a change of possession.

The Three-Second Rule is invoked if an offensive player stays inside the key for more than three seconds at a time. However, when the ball is in the air or up for grabs, all players can stay in the key for as long as they like, until someone comes up with the ball. Staying in the key too long results in

change of possession.

The 24-Second Shot Clock gives the offensive team 24 seconds to make a shot after they bring the ball into play. The scoreboard has a SHOT CLOCK which counts down the seconds. Failure to make a shot in time results in change of possession.

Here's a summary of all violations and penalties:

With three or fewer team fouls:

Fouling the Shooter:
 if ball goes in.....1 free throw
 if ball misses.....2 free throws
 Fouling the Ball
 Handler.....Ball out of bounds to the offense
 Charging.....Change of possession
 Three Seconds in Key.....Change of possession
 24-Second Clock.....Change of possession

With more than three team fouls:

Fouling the Shooter
 if ball goes in.....1 free throw
 if ball misses.....2 free throws
 Fouling the Ball
 Handler.....2 free throws
 Charging.....2 free throws
 Three Seconds in Key.....Change of possession
 24-Second Clock.....Change of possession

A word about free throws. Players don't have control over free throw accuracy. It's based on the outside shooting rating. To make a free throw, just push the joystick button and release it. All players can rebound after the last free throw attempt.

The Quarter Clock and Overtime

You'll play four 6-minute quarters in each game. If the teams are tied at the end of the fourth quarter, you'll automatically go into overtime, which is another 6-minute quarter. The amount of time left in each quarter is shown on the clock in the middle of the scoreboard. At the end of each quarter, a buzzer rings and the screen displays which quarter has just been played. You then go immediately into the next quarter.

At the start of the game, the home team always takes the ball out (Player One is always the home team). The visiting team brings the ball into play in the second quarter. The home team again takes the ball out when the third quarter begins, and the visiting team starts off the fourth quarter.

Calling Timeouts and Pausing the Game

To pause the game, simply press the <esc> key on your keyboard; TIMEOUT OR ESC TO RESUME will be displayed on the scoreboard. If you merely want to pause the game, press the <esc> key when you're ready to resume.

You can call a timeout only when you're on offense. If you want to call a timeout, first press the <esc> key, then press the joystick button. Each team is allowed five timeouts per half. On the scoreboard you'll notice five little lights on the HOME and VISITOR sides of the board. Each time you call a timeout, one of the lights will go out.

Calling timeouts saves precious seconds at the end of the game. If your team is behind and the clock is about to run out, you should call a timeout right after you've called a play. When you call a timeout, your players don't have to take the time to run down court and set up the play; they'll just appear on the court, in position, when play resumes.

To quit a game in progress and start over, press <esc>, then <CTRL-R>.

After the Game

At the end of every game, you can read all about it. The sports page of the Gamestar Gazette appears on the screen with the following boxscore writeups: the team names, the final score, the total field goals for each team, shooting percentages, rebounds, steals, blocked shots, and the name of the leading scorer. Here's what the numbers mean:

Field Goals. This is the total number of baskets that each team made. Each basket is worth either 2 or 3 points, depending on where the player was on the court when he made the shot. Free throws do not count as field goals.

Percentage. The field goal percentage is calculated by taking the total number of actual field goals and dividing it by the total number of field goal attempts. That number is the team percentage.

Rebounds. Every time your team pulls down a rebound, it's recorded here.

Steals. This number records the number of times your team stole the ball from the opposition.

Blocked Shots. There are two types of blocked shots. After the shot is blocked, either the defender comes down with the ball or the offensive player retains possession. Blocked shots are only recorded here when the defender gains possession of the ball.

Assists. This is the number of times a player's passing sets up a teammate for a basket. To get credit for an assist, you must pass the ball to your teammate, who can dribble the ball only one time before putting the ball in the basket.

Fouls. The number of personal fouls-- for example, charging and hacking-- each player commits is listed here.

Leading Scorer. The top scorer's name will be displayed with the number of points he scored.

GBA Championship Basketball also gives you a breakdown of each teams' statistics. Press <return> and you'll see a linescore similar to:

```
Pioneers
Player One      PTS FG %  RB ST BS AS FO
Player Two      20 10 45  5  4  5  4  3

Sharks
Player One      10 05 35  4  2  5  2  4
Player Two      20 10 45  5  4  5  4  3

By Quarters      1  2  3  4  F
Pioneers         12 12 13 10 47
Sharks           10 10 12 14 46

Attendance 17,547
```

Press Button to Continue

In this linescore, PTS stands for points scored, FG for field goals (that is, baskets) made, % for shooting percentage (baskets made divided by shots attempted), RB for rebounds, ST for steals, BS for blocked shots, AS for assists, and FO for fouls.

This linescore also shows you the score at the end of each six-minute period

and the final tally. It also lists the attendance for today's game, in this case, 17,547.

If the game was part of league play, GBA Championship Basketball lists the division standings after you press <return> to continue. It also tells you <Parent Dir> 0 <return> to return to the chalkboard menu and start another game.

To Play Another Game

When a game ends, press the joystick button (or <return>) to return to the chalkboard menus. If you've just played any game (except league play) and want to play the same game again, you don't have to type in your name again or select a new computer teammate unless you want to. Just press <return> or highlight CONTINUE and press the joystick button as you move quickly through the menus.

Note: For a recorded message about our [Activision] newest software, call 415-960-0518. For technical help, call Product Support between 9:30 a.m. and 4:30 p.m. Pacific time on Monday, Tuesday, Thursday, and Friday between 9:30 a.m. and noon on Wednesday: 415-960-0518.

The Spectrum.....213/391-6835
Apple Tree IIgs.....305/238-5999
Rock 'n Roll Harbor.....305/821-2232

[End of GBA Championship Basketball Documentation]

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DOCUMENT gencomm
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GenericComm v2.03 Documentation by Matthew Montano

This product is "beerware". It is free, but if you really like it (I doubt it, but), and you actually use it (I do, why not you?), I could always do with some cash to purchase some...

This program is copyrighted 1990 by Matthew Montano. Please distribute as wide and as far as possible electronically. You may not charge for this product (that's my right). You may not modify this program without my permission (hell, give credit where credit is due). Inclusion in any other packages and distribution in a non-electronic matter is not permitted, except with the written permission of me (Matthew Montano).

Release Notes GenericComm v2.03

So this is version 2.03. There will likely be a few more updates to this program, as time sees fit. I would appreciate comments, suggestions, directional statements (I sound like Apple, uh oh), and most of all questions. You can reach me through one of the addresses listed at the end of this document. I do plan to add protocol transfers, moderate GS/OS file and terminal emulations.

At the time I write this, no one knows exactly what is happening with the IIGS. Apple has made several statements that products and public announcements are forthcoming, though nothing is concrete yet. Apple's new sound tools are a hit with developers, but when will the average user get to play with them?

Will people stop buying Vulcans! They are fast hunks of metal, not unlike the Ford Mustang which is a unsafe at any speed automobile. Believe me, SCSI is the *ONLY* way to go. Apple will screw anyone without SCSI, trust me.

System 6? If and when.

I believe in the IIGs, it provides an excellent solution for the home user, school and even small business's. It runs lots of software, is of excellent quality and gets reasonable support. It is a far better solution than an IBM compatible, and for the most part a better solution than the expensive Macintosh's currently available.

Matthew Montano, Saturday June 6th, 1990.

Version History GenericComm v2.03

- Version 1.0 - Initial release February 10th, 1990.
Version 1.01 - Fixed OA-? bug that required the shift key to be pressed. Cleaned up terminal emulation problem that would cause line noise to make the terminal do funny things. Add buffering for saving sessions. Tried the ORCA/C v1.1B9 compiler and found it quite buggy, it didn't compile this code correctly at all.
Version 2.00 - Add buffering and dial list editor.
Version 2.01 - Commented all source code, uncovered many small bugs, fixed.
Version 2.02 - Rewrote parts of dial list editor, using less memory.
Version 2.03 - Fixed a weird clear screen bug.

Introduction GenericComm v2.03

Apple II Computer Info

I do not know the limit of the dialing list. The limit would either be the limit of the document structure of the 360 TextTool Kit (65000+ entries), or the limit of the actual list structure which is 255 items I believe.

I have not tested what happens in low memory situations to the scroll back. Results would depend on the 360 TextTool kit used and how it is coded. The same is applicable to the buffered scroll back when turned on.

HST owners:

Because of the design of the HST in regards to error checking settings, when entering a dialing string include the following:

&m0 for 2400 or lower bps connections
&m4 for 9600bps HST connections

Since I am using the IIgs built in firmware there are limitations, including that of buffering. The limit on the IIgs firmware buffer is actually quite large, but to keep the code simple at the moment, I have not modified the internal buffer and it is left at 2048 bytes. On an HST connection, when large amounts of text are flowing into your computer, you will see the screen attempting to display text as fast as possible. I guarantee this will be faster in future versions, but for now you will loose characters after the program gets 2048 characters behind the incoming data.

----- Credits ----- GenericComm v2.03 -----

This program was compiled in ORCA/C and as a result contains libraries that are copyrighted by The Byte Works. The Byte Works Inc., 4700 Irving Blvd. NW Suite 207, Albuquerque, NM, 87114.

This program contains routines from the 360 Text Toolkit by 360 MicroSystems and therefore some code is copyrighted by 360 MicroSystems. 360 MicroSystems, 12272 Fox Hound Lane, Orlando, FL, 32826. (407) 365-6714.

This program borrows on John Snow's SERIO library of routines which he has distributed (used with permission).

I would like to thank D. Proni from 360 MicroSystems for helping me uncover several bugs and for the general help in using the TextTool kit to my advantage.

I would like to thank Martin Hill, for telling me to abandon this project a few times and help him build his dream program.

I would also like to thank Parik Rao for being a pest and saying it was too big and how he did this in assembler and it was 4k in length using the GS/OS console device. Parik: HA!

I would like to thank Stanley Wong for saying "heh, neat" and being so humble about everything when he actually was quite impressed. :)

I can be reached through the following networks:

America OnLine: MMontano
InterNet: sysop@pro-generic.cts.com
UUCP: uunet!caci!jl!crash!pnet01!pro-generic!sysop
Pro-Generc BBS: 416-237-0308 (ProLine software) (System Administrator)
Slow Net: Matthew Montano
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Beerware is a trademark of PaperBag Productions (Andy Nicholas author of ShrinkIt and creator of the NuFX). :-)

All names are used without permission and are trademarks of their respective companies.

Long live the //gs, Toyota MR2's and The Cure.

=====

DOCUMENT genlist

=====

GenericList v1.0 Documentation

GenericList is a quick and dirty GS/OS shell program for listing text and source files. Rather than loading your clumsy editor or using the aggravating type command from the APW/ORCA shell, use GenericList!

Features: GenericList is a clean and to the point program which will load a text file and display it. You can scroll up and down, left and right, at very high speed. It can be installed as a shell utility in the APW/ORCA shells.

Why did I write this? I've used an MS-DOS (I know, I know) machine for a while now for telecommunications. I buffered my sessions to disk, and viewed them later with a small program called "l". In the spirit of "l", and the need I had to continually view files and the desire not to load up MaxEdit to view one file, GenericList was born. (I also needed something to do after I cleaned my room up this afternoon).

GenericList is Copyright 1991 by ventureTech. I ask you give this to EVERYONE YOU KNOW. I won't ask for any money, though I will gladly accept some. What I do ask is that whether or not you like the program or will continue to use it that you send me a note saying that you've tried it. My addresses (email and otherwise) are at the bottom of this file. If you could also tell me where you got it from, it would be appreciated as well.

Installing GenericList:

GenericList consists of one EXE file (GS/OS Shell Executable) that can be run from anywhere. If you are installing it in an ORCA/APW system, copy it to your UTILITIES directory. Then edit your SYSTEM/SYSCMNDS file and add the following line:

```
L          *U          List Utility
That way, when APW/ORCA is loaded, L becomes available from
any directory.
```

Using GenericList:

Type "L FILENAME" where filename is any valid GS/OS path to a valid text file. Valid files include SRC and TXT files. Sorry, AppleWorks and other word processor formats are not supported. Once loaded, you should see two numbers at the top left. The left number indicates what line you are on, the right indicates how many lines are in the document.

To scroll up by one line: Press the left arrow key.
 To scroll down by one line: Press the right arrow key.
 To scroll up by one screen: Press the up arrow key.
 To scroll down by one screen: Press the down arrow key.
 To scroll right by one column: Press the "." key.
 To scroll left by one column: Press the "," key.
 To quit GenericList: Press space bar or ESC.

About the Program:

You may notice that the source code has been included for

your viewing pleasure. I emphasize viewing, as you probably won't be able to compile it yourself. GenericList uses many routines from the TextTool Kit from 360 MicroSystems. (more on 360 MicroSystems later). The program is small, and the source code is reasonably well documented. Note: I am not a classical "C" programmer! I have very BAD habits, which are ingrained into me from years of AppleSoft BASIC, Turing (I vow to torture Hume and Holt), and recently HyperTalk. There are some limitations to this program that you may run across. If you load a file that is larger than your memory size, unpredictable results may occur. I have no idea what might happen to your computer. Use caution with big files as the file is completely loaded into the IIgs memory before being displayed.

About the Author:

Matthew Montano is some strange, live by night programmer who works on a variety of projects. Recent IIgs projects include GenericComm v2.0 and several niche market Plus applications (a HyperCard compatible system form IBM's and Macs). GenericComm 2.1 or v3.0 (I haven't decided what version # to give it) is almost done and WILL include Xmodem/Xmodem-1k/Xmodem-4k upload and download abilities. Also recently finished are several programmers utilities for adding quick and dirty help screens to programs. Although my use of computers ranges across MANY platforms, I still have one favorite, the Apple IIgs. I simply enjoy using it and will continue to do little things like this as long as I continue to enjoy using it.

The Future of GenericList:

I will add, very shortly a "search ability" so you can quickly search a text file for a string of text. I will also make this available from the finder by changing the filetype to sl6 and adding code to handle MessageByName messages that pass GenericList a filename. There will also be a command that will take all long line (>80) and wrap them to a single screen. Hopefully within a few weeks I'll get to it.

About 360 MicroSystems TextTool Kit:

The TextTool Kit is a library of routines accessible from "C", Assembler and Pascal ORCA/APW languages. It provides an incredible list of routines for managing text files, windows, mice, text ports, pull down menus, menu-lists, direct screen writes and buttons and controls. They are very well debugged (I only found two, and once notified, they were corrected promptly by 360 MicroSystems). Even with the advent of Apple's fantastic GUI based tools, I still believe there is a place for text based tools and programs. GenericList and GenericComm I think are two righteous programs. As well, 360 MicroSystems has developed and is selling MAXEdit, simply the best editor ever written for the IIgs. For the price it is being offered for, you cannot go wrong. I do NOT work for 360 MicroSystems but have spent just over a \$100US with them and am VERY satisfied with the support and products they develop and offer.

360 MicroSystems
 12272 Fox Hound Lane
 Orlando, FL 32826
 (407) 365-6714

Getting in touch with me:

Snail Mail: PO Box 867, Station F, Toronto, ON, M4Y 2N7

Apple II Computer Info

Phone: 416-949-2228 (During Business Hours)
Email: America ONLine: MMontano
InterNet: sysadmin@pnet91.cts.com
Call the Generic BBS (pnet91). 416/237-1204, 416/237-0308.
Apple II and high-technology personal computing discussions.
2400bps only.

This program is dedicated to my girlfriend, Kerry, who has
put up with me for 6 months already.

Long live The Cure and decent music everywhere!

```
=====
DOCUMENT geos.quick.ref
=====
```

```
[:]-----Courtesy--of--The--Dock-----[:]
```

GEOS: Brought to you by:

```
  _ _
  (_rack|orce          The CrackForce          (_rack|orce
```

Semi-Complete Documentation for the following aspects of GEOS:

The Brigadier and Track Master

```
[:                                                                    :]
```

```
~~~~~
GEOS is for the Apple //e, //c and //gs and the Laser 128.
```

Chapter 1

```
~~~~~
Now that you have downloaded, pirated, or otherwise illegally gotten ahold of  
this fine program, you may wish to make backup copies for yourself (or a  
friend).
```

Program requirements:

Enhanced //e (//c) with 128k and double hi-res with at least two drives and
although a mouse is not required it is strongly recommended.

Along with the program and the docs that came with the original of the program
came a IQR interrupt card which if you do not have a mouse re-routes the signals
that were suppose to be going to the mouse to the joystick or the keyboard.
This is not required, but there will be schemes for anyone wishing to build one
out of 15 bux of (good ole) Radio Shack parts.

Boot the boot disk after it says 'OK' in a box press 'return' to continue. If
you wish to install the boot on a hard drive hit 'h' a few times right after you
press return and follow the instructions there. If not it will automatically
load then. It will cycle thru the drives to find the on-line volumes and then
the desktop will appear. Once this happens and you get a little arrow, use the
U,i,o,j,k,l,n,m', to move the arrows. You must hold down the open apple key at
the same time. Insert the Drivers disk into the second drive and hit closed
apple - a,b,c, or d to select which letter represents the drivers disk. Once is
done loading the catalog track there will appear 6 icons of drivers for
printers, etc... Move the arrow to the OPTIONS and use the 'k' to click that
box, a menu will appear and you can move the arrow down to the INPUT DEVICE and
select the device you wish to use.

Once this has been done things get much easier. Repeat the procedure, but now
for the printer, interface, Clock, aux drivers. Then after you have that done.
In order for GEOS to load your configuration up when ever you boot the program,
you must have the drivers that you selected on the boot disk. You will need to
copy those driver files to the boot disk. Refer to Copy Files.

SYSTEM disk

```
~~~~~
When GEOS is booted it looks for the following things: Drivers on the boot disk  
or the SYSTEM disk or directory. If you have installed GEOS on your hard drive,  
you will need to create a folder or (directory) named SYSTEM for GEOS. Select  
the drive you wish to have the SYSTEM folder by moving the pointer over the disk  
icons and clicking the chosen one. Click the FOLDER menu or press closed apple  
- U and you will be prompted for a name. In upper case type SYSTEM and press
```

return. Once you have done this, you may wish to copy the following files into it:

Desktop, drivers (your selected ones) merge, Geopaint etc. This will be your work or SYSTEM folder where GEOS will go to upon booting. Once you have done this you will be all set up to run the programs and begin your using of GEOS and the other utilities. Refer to Copy Files later in the file.

VIEWing modes

Go to the view menu or press closed apple G and click the following commands

:

by size (apple S) Sorts items in dir by size, largest item first
 by type (apple T) Groups items by file type
 by date (apple Y) Sorts item by date of last modification
 by name (apple N) Sorts items alphabetically

Copying files

Select source disk by clicking icon or hitting closed apple a,b,c, or d. Then click file icon once and then a second later again. Drag the ghost icon (transparent) down to the bottom of the screen and click again. It will do a few disk accesses and then the icon will re-appear down at the bottom. After you have done this for all the files you wish to copy on that page or until the thing is full select the destination disk and click the icon on the bottom of the screen and drag it up to the work space and click again. It will copy the file. Repeat

process for other files.

Group Icons:

if you wish to copy more than one icon onto a different disk select the icons by hitting closed apple and then the numbers 1-6 which rep the icons on the work space. After you have highlighted all the files you wish to by copied or dump

ed or whatever click any of the highlighted icons and then a group ghost icon will appear. This icon reps all the icons (or files) you have selected.

Quick referances

geos

geos info: displays copyrights (ha!) and authors of geos (who cares)
 desktop info: displays copyrights
 alarm clock: a desk accessory for setting the time.
 calculator: quick calculations
 note pad: creating memos
 photo manager: managing photo albums
 text manager: managing text albums

NOTE: the geos menu displays the first eight accessories in SYSTEM folder

appls

gain access to the first eight applications in the current system folder file
 open (apple Z) loads and executes selected file(s) on desktop
 duplicate (H) creates a dup copy of the selected file or folder
 rename (M) renames the selected files or folders
 delete (X) deletes the selected file(s) or folder(s)
 info (Q) displays info about the selected file(s)
 print (P) prints the selected file

folder

create (U) creates a new folder in the current folder
 goto (/) opens a foldre in any disk drive after you enter its name
 browse(\) displays a list of folders which yyou can open in the current open disk

view

by icon (G) displays files in icon mode
 by size (S) by size of file
 by type (T) file type (SYS, TXT..)
 by date (Y) last date modified
 by name (N) alphabetically

disk

open (O) opens disk in current disk drive and displays files on work space
 close (J) closes current disk
 rename (K) renames currently open disk
 copy (L) copies contents of one disk to another
 verify (V) checks the current open disk for errors
 erase (E) erase the contents of the open disk without formatting
 format (F) formats disk in any drive
 BOOT reboots from the current drive

options

select printer: selects printer
 select interface: printer interface
 select input driver: (I) mouse, joystick, etc...
 select clock: clock
 select aux driver: (memory expansion device for ramdrives)
 RESET: (R) re-reads all the files and folders in all drives and repaints the screen

Launching ProDOS files

In order to do this you must copy GEOLoad.system as the first file on the disk that you wish to load and run a prodos sys file. After this file PRODOS should be placed.

Having big problems???

Why not call Berkeley Softworks and ask them what to do, but sound intellegent. I have been having problems with launching ProDos files. (415)/644-3414 9 am and 5 pm Pacific time.

[:]-----Happy---Sailing-----=[:]

-END-

```
=====
DOCUMENT germany.1985.1
=====
```

```
#####
#          GERMANY 1985 DOCS          #
#####
#                                     #
#   THESE DOCS WERE WRITTEN BY       #
#                                     #
#   D*I*R*T*Y   H*A*R*R*Y           #
#                                     #
#####
```

```
GERMANY 1985
-----
```

GERMANY 1985 IS A SIMULATION OF A BATTLE FIELD IN WEST GERMANY BETWEEN NATO AND RUSSIAN FORCES. THE 39 X 28 GRID REPRESENTS 1 MILE PRE HEX. EACH TURN REPRESENTS 4 HOURS OF TIME WITH NIGHT REQUIRING 2 TURNS.

```
UNITS
-----
```

DUE TO THE LIMITATION OF THE TEXT SCREEN, I CAN NOT GIVE ACCURATE PICTURES OF THE UNITS.

NATO:

TANK BATTALION ARMOURED INFANTRY BATTALION (APC) SELF-PROPELLED ARTILLERY (SPG) RECONNAISSANCE BATTALION ENGINEER BATTALION AIR CAVALRY UNIT

RUSSIAN:

TANK BATTALION MECHANIZED INFANTRY BATTALION (BMP) ARTILLERY BATTALION KATUSHKA BATTALION INFANTRY ENGINEER BATTALION

A NATE MARKER IS ALWAYS SOLID, WHILE THE RUSSIANS ARE OUTLINED. THE SYMBOL FOR 2 PIECES ON TOP OF EACH OTHER IS AN S (FOR STACK)

```
COMMAND KEYS
-----
```

```

      1
6      2
      *
      *
5      3
      4
```

```
GLOBAL KEYS
-----
```

THESE KEYS CAN BE USED WHEN THE CURSOR IS FLASHING ON THE SCREEN

B:
NIGHT TURNS WILL BE INDICATED BY WHITE TERRAIN UNLESS THIS IS HIT

F:
SWITCH TO TEXT/FULL SCREEN

P:
DRAW THE STRATEGIC (FULL) MAP

T:
CLEAR UNITS AND SMOKE FROM SCREEN

D:
CAUSES UNITS OF THE SAME DIVISION TO CHANGE COLOR AND THE HQ TO FLASH

<-:
SPEEDS UP COMPUTER MOVEMENT

->:
SLOWS DOWN COMPUTER MOVEMENT

CTRL-S:
SOUND ON/OFF

CTRL-P:
COMBAT PAUSE ON/OFF

CTRL-L:
GLOBAL LEAVE (CYCLE ROUND ALL UNITS)

CTRL-D:
DIVISIONAL LEAVE (CYCLE AROUND DIVISION)

NOTICE:
THE SPACE BAR WILL NEVER DO ANYTHING FATAL

```
NORMAL GAME KEYS
-----
```

1-6:
MOVEMENT KEYS (SEE ABOVE)

O:
CENTER CURSOR ON SCREEN

S:
SCROLL

1-9,A-C:
CENTER CURSOR ON THESE SCREENS

O:
CENTER SCREEN ON CURSOR

I,J,K,M:
MOVE SCREEN IN DIRECTION

SPC:
EXITS FROM SCROLL

E:
EXAMINE THE CHARACTERISTICS OF THE FRIENDLY UNIT THE CURSOR IS ON WILL BE DISPLAYED

M:
MOVE THE UNIT THE CURSOR IS ON WILL ENTER THE MOVEMENT PHASE

(ESC):
WILL ENTER THE AUTO-MOVE PHASE AND COMPUTER WILL FIND THE NEAREST NON-MOVED UNIT

CTRL-A:
ACTIVATE AIR POWER PHASE

CTRL-B:
ACTIVATE SAVE GAME OPTION

CTRL-E:
END PLAYED TURN

CTRL-V:
WILL INDICATE STATUS OF ENEMY, FRIEND, OR NEUTRAL UNIT

MOVEMENT KEYS

THE FOLLOWING KEYS ARE USED WHEN A UNIT IS BEING MOVED

M:
SWITCH MOVEMENT TO THE OTHER UNIT IN THE STACK (IF POSSIBLE, OF COURSE)

1-6:
MOVEMENT KEYS (SEE ABOVE)

O:
CENTER UNIT ON SCREEN

S:
SCROLL (SEE ABOVE FOR DETAILS)

Q:
WILL EXIT FROM MOVEMENT PHASE

(ESC):
WILL EXIT FROM MOVEMENT PHASE, BUT IF UNIT HAS NOT MOVED, IT WILL BE ABLE TO MOVE LATER

C:
ALLOW A UNIT TO CHANGE MODE

L:
ALLOW AN UNMOVED UNIT TO BE LEFT

O:
ALLOWS PLAYER TO ISSUE ORDER TO UNIT

CTRL-C:
ALLOWS CONTINUED COMBAT WITHOUT MOVING

CTRL-H:
HIDES/EXPOSES AND UNIT

SEQUENCE

NATO PLAYED ALWAYS GOES FIRST DURING MOVEMENT PHASE, A PLAYED MAY MOVE AS MANY UNITS AS HE LIKE. BUT, A UNIT CAN ONLY BE MOVED ONCE PER TURN! IF UNIT ENTERS ENEMY CONTROLLED HEX (ECH) IT MUST ENGAGE IN COMBAT, AND IF IT STILL HAS THE MOVEMENT POINTS (MP) AFTER COMBAT, IT CAN CONTINUE MOVING DURING THE MOVEMENT PHASE, THE FOLLOWING INFORMATION IS DISPLAYED:

TERN:
TERRAIN

TYPE:
TYPE OF UNIT MOVING

MODE:
MODE OF UNIT MOVING

TURN:
THE TURN OF GAME (THIS NUMBER IS INVERSE AT NIGHT)

SM:MN:NC:
INDICATES (IF INVERSE) IF HEX CONTAINS SMOKE, MINES, OR NUCLEAR CONTAMINATION

EF:
EFFICIENCY OF UNIT

HQ:
DISTANCE TO HQ (* IF IT IS HQ, "-" IF OVER 9 HEXES)

MVL:
MP'S REMAINING

STN:
STRENGTH OF UNIT

RAN:
RANGE OF ARTILLERY FIRE

ON THE RIGHT HAND SIDE OF THE SCREEN, THE POSSIBLE DIRECTIONS ARE DISPLAYED:

NORMAL:
MOVEMENT IS POSSIBLE

INVERSE:
MOVEMENT IS IMPOSSIBLE

FLASHING:
HEX IS AND ECH

MOVEMENT POINTS

THE FOLLOWING ARE THE MAXIMUM MP'S ALLOWED TO A UNIT

NATO	MP	RUSSIAN	MP
TANK	25	TANK	25
APC	25	BMP	25
SPG	20	ARTLY	18
AIRCV	30	KATCH	18
RECON	30	INF	15
ENG	20	ENG	20

NOTE:
AIRCV HAVE MP'S OF 15 AT NIGHT

THE ACTUAL NUMBER OF MP'S DEPENDS WHAT MODE IT IS IN, AND WHETHER ITS MAXIMUM MOVEMENT HAS BEEN HALVED. THE FOLLOWING RATIOS ARE USED TO CALCULATE THE INITIAL MOVEMENT ALLOWANCE. (IE. TANK IN NORM MODE WOULD HAVE 25*(3/4) OR 18 MP'S)

MODE	RATIO	MODE	RATIO
DEFN	0	RIVER	1/2
REOR	1/4	FIRE	1/2
SUPORT	1/4	NORM	3/4
ATTCK	1/2	TRANS	1

MODE CHANGE

THE CHANGE MODES, A UNIT MUST EXPEND MP'S BASED ON ITS EFFICIENCY AND THE NUMBER OF SIGHTING ENEMY UNITS (SEU)

EFFICIENCY COST

6-7 SEU/2
 3-5 SEU + 1
 0-3 SEU * 2 + 1

WHEN CHANGING MODES, THE * INDICATES THEY THE UNIT CAN'T CHANGE TO THAT MODE.

NEW MOVEMENT ALLOWANCE:
 (MAX MP'S - CHANGE COST)*(NEW MODE RATIO)*(NUMBER MP'S LEFT / NUMBER OF MP'S AT START)

IN OTHER WORDS (HA!) THE MORE ENEMIES AROUND, THE HARDER IT IS TO DO ANYTHING

MODES

DEFN:
 (DEFENSE) ALLOWS A UNIT TO JUST DEFEND ITSELF

SUPPRT:
 (SUPPORT) ALLOWS A UNIT TO SUPPORT THE DEFENSE/OFFENSE OF A UNIT FROM THE SAME DIVISION

NORMAL:
 OBVIOUS (I HOPE)

TRANS:
 (TRANSPORT) INDICATES THAT A UNIT IS USING A ROAD AND IS VULNERABLE TO COMBAT

RIVER:
 ALLOWS A UNIT TO CROSS A RIVER

ATTCK:
 (ATTACK) GIVES INCREASED COMBAT ABILITY, BUT LOSES WILL INCREASE

FIRE:
 ALLOWS ANY UNIT WITH AN ARTILLERY RANGE ABOVE 0 TO FIRE

REOR:
 (REORGANIZE) INDICATES THAT A UNIT IS REFITTING AND IS INCREASING ITS STRENGTH AND EFFICIENCY)

TERRAIN

TERRAIN	MP'S	SIGHTING DISTANCE	COMBAT BONUS
OPEN	2	5	0
L. ROUGH	3	3	1
ROUGH	4	2	3
FOREST	4	2	2
SWAMP	5	3	1
VILLAGE	3	3	2
TOWN	4	2	3
SAND	3	3	1
RIVER	4	5	0

AIRFIELDS AND NUMBERED HEXES ARE TREATED AS OPEN FOR MOVEMENT AND COMBAT PURPOSES

MOVEMENT IN TRANS MODE COSTS 1MP/HEX AIRCV PAYS 1MP/HEX IN ANY TERRAIN

+2 MP'S TO ENTER SMOKE HEX

+1 MP (+2 IF IN TRANS) FOR EACH SEU

+1 MP IF IN TRANS MODE AND ENEMY HAS AIR SUPPERIORITY

ORDER PHASE -----

WHEN MOVING A UNIT, ONE CAN GIVE AND ORDER BY HITTING "C"

1-C:
 WILL MOVE UNIT TO APPROPRIATE POINT USING ROAD NET (PRESENCE OF ENEMIES NEGATES THIS ORDER)

D:
 CAUSES UNITS IN NORM AND FIRE MODE TO MOVE AND FIRE DURING THE ENEMIES MOVING PHASE

X:
 WILL CAUSE THE INIT TO EXIT THE MAP WITH A 25% CHANCE OF COMING BACK AS A REINFORCEMENT AT THE SAME SPOT 1-3 TURNS LATER, OR BEING ELIMINATED

V:
 WILL CAUSE THE UNIT TO CAPTURE ANY VILLAGES WITHIN 5 HEXES AND CONTINUE (ENEMIES PRESENT NEGATE THIS ORDER)

F:
 WILL CAUSE THE UNIT TO FIRE AT THE BEST TARGET WITHIN RANGE

R:
 WILL CAUSE THE UNIT TO RUN UNTIL OUT OF SIGHTING RANGE WHERE IT WILL CHANGE TO REOR MODE IF POSSIBLE

S:
 WILL CALL IN FIRE FROM ARTILLERY AND AIRSTRIKES WITHIN RANGE ON ALL ENEMY UNITS WITHIN 3 HEXES OF THE MOVING UNIT

M:
 WILL CAUSE THE UNIT TO ADVANCE AND FIRE ON ENEMY UNITS

N:
 WILL CAUSE THE UNIT TO ADVANCE AND ATTACK ENEMY UNITS

IF THE ORDER CAN NOT BE CARRIED OUT, THE ANNOYING BEEP WILL SOUND AND CONTROL WILL BE PASSED BACK TO THE PLAYER (NO EFFECT WILL BE TAKE AGAINST THE UNIT)

HIDDEN MOVEMENT

ANY UNIT MAY BE HIDDEN DURING ITS MOVEMENT PHASE PROVIDED THAT:

IT IS NOT STACKED
 NOT ADJACENT TO A UNIT
 NOT IN TRANS MODE
 NOT SIGHTED BY AN ENEMY UNIT

COMMAND TO HIDE:
 CTRL-H (OR <-)

IF A HIDDEN UNIT ENTERS TRANS MODE OR FIRES, IT WILL BE "UNHIDDEN"

SIGHTING

A HIDDEN UNIT THAT IS SIGHTED BY AND ENEMY UNIT OR MOVES ADJACENT TO AND ENEMY HIDDEN UNIT WILL BECOME EXPOSED THE DISTANCE UPON WHICH A

HIDDEN UNIT BECOMES SIGHTED DEPENDS ON:

TERRAIN
NIGHT (MAXIMUM OF 2 HEXES)
IN SMOKE
IF IT IS IN DEFN (1 HEX) OR REOR (2) MODE

WHEN A UNIT IS SIGHTED, THE SPEAKER MAKE A BEEP

DELAYED MOVE

A UNIT GIVEN A DELAYED MOVE IN THE ORDER PHASE OF ITS TURN MAY MOVE DURING THE ENEMIES TURN. UNITS IN FIRE MODE WILL ATTEMPT TO FIRE AT OTHERS AND UNITS IN NORM MODE WILL ATTACK. THE PROBABILITY THAT AN ENEMY UNIT WILL ACTIVATE AN ENEMY UNIT IN DELAYED MOVE DEPENDS IN THE NUMBER OF DELAYED UNITS WITHIN 5 HEXES.

L KEY

WHEN MOVING UNITS, IF YOU CHOOSE TO MOVE A UNIT AND THEN HAVE NOT DONE ANYTHING WITH IT, YOU CAN HIT "L" AND CYCLE AROUND TO THE NEXT UNIT WHILE COMING AROUND TO THE OTHER ONE LATER.

MOVEMENT RESTRICTIONS

NO MORE THEN 2 UNITS IN A HEX

NO UNIT MAY ENTER A UNIT OCCUPIED BY A HIDDEN UNIT

AIRCV'S CAN NOT ENTER RUSSIAN CONTROLLED VILLAGES, TOWNS, OR AIRFIELD HEXES

UNITS IN TRANS MODE MAY ONLY TRAVEL IN ROADS, OPEN TERRAIN, OR NON ENEMY CONTROLLED VILLAGES, TOWNS, AND AIRFIELDS

UNITS IN DEFN MODE MAY NOT MOVE

===== DOCUMENT germany.1985.2 =====

NIGHT MOVEMENT

DURING A NIGHT TURN, SIGHTING DISTANCE IS LIMITED TO 2 HEXES. AIRCV UNITS HAVE THEIR MOVEMENT ALLOWANCE HALVED.

NIGHT TURNS ARE INDICATED BY WHITE TERRAIN, UNLESS THE "B" KEY IS HIT. THE TURN COUNTER IS INVERSE WHEN NIGHT IS OCCURRING.

NIGHT OCCURS ON TURNS: 5,6 & 11,12 & 17,18

COMBAT

WHEN AN ENEMY UNIT ENTERS AN ECH (ENEMY CONTROLLED HEX) OR CTRL-C IS HIT, COMBAT IS INITIATED.

THE COMPUTER RESOLVES COMBAT CONSIDERING:

THE NUMBER OF ENEMIES SIGHTING THE ATTACKER

THE NUMBER OF FRIENDLY UNITS SIGHTING

THE DEFENDER

THE TERRAIN THE DEFENDER IS IN

THE NUMBER OF FRIENDLY UNITS SUPPORTING THE ATTACKER

THE NUMBER OF ENEMY UNITS SUPPORTING

THE DEFENSE

THE DISTANCE FROM COMBAT OF THE RESPECTIVE HQ UNITS

THE EFFICIENCES, STRENGTHS, MODES, AND TYPERS OF THE UNITS ENGAGED

THE AMOUNT OF ARTILLERY FIRE THE DEFENDER HAS SUFFERED

ALL ADJACENT DEFENDING UNITS ARE ATTACKED FIRST BEFORE THE ATTACKING UNIT CAN SUFFER LOSSES. A UNIT SUPPORTS THE ATTACK BY BEING IN SUPPRT MODE, WITHIN 3 HEXES OF ATTACKED, UNMOVED AND WITH NO ENEMY UNITS ADJACENT TO IT. VICE VERSA FOR DEFENDING UNITS. HQ UNITS SUPPORT THE ATTACK IF THEY ARE WITHIN 9 HEXES (BONUS AT 4 HEXES) AND ARE WITHOUT ANY ADJACENT ENEMY UNITS.

ARTILLERY BONUS

AN ENEMY UNIT HIT BY ARTILLERY WILL SUFFER A LOSS IN EFFICIENCY. FOR THE USE OF FRIENDLY COMBAT, ONLY THE FIRST 2 HITS HAVE ANY EFFECT. ARTILLERY WILL NOT AFFECT A RETREATED UNIT.

RETREATS AFTER COMBAT

AFTER COMBAT, A DEFENDING UNIT MAY BE FORCED TO RETREAT. IN THAT CASE, IT WILL SWITCH TO NORM MODE (OR FIRE MODE FOR ARTILLERY) AND RETREAT.

A RETREATING UNIT MUST FOLLOW NORMAL RULES AND NOT ABUSE IT'S MP'S

A RETREATING UNIT CAN'T INITIATE COMBAT

A RETREATING UNIT THAT FAILS TO RETREAT THE REQUIRED NUMBER OF HEXES, WILL SUFFER ADDITIONAL LOSSES AND MAY BE DESTROYED. IF THE UNIT CAN NOT RETREAT 1 HEX, IT WILL ENTER DEFENSE MODE.

A UNIT MAY RETREAT ONLY ONCE DURING A TURN. IF IT IS REQUIRED TO RETREAT AGAIN, IT WILL INSTEAD SUFFER LOSSES.

DURING THE NEXT MOVEMENT PHASE, NOT INCLUDING AIRCV UNITS, THE UNIT WILL HAVE ONLY 1/2 NORMAL MP'S.

COMBAT DISPLAY

DURING COMBAT, THE FOLLOWING WILL BE DISPLAYED:

UNIT:
TYPE

STRN:
OF THE DEFENDER (LIGHT, MEDIUM, OR HEAVY)

RSLT:
(RESULT) SEE LATER IN DOCS FOR EXPLANATION OF COMBAT RESOLUTION

ARTILLERY

A UNIT MAY BE FIRED BY:

PRESS "O" AND THEN "F"

BEING CALLED INTO SUPPORT WHEN IN SUPPRT MODE

OPERATED MANUALLY BY ENTERING FIRE MODE AND HITTING CTRL-F, POSITIONING CURSOR, AND HITTING:

CTRL-F:
FIRE

CTRL-S:
SMOKE

CTRL-X:
RETURN TO MOVEMENT PHASE (WHEN IN THIS PHASE, THE COMMANDS WILL BE DISPLAYED IN INVERSE IF ILLEGAL)

RUSSIAN NOTE: THE RUSSIANS MUST USE THE SAME DIVISION TO SIGHT AN ENEMY

ARTILLERY SIGHTING

A UNIT MAY ONLY FIRE ON A SIGHTED ENEMY. ANY FRIENDLY UNIT MAY SIGHT FOR ARTILLERY. THE "O" "F" SEQUENCE WILL NOT FIRE ON HIDDEN UNITS, THE MANUAL APPROACH MUST BE USED TO DO THIS.

AIR POWER

WHEN CTRL-A IS HIT, THE FOLLOWING WILL BE DISPLAYED:

NATO: #:#: RUSSIAN :ALC:KEYS
(A) SUPERIORITY :SPARE #: #: 0-9
(T)AC. SUPPORT :STRKE # # C/F

#--A NUMBER BETWEEN 0-9

THE SIDE IN INVERSE HAS SUPERIORITY. IF BOTH SIDES ARE NORMAL, NEITHER HAS SUPERIORITY.

AIR SUPERIORITY

WHEN THE MENU IS DISPLAYED, THE PLAYER MAY ALLOCATE 0-9 POINTS. THIS IS DONE BY HITTING "A" AND THEN THE NUMBER.

SUPERIORITY IS DECIDED BY THE SIDE WHICH HAS MORE POINTS. A PLAYER MAY GET 1-2 EXTRA POINTS IF HE HAS HELF SUPERIORITY FOR MORE THAN 2 TURNS.

TACTICAL AIR STRIKES

IN TURNS 0-3, A PLAYED CAN ALLOCATE 3 STRIKES. THIS CAN BE CHANGED BY 1-2 DURING THE LATER TURNS.

TO ALLOCATE THE STRIKES, HIT "T" AND MOVE THE CURSOR TO THE PLACE YOU WANT AND HIT CTRL-F TO PLACE THE CURSOR.

ON THE PLAYER'S NEXT TURN, WHEN CTRL-A IS HIT, AIR STRIKE MARKERS WILL APPEAR AT THE DESIGNATED PLACES. THEY MAY THEN BE CALLED IN BY UNITS ORDERING SUPPORT WITHIN 3 HEXES. IF THE OPPONENT HAS AIR SUPERIORITY, THE STRIKES FAIL TO APPEAR.

MINES AND NUCLEAR

THESE OPTIONS MAY BE CALLED IN LATER IN THE GAME

REINFORCEMENTS

DURING THE COURSE OF THE GAME, BOTH SIDES WILL RECIEVE REINFORCEMENTS AT SPECIFIED PLACES. THE REINFORCEMENTS WILL ARRIVE IN AN OVERSIZED STACK WHICH IS MOVED AWAY.

REORGANIZATION

MOST UNITS (NATO AND RUSSIAN) AT A RATE DECIDED UPON BY THE DISTANCE FROM THE HQ.

THE UNIT WILL INCREASE ITS STENGTH AND EFFICIENCY BY:

3 IF WITH 0-4 HEXES (OR IS AN HQ) 2 IF WITHIN 5-9 HEXES FROM HQ 1 IF DISTANCE IF 10+ FROM HQ

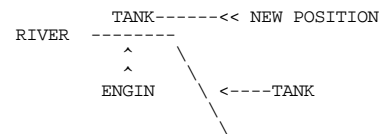
A UNIT WILL FAIL TO REORGANIZE OF IT IS ADJACENT TO AN ENEMY UNIT.

A HIDDEN UNIT IN REOR MODE HAS A SIGHTING DISTANCE OF 2 HEXES

A UNIT WILL INCREASE TO A MAXIMUM OF 12 STRENGTH POINTS AND 7 EFFICIENCY.

BRIDGING

THE ENGINEER UNIT CAN BE USED TO AID UNITS CROSSING A RIVER.



SAVING THE GAME

 TO SAVE THE GAME AT ANY TIME, JUST HIT CTRL-B. A SPECIAL SSI SAVE DISK MUST BE INITIALIZED TO DO THIS.

TO RELOAD THE GAME, REPEAT THE CTRL-B PROCESS, BUT POSITION THE ARROWS NEXT TO A NAME AND HIT <RETURN>. YOU CAN ALSO USE THE RESTART GAME FEATURE ON THE MAIN MENU.

LEVEL STRUCTURE

 THERE ARE 3 LEVELS OF PLAY. I SUGGEST THAT YOU START OUT ON THE EASIEST LEVEL OR THE COMPUTER WILL BEAT THE CRAP OUT OF YOU. CHANCES ARE IT WILL DO THAT ANYWAY.

SCENARIOS

 GAME WILL END AFTER THE 20,21, OR 22 TURN. THE IS A 50% CHANCE IT WILL END ON TURN 21, AND A 25% CHANCE FOR TURNS 20 AND 22.

ADVANCE TO COMBAT:

NEITHER PLAYER CAN GET AIR SUPERIORITY FOR THE FIRST 2 TURNS

INVASION:

THE RUSSIAN PLAYER HAS AIR SUPERIORITY FOR THE FIRST 2 TURNS. IN TURN 0, THE NATO PLAYER HAS THE OPTION OF SETTING UP HIS FORCES. THE RUSSIAN SIDE PLACES 2 DROP ZONES FOR PARATROOPERS. IT IS A GOOD IDEA TO PLACE THESE APART, BECAUSE IF A UNIT ATTEMPTS TO LAND ON A STACK, IT WILL FAIL TO ARRIVE AND BE LOST FOREVER.

VICTORY

 VICTORY IS ATTAINED BY WHO CONTROLS THE MOST VILLAGES, TOWN, ETC. USUALLY, WHEN YOU ARE PLAYING AND ONE SIDE IS KILLING THE OTHER, IT IS BORING TO CONTINUE ANYHOW.

TYPE MODE TABLE

 Y = LEGAL N = ILLEGAL

NATO:

	DEF	SUPT	NORM	TRAN	RIV	ATT	REOR	FIRE
TNK	Y	Y	Y	Y	Y	Y	Y	Y
SPG	N	Y	N	Y	Y	N	N	Y
APC	Y	Y	Y	Y	Y	Y	Y	Y
AIR	N	Y	N	Y	N	N	N	Y
REC	N	N	Y	Y	Y	N	N	N
ENG	N	N	Y	Y	Y	N	N	N

RUSSIAN:

	DEF	SUPT	NORM	TRAN	RIV	ATT	REOR	FIRE
TNK	Y	Y	Y	Y	Y	Y	Y	Y
BMP	Y	Y	Y	Y	Y	Y	Y	Y
ART	N	Y	N	Y	Y	N	N	Y
KAT	N	Y	N	Y	Y	N	N	Y
INF	Y	Y	Y	Y	Y	Y	Y	Y

ENG N N Y Y Y N N N

TERRAIN SHIFT TABLE

OPEN	0	
L. ROUGH	1	VILLAGE 2
ROUGH	3	TOWN 3
FOREST	2	SAND 1
SWAMP	1	RIVER 0

MODE SHIFT TABLE

	RETREAT	ATTACK	DEFENSE	ARTILLERY
DEFN	0	0	8	0
SUPRT	3	3	4	3
NORM	2	5	5	2
TRANS	4	2	2	4
RIVER	4	2	2	5
ATTCK	3	8	2	3
REOR	5	0	0	5
FIRE	3	3	3	3

TYPE VS TYPE TABLE

NATO:

	TANK	BMP	ARTLY	KATSH	INF	ENG
TANK	0	1	3	3	-1	-1
SPG	-3	-3	-2	-2	-3	-3
APC	-1	0	2	2	1	-1
AIRCV	-4	-3	-5	-5	-5	-5
RECON	-4	-3	-2	-2	-4	-5
ENG	1	1	4	4	1	1

RUSSIAN:

	TANK	SPG	APC	AIR	RECON	ENG
TANK	0	3	1	4	5	-1
BMP	-1	2	0	3	4	-1
ARTLY	-4	-3	-4	-2	-2	-5
KATSH	-4	-3	-4	-2	-2	-5
INF	0	3	0	3	3	-1
ENG	1	4	1	5	4	0

THIS CONCLUDES THE GERMANY 1985 DOCS.

=====
DOCUMENT ghostbusters
=====

GHOST BUSTERS DOCS!

This is from the Commodore version of the game, so be alert for differences...

BUILDING A FRANCHISE

Follow instructions on the screen to buy and outfit your vehicle: to pick up and release supplies with the forklift, press the joystick button. Keep an eye on credit available, (upper right corner).

> PK Energy Detector warns of an approaching ghost, called a "Slimer", by turning a building pink as you pass it.

> Image Intensifier makes Slimers easier to see when you're trying to catch them.

> Marshmallow Sensor warns you of the impending approach of the dreaded Marshmallow Man by turning a building white when you're by it.

> Ghost Vacuum sucks up itinerant ghosts (called "Roamers") as you travel the streets of the city.

> Ghost Traps are what you use to catch and store Slimers. Each trap holds one Slimer. Without them, you cannot earn money.

> Ghost Bait attracts Roamers, which periodically gather to form the Marshmallow Man. Without bait, you cannot stop him. (See Important Safety Tips, below). You get five dollops of bait when purchased.

> Portable Laser Confinment System stores ten Slimers in your vehicle. Saves travel time back to to GHQ for more traps.

YOUR ACCOUNT NUMBERS

If you successfully complete a game your account number will record your balance. You can use your account number on ANY Ghost Busters program. Be careful to always enter your name and account number exactly the same way.

A map of the city appears, with Zuul's horrible temple in the center and GHQ at the bottom. Red flashing buildings indicate the presence of a slimer.

> Guide your vehicle to red flashing buildings, leaving as short a trail as possible to reach the building. As you do this, freeze any Roamers that are moving to Zuul by touching them.

> To position yourself at buildings that are directly above the street, push the button. To position yourself at buildings below the street, pull back joystick and push the button.

THE STREETS

Steer the vehical at passing Roamers (if you have frozen any) and push the button to vacuum them up. This keeps them from reaching the temple of Zuul. The city's PK energy lever jumps 100 points for each Roamer that reaches Zuul.

BUSTNG GHOSTS

When you arrive at the site of the disturbance, take the following steps with the joystick...

> Direct the first Ghost Buster toward the center of the building and push the button to deposit the trap. Then move him to the far left side of the screen, turn him towards the trap, and press the button again.

> The second Ghost Buster appears. Direct him to the far right of the screen, turn him toward the trap, and press the button. Both Ghost Busters will power up their negative ionizer backpacks.

> Move the Ghost Busters inwards to trap the slimer between the streams. But do Not, repeat do NOT, cross the streams.

> When you have the slimer over the trap, push the button... the trap will pull him in. (Be precise: if you miss, you know what will happen).

> Every trapped Slimer increases your credit rating. The amount earned depends on how quickly you respond. Your accumulated credit is shown on the screen at all times.

IMPORTANT SAFETY TIPS

> Hit the space bar during the game for a status report.

> Every escaped Slimer adds 300 to the city's PK energy level.

> Beware that monolith of marshmallow monstrosity. When a Marshmallow Alert flashes at the bottom of the screen, the Roamers will quickly run to inform him. You must immediately hit the "B" key to drop a dollop of bait before he stomps on any buildings.

END OF GAME: THE TEMPLE OF ZUUL

The game ends in one of three ways:

1. the Gatekeeper and Keymaster join forces at the Temple of Zuul and you have NOT earned more money than you started with.

2. Once the Gatekeeper and Keymaster have joined forces at Zuul, you DO have sufficient credit, but you are unable to sneak two of your three Ghost Busters into the enterance of Zuul.

3. You succesfully reach the top of the Temple of Zuul by sneaking two Ghost Busters into its enterance.

===== DOCUMENT glean =====

GLEANERS tm INDEX v2.0

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INTRODUCTION

Greetings: This manual is designed to assist you in the execution of commands found on your Gleaners diskette. The sequence of commands on the diskette corresponds to the steps in the manual.

As you proceed with the execution of the Glean program, the research potential for home and school becomes apparent. I feel that the development of research and computer skills with the use of the program makes for a winning combination.

It has been the intention from the beginning to share this program with students and educators. For all curious individuals who seek knowledge, especially with the help of National Geographic (R) magazines, I wish you the best of luck with this program! I wish to thank my wife Trish, who's inspiration initiated the program, and who's many hours of data entry helped produce the final product.

Feel free to write or communicate with me at any time.

John Rubin

CONTENTS OF DISKETTES

Glean.exe - Main program
Cat1.rec - People category file

Cat2.rec - Place category file (A-L)
Cat3.rec - Event category file
Cat4.rec - Animal category file
Cat5.rec - Vegetable category file
Cat6.rec - Object file
Help1.txt - Help file #1
Help2.txt - Help file #2
Help3.txt - Help file #3
Help4.txt - Help file #4
Help5.txt - Help file #5
Help6.txt - Help file #6
Glean.doc - This file

MAKING BACKUP DISKETTES

When you receive your Gleaners Index diskette, first make backup copy of it, then store the original in a safe place.

- 1) Format one blank diskette with the DOS format command, using DOS version 2.1 or higher.
- 2) Place the original Gleaner Diskette in drive A, and a new formatted diskette in drive B. At the A> type "copy *.* B:"

USING GLEAN.EXE

Boot up the computer using DOS. Insert Disk #1 in drive A. At the A> type "Glean" and press enter (return).

An introductory screen will appear. To proceed into the program, press any key.

THE WINDOWS

i #1 TITLE WINDOW

z i

#2 ACTION WINDOW

z i

#3 KEY SELECTION WINDOW

z

Window #1 is the title window. In it will be the program name and the selection title.

Window #2 is the action window. It will either contain a menu or it will be where records are displayed, edited, deleted, added or searched for.

Window #3 is the key selection window. This window will display active keys and what they do.

SPECIAL KEYS

F1 - The F1 key is the Help Key and it will activate a help window which corresponds to the screen you are viewing. You may use the PgUp, PgDown and ESC Keys to view the help file or exit the help file.

ESC - The ESC key will always bring the program back to the previous step in the program. Examples: if you are printing a category it will stop the printing, if you are at the main menu it will exit the program.

MAIN MENU

There are 5 selections in the MAIN MENU as seen below.

GLEANERS NATIONAL GEOGRAPHIC (R) INEDX

- (1) Search for a subject
- (2) Display a category
- (3) Print a category
- (4) Edit or delete existing records
- (5) Add new records

PLEASE MAKE YOUR SELECTION

TYPE IN THE CORRESPONDING NUMBER

SEARCH FOR A SUBJECT

At the MAIN MENU type in "1".

A) Entering a subject

You will be asked to type in any subject. At the question, type in a subject and press return.

The subject may be typed in any combination of upper or lower case letters. The subject matter may be as specific as "archeology under the sea" or a general as the letter "a". The program will search the files for the subject and print a list of articles which contain this subject.

B) Selecting a category

Below is a display of the CATEGORY MENU used in the program. You may search for the subject in any category by typing the corresponding number or all of the categories by typing "7".

CATEGORY MENU

The following is the list of categories to choose from.

- (1) PEOPLE
- (2) PLACE
- (3) EVENT
- (4) ANIMAL
- (5) VEGETABLE
- (6) OBJECT
- (7) SEARCH ALL CATEGORIES
- (8) RETURN TO MAIN MENU

SELECT THE CATEGORY YOU WISH TO SEARCH

TYPE IN THE CORRESPONDING NUMBER

**** note the / key toggles the output of a search to the screen or to the printer. ****

5

D) Scrolling the screen

The program will print a list of the articles which contain the chosen subject until the screen area is filled or until the list is complete.

DISPLAY A CATEGORY

Selection #2 of the MAIN MENU will print to the screen any or all of the category files.

Upon typing "2" the CATEGORY MENU will appear. You may view any category by typing the corresponding number.

The file will be displayed on the screen. You may scroll through the file using the following keys.

Up & Down Arrows - Moves up or down one record.
PgUp & PgDown - Moves up or down one screen.
Home - Move to the first record.
End - Moves to the last record.

PASSWORD PROTECTION

Selection 3, 4 and 5 of the main menu, print a category, edit or delete a record and add new records, are password protected.

The password is "PLEASE" is capital letters.

PRINT A CATEGORY

Selection #3 of the MAIN MENU will print out a copy of GLEANERS

INDEX. Type "3" at the MAIN MENU. You will be asked for a password.

Type "PLEASE" and the CATEGORY MENU will appear.

Type in the corresponding number for the category you wish to print or type "7" to print a complete category index.

EDIT OR DELETE EXISTING RECORDS

Selection #4 of the Main Menu will edit, delete or add records to an existing category file. Type "4" at the MAIN MENU. You will be asked for a password. Type "PLEASE" and the CATEGORY MENU will appear.

Type in the corresponding number for the category you wish to edit. Records can be added, deleted or edited to the selected category. There is a maximum number of 200 records which can be added or edited at any one session. If disk space is limited the number of records which can be edited will be displayed in window #3, the bottom window next to REC.

Use the SCROLL KEYS to select a record to edit or delete by moving the pointer to the desired record.

Use the SELECTION KEYS to either Edit a record, Mark a record for Deletion or Add a new record to the file.

Use the EDITING KEYS to perform the actual editing or adding of records.

*****Important*****
*Each field, (Category, Title, Volume, Number & Date) is *
completed by pressing the ENTER key. The Record is completed when
*the ENTER key is pressed after the Date field . The Record that *
*the pointer is sitting at when you escape out is not recorded. *

THE POINTER - >>>
SCROLL KEYS

Up Arrow & Down Arrow - Moves the pointer either up or down through the displayed records, one record at a time.

PgUp & PgDn - Moves the pointer either up or down through the

displayed records, one page at a time.

Home - Moves the pointer to the first record.

End - Moves the pointer to the last record.

SELECTION KEYS

F1 - Help Key

F7 - Edit Key - Starts the editing of the record at the pointer.

F9 - Add Key - Starts the add records mode. Records are added continuously until the ESC key is pressed. The record at the pointer upon quitting is not recorded.

(SELECTION KEYS cont.)

F10 - Delete Key - Toggle key for deleting or undeleting a record at the pointer. A deleted record will have a "D" next to the record.

<ESC> - Escape Key - Ends the add record session. The records are then sorted and recorded in the appropriate category file.

EDITING KEYS

Left Arrow & Right Arrow - Moves the cursor left or right one character.

Home - Moves the cursor to the beginning of the word, number or date.

End - Moves the cursor to the end of the word, number or date .

Ins - Inserts a space between two characters at the cursor.

Del - Deletes a character at the cursor.

Back Arrow - Deletes one character back.

Enter - Accepts the field and moves to the next field or if on the date field it moves to start of the next new record.

Esc - Quits to the Selection Screen. The record at the pointer is not recorded.

FIELD LIMITATIONS

CATEGORY - Only the selected category can be entered and is set by

default. The field cannot be left blank.

Categories

- 1. - People
- 2. - Place
- 3. - Event
- 4. - Animal
- 5. - Vegetable
- 6. - Object

TITLE - Any character is accepted. The field cannot be left blank.

VOL. - Any number between 0 & 999 may be entered. The field cannot be left blank.

NUM. - Any number between 0 & 9 may be entered. The field cannot be left blank.

DATE - Any date up to the year 2999 is accepted. The date is entered as MM/DD/YYYY. The MONTH is 2 numbers. The DAY is 2 numbers. The YEAR is 4 numbers. The Date Field may be entered with or without slashes. The Date is checked for a valid date when the enter key is pressed.

ADD NEW RECORDS

Selection #5 of the Main Menu will Add new records to any category file. Type "5" at the MAIN MENU. You will be asked for a password, type "PLEASE".

Press the F9 key to start adding records.

Press the ESC key to end adding records.

Records can be added to any category. There is a maximum number of 200 records which can be added or edited at any one session. If disk space is limited, the number of records which can be edited will be displayed in window #3, the bottom window next to REC.

Use the SCROLL KEYS to select a record to edit or delete by moving the pointer to the desired record.

Use the SELECTION KEYS to either Edit a record, Mark a record for Deletion or Add a new record.

Use the EDITING KEYS to perform the actual editing or adding of records.

*****Important*****
*Each field, (Category, Title, Volume, Number & Date) is *
completed by pressing the ENTER key. The Record is completed when
*the ENTER key is pressed after the Date field. The Record that *
*the pointer is sitting at when you escape out is not recorded. *

SEE EDITING RECORDS FOR DETAILS OF KEYS.

STARTING A NEW DATABASE

If you wish to create an index for another magazine or set of books, you may do this with GLEANERS INDEX. To do this, erase the Cat\$.rec files and Gleaners Index will create new files when you add new records using the ADD NEW RECORD selection. Another method would be to delete all the records from the Cat\$.rec files using the EDIT OR DELETE RECORD selection. Either

method will allow the user to create a new index.

GOOD LUCK !!!

If you need help or find a bug, give me a call or drop me a line.

The registration fee for Gleaner's Index is \$15. If you use this program you should register with us. The fee is not an exorbitant amount of money and it encourages the production of both new and better programs for you and your children to enjoy.

Please send the registration to :

GLEANERS'S PRINTING
P.O. Box 617
Kingston, Nova Scotia BOP 1R0
Canada

***** Thank you for supporting shareware software *****

John Rubin

=====

DOCUMENT gnoman

=====

GNO Kernel Reference Manual

Version 1.0 alpha
August 10, 1991
Written by Jawaid Bazyar

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The GNO Multitasking Environment for the Apple IIgs
Copyright 1991, Procyon Software and Tim Meekins

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With many thanks to:

Bill Gulstad, Rob Knauerhase, and everyone in UIUC Apple II R&D and the A2RD
Technical Discussion group

Dave Lyons, for tolerating my endless questions since the beginning of time, and
for getting me started in IIgs programming.

Mike Westerfield, for your technical assistance and all your work in making decent
development tools for the IIgs.

Special thanks to:

Matt Deatherage, for telling me it couldn't be done, so that I could do it.

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PREFACE

This is a draft copy of the GNO Kernel Reference Manual for the alpha version of the GNO kernel and shell. The is to forewarn you that there may exist differences between this manual and the system as it exists in your computer. At this moment in time, the GNO software is very dynamic and is changing daily. This manual may at times mention features which are forthcoming. When possible, these are marked with a Alpha release note.

INTRODUCTION

Computers are tools. The flexibility of a tool determines how useful it is. Early computers were much like the one this software was written for: the Apple IIgs. They could only run one program at a time, and their usefulness was limited to what the particular program the user was executing offered. In the late 1960's, a team of researchers at AT&T began developing the Unix operating system. Unix's design was partially based on the premise that most programs are I/O bound, i.e. most of the time the program executes is spent waiting for user input or other I/O operations. While one program is waiting for I/O, why not allow another program to execute? This is what they did, and the result was one of the most successful computer projects ever.

The Apple IIgs, like the Macintosh it is modelled after, provides very limited multitasking abilities in the form of desk accessories (NDAs). The programs in the NDA menu are available in whatever application you use as long as it follows Apple's guidelines. However, there are many graphics based programs that don't support NDAs, and in addition there is a wealth of software that has been developed for the Byte Works' Orca environment. This environment is mainly text-based, and thus makes access to NDAs impossible. As if that wasn't enough, it's very difficult to write an NDA to allow the application to keep running. So the benefits are lost, and we're back at ground zero.

Enter the GNO system. What was once just dreamed about is now a reality. GNO provides an environment that is almost entirely compatible with software developed for the Orca environment. But GNO provides a wealth of new abilities, lots of new ground for developers and users alike.

Before we begin describing, we'd like to rebuttal those who say such a multitasking system isn't possible on the IIgs. Obviously it is: you hold it in your hands. Some say the IIgs isn't powerful enough to make multitasking useful. We point out that the IIgs is much more powerful than the first computers Unix was designed to run on (they only had 64K of real memory! and were 16 bit machines). Some ask why you'd ever need to run more than one program at once. These are the same people who asked why we'd ever need more than 64K of memory, or more than 140K of storage on disks. (end soapbox)

First off, GNO provides pre-emptive multitasking. Many programs can be executing at the same time- each is called a 'process'. Each process is allowed to run for a short period of time (1/60th of a second on average). When its time runs out, the current process is set aside and another one chosen to run next. This cycle continues until there are no more processes left (i.e. when you exit GNO). Starting up processes to run 'in the background' is a simple matter of adding a few characters to the Orca shell commands you're already familiar with. As mentioned before, most existing utilities are compatible with GNO.

GNO provides a new shell that takes full advantage of the multitasking ability provided. The most important feature of the shell is process control (starting them up, killing them, and suspending them). But the shell also provides power never before seen on the Apple IIgs. The ability to choose files by 'wildcard' has been around for a while, but GNO takes this to a new level with 'regular expressions', a very powerful yet simple programming language. Other benefits of the GNO shell are too numerous to mention. (see the chapter on the Shell for details).

In addition to being compatible with the Orca system, GNO is a very powerful programming environment. Available to the programmer are all the calls needed to control processes, support Inter-Process Communication, and other tools needed in a multitasking environment. (see the Chapter on Kernel calls for details). GNO also boasts the first completely consistent method for accessing serial and console I/O. The IIgs TextTools have been incredibly enhanced to provide a truly all-encompassing interface for serial, console, and IPC applications. Imagine being able to attach terminals to your GS, and have a useful shell in each one. Multiuser BBSSs, remote dial-ups, UUCP or SLIP that doesn't take over your computer- the applications are endless!

GNO works wonderfully with accelerator boards- in fact, software can work faster under the GNO environment than normal! Because programs no longer take processor time waiting for an I/O event to occur, they also aren't constantly accessing the I/O memory- accelerator boards have to slow down and flush their caches when I/O is accessed. As an example, a GS/OS telecommunications program was 10%-15% faster during file transfers.

With all this talk of shell utilities, have desktop users (users of programs like Prizm) been left behind? Absolutely not. GNO doesn't allow more than one desktop program to run concurrently, but it DOES let you run a desktop program with as many text applications as you like. In other words, no functionality is lost from the IIgs by using GNO.

Finally, the GNO environment comes with a large number of free utilities that bring some of the power of a Unix system to the IIgs. Also, a number of programming libraries are included that make it easy to port programs from Unix or MS-DOS systems to the IIgs. A whole new world of software awaits the IIgs. GNO by itself does not require any resources above what you normally use in your development environment. However, if you're going to be running several large programs at once (for instance, background communications software or multiple compiles in the background), then you're definitely going to need as much RAM as you can afford. Also, since the IIgs is by no means a speed demon, an accelerator card is recommended.

The next several chapters describe the resources provided by the GNO system in a general manner. They deal mainly with concepts, and exist to provide an overview and a sort of 'textbook' understanding of how the system as a whole works. At the end of the manual you will find a canonical list of all the functions that GNO provides: the system calls. These are presented in a Unix manpage format. This means you will also find these call descriptions on the GNO distribution disk. They are provided in this way so that one need not constantly refer to a printed manual. It also provides a method of impeccable indexing, via the grep program. The manpages detail exactly what the programmer must do in order to use the system calls, and also exactly what effects the call has.

NOTE: The material in this manual is of a technical nature. It is intended mainly for programmers who wish to write applications which take advantage of GNO's features. For information on using the shell, see the GNO Shell User's Manual.

Chapter 1: Modifications to GS/OS

The GNO system modifies the behavior of a number of GS/OS calls in order to allow many programs to execute concurrently, and to effect new features. The changes are done in such a way that old software can take advantage of these new features without modification. Following is a complete description of all the changes affected. Each section has details in text, followed by a list of the specific GS/OS or ToolBox calls effected.

Mutual Exclusion in GS/OS and ToolBox calls

The Apple IIgs was not designed as a multitasking machine, and GS/OS and the ToolBox reflect this in their design. The most notable problem with making a multitasking environment work on the IIgs is the use of global (common to all processes) information, such as prefixes and direct page space for tool sets which includes information like SANE results, QuickDraw drawing information, etc. In most cases we've corrected these deficiencies by keeping track of such information on a per-process basis, that is, each process has it's own copy of the information and changes to it do not affect any other process' information.

However, there were many other situations where this could not be done. Therefore, task switching is turned off during all GS/OS and ToolBox calls (except for User Tools and the TextTools). This was the best solution for this problem, and doesn't hurt system performance much.

Prefixes

Normally under GS/OS there are 32 prefixes, and these are all under control of the current application. GNO extends this concept to provide each process with it's own copies of certain prefixes (0, 1, and 9). When a process modifies one of these prefixes via the GS/OS SetPrefix call, it modifies only it's own copy of that prefix- the same numbered prefixes of any other processes are not modified.

```
$2004 ChangePath
$200B ClearBackupBit
$2001 Create
$2002 Destroy
$200E ExpandPath
$2006 GetFileInfo
$200A GetPrefix
$2010 Open
$2005 SetFileInfo
$2009 SetPrefix
```

(Note: The corresponding ProDOS-16 interface calls are also supported).

Open File Tracking

Previously, a major problem with the way GS/OS handled open files was this: a Desk Accessory (or a background program of any sort) could open a file and have it closed without it's knowledge by the main application program. This presented all kinds of problems for desk accessory authors. Apple presented a partial solution with System Software 5.0.4, but it wasn't enough for a true multitasking environment. GNO keeps track of exactly which process opened which file. It also discontinues the concept of a global File Level, opting instead for a per-process File Level. To summarize, if process A opens several files, and process B subsequently makes a Close(0) call, only files opened by process B and above process B's current File Level will be closed. Process A's files are unaffected, even if process A had opened the same files.

In addition to this behavior, when a process terminates in any manner all files that it currently has opened will be closed automatically. This prevents problems of the sort where a program under development terminates abnormally, often leaving files open and necessitating a reboot.

The Flush() GS/OS call is not modified in this manner. The effects of a Flush(0) call are basically harmless, but it will decrease system performance if executed often.

```
$2010 Open
$2014 Close
$201B GetLevel
$201A SetLevel
```

Quitting applications

The GS/OS Quit call has been modified to simply terminate the calling process. It no longer supports transferring to other applications or maintenance of a return stack, neither of which are necessary with the functionality of the exec() system call (which is how all applications are launched under the GNO system). Note that this will possibly change in the future to support the Finder .

Chapter 3: Process Management

Before discussing process management using Kernel calls, it would be wise to define just exactly what we refer to when we say process. A process is generally considered to be a program in execution. "A program is a passive entity, while a process is an active entity." (Operating Systems Concepts p.73, Silberschatz and Peterson, Addison-Wesley, 1989). The concept of process includes the information a processor needs to execute a program (such as the program counter, register values, etc).

In order to execute multiple processes, the operating system (GNO and GS/OS in this case) has to make decisions about which process to run and when. GNO supports what is termed pre-emptive multitasking, which means that processes are interrupted after a certain amount of time (their time slice), at which point another process is allowed to run. The changing of machine registers to make the processor execute a different process is called a context switch, and the information necessary for this is called it's context. The kernel maintains a list of all active processes, and

assigns time slices to each process according to their order in the list. When the kernel has run through all the processes, it starts again at the beginning of the list. This is called round-robin scheduling. Under certain circumstances, a process can actually execute longer than it's allotted time slice because of a GS/OS or ToolBox call. In these cases, as soon as the system call is finished the process is interrupted.

Processes can give up the rest of their time slice voluntarily (but not necessarily explicitly) in a number of ways, terminal input being the most common. In this case, the rest of the time slice is allocated to the next process in line (to help smooth out scheduling). A process waiting on some event to happen is termed blocked. There are many ways this can happen, and each will be mentioned in its place.

An important item to remember is the process ID. This is a number which uniquely identifies a process. The ID is assigned when the process is created, and is made available for reassignment when the process terminates. A great many system calls require process IDs as input. Do not confuse this with a userID, which is a system for keeping track of memory allocation by various parts of the system, and is handled (pardon the pun) by the Memory Manager toolset. Finally, do not confuse Memory Manager userID's with Unix userID's- numbers which are assigned to the various human users of a multiuser machine.

There are two methods for creating new processes- the system calls fork() and exec() (specifics for calling these functions and others is in the appendix "System calls"). fork starts up a process which begins execution at an address you specify. exec starts up a process by loading an executable file (S16 or EXE). fork is used mainly for use inside a specific application, such as running shell built-ins in the background, or setting up independent entities inside a program. Forked processes have some limitations, due to the hardware design of the IIGS. The parent process (the process which called fork) must still exist when the children die, either via kill() or by simply exiting. This is because the forked children share the same memory space as the parent; the memory the children execute from is tagged with the parent's userID. If the parent terminated, the children's code would be deallocated and likely overwritten. A second caveat with fork is the difference between it's Unix counterpart. Unix fork begins executing the child at a point directly after the call to fork. This cannot be accomplished on the IIGS because virtual memory is required for such an operation; thus the need to specify a fork child as a C function. Note that an appropriately written assembly language program need not necessarily have these restrictions. When a process is forked, the child is given it's own direct page and stack space under a newly allocated userID, so that when the child terminates this memory is automatically purged.

exec is used when the process you wish to start is a GS/OS load file (file type S16 and EXE). exec follows the procedure outlined in the GS/OS Reference Manual for executing a program, and sets up the new program's environment as it expects. After exec has loaded the program and set up it's environment, the new process is started and exec returns immediately.

Both fork and exec return the process ID of the child. The parent may use this process ID to send signals to the child, or simply wait for the child to exit; indeed, this is the most common use. The system call to accomplish this is wait. It takes no parameters, and blocks the caller. Whenever a child process terminates or is stopped (see the section on Signal management), wait unblocks the caller and returns the process ID of the affected child.

exec is actually implemented as two other system calls- fork, and one called execve. execve loads a program from an executable file, and begins executing it. The current process' memory is deallocated. The shell uses a fork()/execve() pair explicitly, so it can set up redirection and handle job control. See the appropriate manpages for details.

Chapter 5: GNO Compliance

For a program to work effectively under the GNO system, certain rules must be followed. Most of these rules boil down to one underlying concept - never directly access features of the machine. Always use GS/OS, the ToolBox, or GNO to accomplish what you need. We have taken great care to provide the sorts of services you might need, such as checking for input without having to wait for it. GNO compliance isn't just a matter of trying to make applications work well under the environment- it ensures that those applications stay compatible, no matter what changes the system goes through. Below are summarized the points you must consider when you're writing a GNO compliant application.

Detecting the GNO Environment

If your applications requires the GNO Kernel to be active (if it makes any kernel calls), you can make sure this is so by making a kernStatus call at the beginning of your program. The call will return no error if the kernel is active, or it will return an error code of \$0001 (Tool locator - tool not found), in which case the value returned will be invalid. The call returns a 1 if no error occurs, but the value returned will be indeterminate if the kernel is not active, so you should only check for an error (toolerror() or _toolErr in C, the value in the A register in assembly).

You can also determine the current version of GNO by making the kernVersion call. The format of the version number returned is the same as all the standard tools, and is documented in the Toolbox Reference.

Terminal I/O

The Apple II has always been lacking in standardized methods for reading keyboard input and controlling the text screen. This problem was compounded when Apple stopped supporting the TextTools in favor of the GS/OS Console Driver. The Console Driver has a number of problems that prevent it from being a good solution. There is high overhead involved in using it. It must be accessed like a regular file, which means any I/O on it must filter through several layers before being handled. There is no provision for patching the low-level routines, so it can be used over a modem or in a desktop program. And GS/OS must be called to access it, which means that while a Console Driver access is occurring, no other processes can execute (see Chapter 1).

GNO ignores the console driver and replaces the TextTools with a high-performance, very flexible generic terminal control system. GNO directly supports the console (keyboard and screen), as well as the serial ports, as terminals. In order for a user program to take advantage of these features and to be GNO compliant, you must do terminal I/O only through the TextTools. Calls to the GS/OS console driver will not crash the system, but they will make other processes stop until the call is completed. You must not get input directly from the keyboard latch (memory location \$E0C000), nor may you write directly to the screen memory. The TextTools Terminal I/O system has been designed so you don't have to do either of these things. If you need to wait for keyboard input without stopping your application, you can make the appropriate Control call (see the chapter on Terminal I/O) to put the tools in the proper mode.

(Note: late breaking news has it that Apple has modified the Console Driver to allow patching of the low-level I/O routines. This means that Console Driver support can very likely be added to GNO while still maintaining current functionality. We salute this move on Apple's part- keep up the good work!)

Stack Usage

Stack space is at a premium on the IIgs. Process stacks can only be located in Bank 0- a total of 64K. This theoretical limit doesn't apply, however, as GS/OS and other bits of system software reserve a large chunk of this without any way to reclaim it. There is approximately 48K of usable stack space. This space also has to be shared with direct page space for Tools and certain types of device drivers, however. For a program to be GNO compliant, stack usage analysis must be done and acted upon. Use of the stack should be minimized, in order that many processes can coexist peacefully. From experience we've found that 1K usually suffices for well-written C applications, and at a maximum 4K can be allocated.

Assembly language programs are very efficient when it comes to use of the stack. The 1K provided by default to applications is usually more than enough for assembly language programs. However, C programs can use up tremendous amounts of stack space, especially if recursion is employed or string manipulation is done without concern for stack usage. Below are some hints to keep stack usage at a minimum.

- o Avoid use of large local arrays and character strings. Instead, dynamically allocate large structures such as GS/OS strings with malloc() or the Memory Manager.
- o Try not to use recursion unless absolutely necessary. All recursive functions can be rewritten using standard loops and creative programming. This is a good general programming rule- your program will run faster.
- o Orca/C generates 8K of stack by default, in case the desktop is started up. Since GNO compliant programs generally will not be desktop-based, make sure you judge how much stack your program will require and use the #pragma stacksize directive to limit how much stack space Orca/C tries to allocate for your program.

Disk I/O

Since the Apple IIgs doesn't have coprocessors to manage disk access and the serial ports, either of these requires the complete attention of the main 65816 processor. This can wreak havoc in an environment with slow disks or high-speed serial links, as accessing disks usually results in turning off interrupts for the duration of the access. This situation is lessened considerably with a DMA disk controller, such as the Apple High Speed SCSI or CV Technology RAMfast. But this isn't as bad as it sounds; the IBM PC and Macintosh also suffer from this problem, and the solution is straightforward. Make sure your communications protocol can handle errors where expected data doesn't arrive quite on time, or in full. The best solution would be an add-on card with serial ports and an on-board processor to make sure all serial data was received whether or not the main processor was busy (this is a hint to some enterprising hardware hacker, by the way).

Yet another concern for GNO applications is file sharing. GS/OS provides support for file sharing, but it is up to the application author to use it via the requestAccess field in the Open() call. GS/OS only allows file sharing if all current references to it (other instances of the file being opened) are read-only. GNO authors should use read-only access as much as possible. For example, an editor doesn't need write permission when it's initially reading in a file. Note that the fopen() call in C supports read-only mode.

INTERMEDIATE ALPHA RELEASE NOTES (August 10, 1991)

Known Bugs

GNO crashes if AppleTalk is turned on
Some programs (most notably editors like emacs and ROSE) lose characters due to conflicts with the GNO keyboard buffering scheme.
There is a random error that occasionally closes files when loading a program. This most often manifests itself when running programs in the gshrc file, but can wreak havoc elsewhere. Try 'ls & ls'.
I've had trouble with an old version of macgen not being able to find files.

Features

GNO now supports restartable programs, if they terminate with a Quit call and set the appropriate flags (the way Apple recommends it be done). Programs that I know support this: emacs. All applicable Shell Utilities will also support this at the next release.

About this special alpha version of GNO:

We have decided to release GNO in this partially-finished state for a couple reasons:
1) We want as much outside user commentary and suggestions as we can get. The feedback we receive on this alpha version will to a large degree determine the course of GNO, regarding functionality and features.
2) We want to make a statement that this project is here, it's real, it's NOW. We want to make this clear to Apple and to other development community members. We want your support, and the best way of achieving that is showing what we have, and asking you where we should go.

Thanks for trying out the GNO system. I believe it can be a tremendous boost to the Apple II community; and it starts with you.

Sincerely,
Jawaid Bazyar

p.s. Remember - if someone comes up to you on the street and offers you some IBM, Just Say GNO!

=====

DOCUMENT gnoman.2

=====

EXEC(2) SYSTEM CALLS EXEC(2)

NAME

exec - load an executable file and launch as a new process

SYNOPSIS

#include <kerntool.h>

int exec(char *pathname, char *cmdline);

DESCRIPTION

exec is an alternative method for launching a new process under GNO. It is a combination of the fork() and execve() calls, and in fact is written in terms of them. The difference between exec and execve is that exec returns in all cases- it is a simplified interface for those who don't need to affect process information before a new executable begins (such as process group IDs or I/O redirection information).

The algorithm for exec (simplified somewhat) is as follows:

```
void exec2() {
    return execve()
}
int exec() {
    return fork(exec2);
}
```

RETURN VALUE

exec returns the process ID of the child, or SYSERR (-1) if an error occurs in the fork() call.

BUGS

See BUGS in execve(2) and fork(2).

If an error occurs in the execve phase of this call, it can't be detected by normal means. The wait system call must be used to get the return code of the process, which will be SYSERR (-1) if the execve fails.

SEE ALSO

execve(2), fork(2), wait(2)

EXECVE(2) SYSTEM CALLS EXECVE(2)

NAME

execve - replace current process with an executable image from a file

SYNOPSIS

#include <kerntool.h>

int execve(char *pathname, char *cmdline);

DESCRIPTION

execve is the preferred method for loading program files to be executed under the GNO system. A new userID is allocated for the process, and the GS/OS System Loader is used to bring the executable file specified by pathname into memory. pathname can be a partial or complete path. The executable loaded replaces the executable associated with the current process.

If the executable file does not contain an OMF Stack Segment (SEKIND = \$12), a default stack of 1024 bytes is allocated to the process. The direct-page pointer is set to the bottom of the stack memory (for C programs this is irrelevant).

The parameter cmdline is the list of arguments to be passed to the new process (a copy is actually passed). C programs parse cmdline automatically, and the individual

pieces can be accessed through the argc/argv arguments to main(). cmdline can be accessed from assembly language through the X (high-order word of cmdline) and Y (low-order word) registers. However, if the executable file is of filetype S16 (\$B3), the cmdline argument is ignored and the X&Y registers are set to null (i.e. the command line is only passed to an EXE executable). The 8 characters "BYTEWRKS" are prepended to cmdline before being passed to the process (this is the same identifier used by the Orca shell). This Shell Identifier distinguishes the GNO and Orca environments from others that don't support the full range of shell calls, and can be accessed from C with the library function shellid(). The A register is set to the userID allocated for the process.

GS/OS prefixes 1 and 9 are set to the pathname of the directory containing the executable file; if the length of the path exceeds 64 characters prefix 1 is set to the null prefix (length 0). The following information is inherited by the child: current machine state, controlling TTY, and process group ID.

Signal handling information is set to defaults. Any signals in the parent's queue are not passed to the child, and the child is started with no signals blocked. The child begins with no open files.

RETURN VALUE

A successful execve does not return, as the current executable is replaced with the one specified in the call. If for some reason the call fails, execve returns SYSERR (-1).

BUGS

Orca/C currently ignores any stack space allocated for it by the GS/OS Loader (which execve calls) or by default in execve. Stack space in Orca/C programs is determined by code in the .root object file, and can be set with the #pragma stacksize directive. Read the section on GNO Compliance in the GNO Kernel Reference Manual for more information on this topic.

SEE ALSO

exec(2), fork(2), wait(2)

FORK(2) SYSTEM CALLS FORK(2)

NAME

fork - start a new process from inside the current application space

SYNOPSIS

#include <kerntool.h>

int fork(void *addr);

DESCRIPTION

fork's argument is typically the address of a C function, although it can be any address inside the IIGS RAM space. fork creates a new entry in the process table, and sets up some default settings. The process is allocated 1K of stack space, and the direct page is set to the beginning of this memory. The process is executed in 16-bit full native mode, and the registers are set as follows:

A: the userID assigned to the process

X: 0

Y: 0

The child inherits the memory shadowing and machine state parameters of the parent, as well as signal blocking information and the ID of the controlling TTY. In addition, the child inherits the open file refNums of its parent. This can cause errors if the child closes an inherited file and the parent later tries to access it.

A forked process may share code with other children or the parent. However, this is only allowed in a forward manner- any forked process that exits by function return will be terminated. Note that any shared global variables will need to be moderated with some type of mutual exclusion, either the kernel semaphore(2) routines or custom routines.

RETURN VALUE

fork returns the process ID of the child, or -1 (SYSERR) if an error occurs.

BUGS

If a child closes a file refNum inherited from the parent, system accounting can become confused. Note that this shouldn't result in a crash, but spurious "Invalid reference number" (\$43) errors can be generated. We need the equivalent of dup() for GS/OS refnums to make this problem go away (and a more reasonable limitation on multiple access of open files).

SEE ALSO

exec(2), execve(2), wait(2), semaphore(2)

GETPID(2) SYSTEM CALLS GETPID(2)

NAME

getpid - return process ID of caller

SYNOPSIS

#include <kerntool.h>

int getpid(void);

DESCRIPTION

The process ID is a unique value associated with a process, and is needed for many system calls. Note that GNO pid's cover only a small range of numbers, as opposed to *nix pid's which range from 0-65535. Some programs use getpid to seed random number generators. A much better approach on the IIGS is to use the horizontal and vertical positions of the electron gun, which can be obtained by reading the word value at absolute memory location \$E0C02E.

RETURN VALUE

The process ID of the caller is returned. No errors are possible.

KILL(2) SYSTEM CALLS KILL(2)

NAME

kill - send a signal to a process

SYNOPSIS

#include <kerntool.h>

int kill(int pid, int sig)

DESCRIPTION

kill is used to send a signal to a process or group of processes. Signals are software interrupts; they act just like hardware interrupts and can also be used for basic IPC (Inter-process communication). The various signals are described in signal(3).

sig can be a signal number, or it can be 0, in which case no signal is sent, but error checking is done (this can be used to verify a process ID). If sig has been blocked (sigblock(2)), the signal is deferred until it is unblocked, and kill returns immediately. Any previously pending signals of the same sig are lost (i.e. signals are not stacked).

If pid is 0, the signal is sent to all processes with the same process group ID as the caller, except for system processes.

Processes may signal themselves, in which case the signal handler is invoked immediately (if installed).

RETURN VALUE

Normally kill returns SYSOK (0). The following conditions can cause kill to return SYSERR (-1):

- pid does not correspond to an existing process
- sig specifies an invalid signal number

BUGS

Currently there is no way to distinguish the types of errors that can cause kill to fail. There is no obvious way to return such a value from the toolbox routines that are the kernel (and are written in C).

K SIGNAL(2) SYSTEM CALLS K SIGNAL(2)

NAME

ksignal - a simplified software signal interface

SYNOPSIS

#include <signal.h>

void (*ksignal(sig, func))()
void (*func)();

DESCRIPTION

Signals are a basic form of IPC (inter-process communication), and are generally used to notify a process of some atypical event (although there is little restriction on actual use). For example, signals are sent in each of the following situations: user typing certain chars at a terminal (^C, ^Z, etc.); execution of an invalid instruction; by request of another process (kill); stack overflow; and a process making an input request while running in the background

Most signals cause termination, unless a handler is installed, or the signal is set to be ignored. Certain signals cannot have their default action modified; the system silently enforces this restriction. The following is a list of signals and default actions (taken from signal.h).

SIGHUP	1	hangup
SIGINT	2	interrupt
SIGQUIT	3	quit
SIGILL	4	illegal instruction
SIGTRAP	5	trace trap
SIGABRT	6	abort (generated by abort(3) routine)
SIGEMT	7	emulator trap
SIGFPE	8	arithmetic exception
SIGKILL	9	kill (cannot be caught, blocked, or ignored)
SIGBUS	10	bus error
SIGSEGV	11	segmentation violation
SIGSYS	12	bad argument to system call
SIGPIPE	13	write on a pipe or other socket with no one to read it
SIGALRM	14	alarm clock
SIGTERM	15	software termination signal
SIGURG	16@	urgent condition present on socket
SIGSTOP	17	stop (cannot be caught, blocked, or ignored)
SIGTSTP	18	stop signal generated from keyboard
SIGCONT	19@	continue after stop (cannot be blocked)
SIGCHLD	20@	child status has changed
SIGCLD	20	System V name for SIGCHLD
SIGTTIN	21	background read attempted from control terminal
SIGTTOU	22	background write attempted to control terminal
SIGIO	23@	input/output possible on a file descriptor
SIGPOLL	SIGIO	System V name for SIGIO
SIGXCPU	24	exceeded CPU time limit
SIGUSR1	30	user defined signal 1
SIGUSR2	31	user defined signal 2

If func is SIG_DFL, the default action for the signal is reinstated. This is normally termination if the signal isn't ignored or caught. Signals marked with an @ are discarded, and signals marked with | + cause the process to stop. If func is SIG_IGN, any future occurrences of the signal are discarded, as well as any pending instances. Any other value is treated as the address of a shandler routine. The system will block further occurrences of the signal before the handler is called, and will unblock the signal automatically upon return from the handler. The handler remains installed after return, unlike earlier Unix signal facilities.

If a signal occurs during certain system calls (wait(), and input from a TTY), the call is automatically restarted upon return from the handler.

A forked child inherits all signal information, including pending signals and blocking and handler information. `exec` and `execve` restore all signal information to defaults and purge pending signals.

NOTES

The signal handler should be defined as follows:

```
void handler (int sig, int code)
```

`sig` is the signal that invoked the handler, and `code` is additional information about the interrupt condition. Currently, `code` is always 0.

RETURN VALUE

The previous action is returned on a successful call. Otherwise, -1 is returned. Errors will occur on any of the following conditions:

- sig specifies an invalid signal number.
- An attempt is made to ignore or supply a handler for SIGKILL or SIGSTOP.
- An attempt is made to ignore SIGCONT (by default SIGCONT is ignored).

BUGS

This call should be named `signal`, not `ksignal`. However, Orca/C already specifies a function named `signal`, although it's not useful for anything but SANE exceptions. It was decided to leave Orca's `signal` alone, to allow trapping of SANE stuff, and add our routine under a slightly different name. This may well change when we supply custom libraries.

SEE ALSO

`kill(1)`, `execve(2)`, `fork(2)`, `getrlimit(2)`, `kill(2V)`, `sigblock(2)`, `sigpause(2)`, `sigsetmask(2)`, `sigvec(2)`, `wait(2)`, `setjmp(3)`, `termio(4)`

SCREATE(2) KERNEL SEMAPHORE FUNCTIONS SCREATE(2)

NAME

`screate`, `sdelete`, `swait`, `ssignal` - semaphore operations

SYNOPSIS

```
#include <kerntool.h>
```

```
int swait(sem)
int sem;
```

```
int signal(sem)
int sem;
```

```
int screate(count)
int count;
```

```
int sdelete(sem)
int sem;
```

DESCRIPTION

`screate` is used to allocate a semaphore from the kernel semaphore manager. Semaphores are the most basic form of interprocess communication, and these routines provide the power necessary to solve a large number of synchronization and communication problems. (See an Operating Systems text).

The initial `count` determines how many times `swait` can be called before processes are blocked. `count` must be ≥ 0 , and is usually set to 1. `screate` returns a semaphore ID number as an integer. This ID must be used in all the other semaphore calls.

`sdelete` releases the specified semaphore, and returns all processes that were blocked to a ready state.

`swait` decrements the value of the semaphore (initially specified by `count`) by 1. If the semaphore count is less than zero, the process is blocked and queued for release by `ssignal`.

`ssignal` increments the semaphore count by one. If the semaphore count is less than zero, `ssignal` releases arbitrarily a process that had been blocked.

RETURN VALUE

All the functions return `SYSERR` (-1) if an error occurs, and an OK (0) if no error occurs.

SIGBLOCK(2) SYSTEM CALLS SIGBLOCK(2)

NAME

`sigblock`, `sigmask` - temporarily block signals

SYNOPSIS

```
#include <signal.h>
```

```
long sigblock(long mask);
#define sigmask(signum)
```

DESCRIPTION

`sigblock` is used to temporarily block the reception of signals. The input parameter `mask` is a bit vector that specifies which signals are to be blocked; a 1 in a bit `n` will block signal `n+1`. The mask is bitwise-ored with the current signal mask to create the new signal mask.

`sigmask` is a macro that can be used to calculate signal masks for `sigblock`. It takes a signal number (as listed in `KSIGNAL(2)`) as an argument and returns a mask.

If a signal is sent to a process but is blocked, the event is recorded for later release by `sigsetmask`. Blocked signals are not stacked; further occurrences of a blocked signal will overwrite any previous pending signal of the same `signum`.

It is not possible to block SIGKILL, SIGCONT, or SIGSTOP. This restriction is silently imposed by the system.

RETURN VALUE

The previous value of the signal mask is returned.

SEE ALSO

`kill(2V)`, `sigsetmask(2)`, `ksignal(2)`

SIGSETMASK(2) SYSTEM CALLS SIGSETMASK(2)

NAME

`sigsetmask` - set signal mask

SYNOPSIS

```
#include <signal.h>
```

```
long sigsetmask(long mask);
#define sigmask(signum)
```

DESCRIPTION

`sigsetmask` is usually used to restore signal masks after modification by `sigblock`. The parameter `mask` is the absolute value the process signal mask will be set to (compare to `sigblock`, which adds the argument to the set of blocked signals).

If there are pending instances of signals which become unblocked by the `sigsetmask` call, they are 'released': they are released into the system signal queue and their 'pending' status is cleared. [The system signal queue is maintained by the kernel null process, and is used in situations where signals could not normally be sent (such as interrupt handlers)]

`sigmask` is a macro that can be used to calculate signal masks for `sigsetmask`. It takes a signal number (as listed in `KSIGNAL(2)`) as an argument and returns a mask.

RETURN VALUE

The previous value of the signal mask is returned.

CAVEATS

If somehow the process re-blocks a signal released by sigsetmask before the system signal queue processes it, it will be blocked and marked as pending. This can happen if a signal handler makes a sigblock call.

SEE ALSO

kill(2V), sigblock(2), ksignal(2)

=====

DOCUMENT gold.rush.sov

=====

INTRODUCTION

Welcome to GOLD RUSH! The game takes place in 1848, and begins in Brooklyn Heights, New York. Your name is Jerrod Wilson, you work in a newspaper office, and you're not very satisfied with life. The object of the game is to travel from New York to California and strike it rich!

You have exactly 14 minutes from the time the game starts until the gold rush begins. When this happens, your possessions drop in value and prices skyrocket. Therefore, you must have completed all your transactions before then. It is advisable just to walk around and learn the location of everything, then restart the game.

There are three routes to California. Depending on which route you take, you must accumulate different items in Brooklyn. Ready for adventure? Okay, let's go!

BROOKLYN HEIGHTS: YOUR HOUSE

You start the game on a bridge facing east. Cross the bridge, and go down the screen. Your house is on the corner. Unlock the gate and door, and go inside. Look at the album on the table. Get the family picture that brings back all those memories. Go over to the desk. It's a rolltop desk; so, roll the top. Get the bank statement that was hidden underneath. Read the statement to find your bank account number. (Note: Each time you restart the game you will have a different account number.) Leave the house.

Since you have decided to leave for California, you might as well sell your house. Just type SELL HOUSE. A buyer will come along. You can either wait for him, or just leave and come back later. Don't worry if you get a message that he left; he'll return again. He will offer you \$850 for your house. Take the money.

GAZEBO

Walk west into the next screen. Go into the gazebo. Do not walk on the grass, or a cop will come and take a point away from you! Get the flowers, then enter the gazebo. Look into the crack in the floor. Keep moving around and looking until you find the gold coin. Get it.

POST OFFICE

Go west again, that's the post office on the corner. Go in and ring the bell. Ask for your mail. If he says you have none, leave and try again in a minute or so. Once you have the letter, look at the letter, the postmark, and the stamp. Now, look under the stamp. Hey! It's gold! Open the letter and read it. Your brother has found gold and wants you to come join him. Leave the post office.

NEWSPAPER BUILDING

Go to the left and into the large white building. This is the newspaper building where you work. Go to your office. You don't know where it is? But you work here! Oh well...it's up the stairs, last office at the bottom on the right. Walk to your desk, and look under the blotter. Get the clippings, and read them. (Now you know the story about your brother). Well, if you're planning a trip out West, you'd better quit your job. Go downstairs to the boss's office (the first one on the left), and tell him you're quitting.

BANK, WAREHOUSE, CEMETERY

Go into the bank. Make sure you know your account number. Go to a teller and type GET MONEY. Give him the account number when he asks for it. Go north into the warehouse, and read the poster inside. The address to get tickets is next door to your old house. Go back down to the cemetery and find your parents' graves. (Hint: They are the only two that look alike and are next to each other.) Read each grave, and put the flowers down (sniff).

WHAT TO BUY IN BROOKLYN

Up to this point, everything you need to accomplish in Brooklyn is the same -- no matter which route you plan to take to get to California. If you are planning to go via sea, you must remember that the steamship leaves exactly 18 minutes after the game begins. Go to the house next door to your old one. Answer the questions the man asks you, and tell him which ticket you want. (Note: The price of the tickets will skyrocket after the GOLD RUSH! starts. Make sure you buy them before then.) If you intend to go via Panama, you'll need the mosquito net from Rand's Hardware store. If you're planning to go via the Cape Horn route, you will need the fruit.

If you want to go via land, then just go and buy your ticket from the stagecoach office. After buying the ticket, go to the stable, and SHOW TICKET to the little guy in white. He'll escort you to the coach. Enter the coach, and the rest will take care of itself.

THE PANAMA ROUTE

There is nothing to do on the ship. You will not die of mosquito bites if you bought the net. When you reach the jungle you will have to follow the rest of the crew. Talk to the man under the tree, and he'll give you a Bible. (No matter which route you take, there will always be a man reading a Bible: Take the Bible.)

Walk to where you see the hanging vine. As soon as the killer ants start to appear, jump onto the vine, and hang there until they leave. Go onto the next screen. There are four paths through this screen, but you can't see any of them. Do not use the first two. You will have to do this screen by trial and error. (Save the game before you try it.) The third and fourth paths take you through. For extra points, take the fourth path -- the hardest to finish. When your toe hits something, look down. Pick up the gold disk.

The next screen is also solved via trial and error. Don't take a straight path across the swamp, or you'll sink in. Occasionally, a crocodile will eat you, too, but not every time. If this happens, you'll have to restore. After that, the game runs by itself until you reach Sacramento.

THE CAPE HORN ROUTE

Look around the ship. (The man who will give you the Bible is at the right end of the ship.) There's not much to do until the storm; anything you collect before the storm will be lost. So, even if you find items before the storm, do not pick for them up (except the Bible). Purely at random, you may die of Cholera. If you do, you will have to restore back to Brooklyn. (Restoring to a point later than Brooklyn won't help.)

You will not die of scurvy if you have the fruit. Now, you need food, and there seems to be plenty of fish in the sea; so, let's go fishing. Do not stand on the deck during the storm, or you'll get swept overboard. Sometime during (or after) the storm, get the string from the bunk room, the paper clip from the captain's office, the bait (ham) from the cooks' table, metal scraps from the boiler room, and a pole from the bottom floor (where the engine is being stoked). Go to the back of the ship and type FISH. The game runs by itself after

that, until you reach Sacramento.

VIA LAND

Once you join up with the mining company, go over and talk to the captain. He wants money, so give him what you have. He'll ask you to obtain animals for the trip. Go down a screen and buy animals. Which animals do you need? You're going on a long journey, so you are better off buying the mature mules.

Go back and tell the captain, and he'll give you a second job. He wants you to tell him when it's time to leave. Go up a screen, and keep looking at the grass. As soon as you get a message saying that the ground is getting greener and drying up, tell the captain. You should have also bumped into our friend with the Bible (he's sitting under the tree).

When you reach the steep hill, unhitch the team, and let the animals go to drink and rest. To stop them from pulling you and the wagon over the cliff, you must lock the wheels. When you get thirsty, drink water from the barrel in the coach.

SACRAMENTO

Whichever way you arrive, you must immediately go to the stagecoach office. It's in the building just left of the middle of the screen. Go in, and look at the schedule. If you have missed the stagecoach to Sutter's Fort, then you will have to restore; otherwise, get onto the stagecoach.

SUTTER'S FORT

Walk around the fort. Find the blacksmith, and talk to him. Give him your name and your brother's name. He'll give you your brother's branding iron. Go to the graveyard and read the graves until you find your father's. Read the grave. There is a cannon at the top. Psalms 23? Read it in your Bible. The phrase "Green Pastures" is in capital letters. Use the envelope. Move it around until you are told it's in place. Aha! So that's what those strange markings were for. Read the letters. It says ROOM 12, or is it ROOM 21? Go back into the fort and buy a gold pan. It's time to try your luck at finding gold.

PANNING FOR GOLD

You have to be at least 10 miles from the fort to find gold. (The bottom of the screen will tell you how many miles away you are). Walk in the stream, and keep panning. You will be able to find gold 50 times. Do not pan if there is anyone else in the screen, or you'll be hung! Once you have all your gold, go back to the fort. Watch out for the thieves: They'll take everything away from you.

BUYING THE REST OF YOUR SUPPLIES

Go and buy a mule. Take it to the blacksmith, heat up your branding iron, and brand the mule (with your brother's mark). Take the mule to the stable, and leave him there while you shop for supplies. Go back to the store where you got the pan, and buy the shovel and a lantern. Now, go back to get your mule. Look at all the mules until you find the one with your brand on it. If it says it's a quiet, tame animal, you don't want it. Your brother has left his mule there for you; you want to get his instead. Once you have it, head back toward town (southeast). Be careful not to lose your mule.

THE GREEN PASTURES HOTEL

Find the hotel. It's called Green Pastures! You recognize that from the Bible! Tie up your mule to the post outside. Go inside and look at rooms 12 and 21. Hmm...Room 12 looks suspicious. Go back downstairs

and look around. There is a message box. Ask for your message. You are told you don't have any messages because you're not staying at the hotel! But can you do the man a favor by delivering a message to the man in Room 11. Say YES.

Take the message, knock at the door, and give the man his message. When he leaves, quickly walk into his room. (If he catches you in there, you'll have to restore.) To get into Room 12, go to the left wall, and look at the fireplace. Aha! You recognize that cannon. When you turn the wheel, the fireplace opens. Go through the fireplace into Room 12.

ROOM 12

Look around the room. Get the string from the floor, and the magnet and note from the table. Read the note. What is that bird cage doing there? Open the window, and in flies a bird. Look at the bird, read the note in the capsule, and put your identification in the capsule. What identification? The family picture, of course! Off flies the bird; when it returns, look in the capsule. Get the "pigeongram" and read it. Follow? Stubborn? Aha! You've heard the expression "as stubborn as a mule," right? Follow that mule!

JAKE'S HOME

Take the mule back out of town, and type FOLLOW MULE. It moves quite quickly, and seems to know where it's going; be careful not to lose track of it. (Watch out for robbers.) When you reach Jake's home, go inside. Get the matches. Go outside to the outpost, then go down the hole in the middle of the outpost.

THE CAVE

Light your lantern and proceed down the cave. Do this as quickly as you can; save whenever you make progress because you only have a limited amount of oil in the lantern. You reach a door that's locked, and you have no key. But there's a hole in the door, and it's the same shape as the branding iron! Tie the magnet to the string and lower it through the hole. Move it around until you hear a "clunk." Then, pull up the key carefully.

Open the door and go down in the cave. Be very careful on the ladders. Continue down to the bottom left, and get the pick. Keep digging for gold as you walk through the caves. Once you have found a couple of pieces of gold, go up the long ladder to the top. Take the gold nuggets on the right. Move down the ladder a little, and you find the mine on the left.

THE END

Carefully enter the mine (save the game first; it's very easy to fall off the ladder here). Down in the mine you go; keep using the pick as you go along. Eventually, you will find yourself in a large room which contains...your brother!

Talk to him, and he tells you that he's almost made the ultimate gold discovery! Use your pick. When you find gold, keep digging in that same spot. While you're digging, you will discover a cavern. As soon as the entrance is big enough, walk through.

You've done it! You and your brother now have as much gold as you could ever dream of! Well done!

=====

DOCUMENT golem

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GolemGS

for the Apple IIGS

written by: Jason L Smart (Travelling Faire Software)

Golem: a powerful, compact tank, designed for efficient movement through small, narrow passages and caves. Golem contains an unlimited number of shots and 5 missiles. It also has a powerful cloaking shield which effectively prevents detection.

The plot:

The moon XG4 had been a peaceful, settled place for decades. Its small colony mined the moon for krymite, a red rock that stored incredible amounts of energy. The rare compound was prized across the galaxy and provided the small moon colony with a strong, stable economy.

Then, in the year 2132, an intergalactic terrorist force took over the small moon XG4 and threatened to kill every colonist if the Alliance attempted a rescue. The terrorists began conducting strange underground experiments with krymite and Alliance spies suddenly began disappearing from the small planet. Rumors soon started of how the once peaceful creatures that lived beneath the moon's surface were being mutated into destructive monsters. . .

For months, Alliance officials explored their options and argued vehemently over which plan of attack would be best. Finally, they unanimously agreed on a plan: If they could safely land one tank by an entrance to the mines, it could move safely inside the moon without attracting any attention. The tank would then detonate a bomb in the mines directly below the terrorist headquarters, which would set off a chain reaction destroying the terrorists. The colony was located hundreds of miles away from the terrorist headquarters and would, therefore, be safe. It was a perfect plan, or so they thought - just as the tank was laying the bomb a strange creature appeared and destroyed the tank, leaving the bomb untouched. The crew was scattered and lost in the mines, but the terrorists did not know what had transpired and the bomb remained in place, waiting to be activated. The plan was then revised: INFILTRATE THE MINES, FIND THE BOMB, AND DETONATE IT.

The game:

There are over thirty levels in the mines that must be passed before encountering the bomb. Each level must be completed before time runs out. Time starts at 100 for every level and counts down to zero, but the countdown becomes faster at higher levels. The game always starts with four tanks (three in reserve). When time runs out, or Golem is exposed to exploding krymite, he will be destroyed. The mutants will also destroy Golem.

Each level contains some of the following:

gray rock - this rock blocks Golem's way and requires 5 shots or one missile to be destroyed.

Krymite - a reddish rock that explodes when shot. The explosion damages everything around it, including gray rocks, blue rocks, spines, and Golem.

blue rock - takes 10 shots(2 missiles) before exploding. One blue rock in every level contains a blue key. Others may contain hearts, missile paks or other items.

blue key - opens the portal, allowing Golem to move to the next level.

heart - When Golem finds a heart, the number of tanks left will increase by one.

missile pak - Increases the number of missiles by five.

hourglass - Increases the time left for the level. Remember, when the time

Apple II Computer Info

reaches zero, Golem will be destroyed.
flower - A strange but harmless underground mutant that greatly increases your score.
lightning bolt - Alliance spies have not discovered what the lightning bolt does.
crew member - There are five crew members in the mines. If Golem makes it out of the caves alive he will receive 1000 points for every crewman he rescues or 10000 points if he rescues them all.
portal - The portal looks like a gray whirlpool. It is the entrance to the next level, but will not open until the key is found. The open portal is yellow.
bomb - A gray orb in the last level, the bomb must be shot with ten missiles before it will activate. Upon bomb activation, the portal will open and the whole room will begin to shake and flash. Get out as quickly as possible!

The mutants come in various shapes and sizes and pose the greatest threat to Golem in the mines:
Spiney - A mutated rock beast that eats rock and most anything else in its path. It also randomly lays gray rocks, constantly changing the layout of the level. If killed, a spiney will vanish and, possibly, reappear later.
rock flower - Rock flowers grow out of the ground, produce a flower, and then die. The flower has a tough outer shell, and can only be hurt when its flower is exposed. But beware - the flower is highly acidic and will destroy Golem if he drives over it.
Atom - Another mutated creature that only appears in the higher levels. The atom moves slowly around, occasionally emitting energy bursts. Golem will be destroyed if he is struck by an energy burst or if he shoots the atom. There is no known way to defeat this mutant. . .
?? creature - It resides below the terrorists headquarters in the next to the last room. It possesses the key for that level. What does it look like?

How to play:

The joystick moves the tank around the screen. The orange(main) button fires regular bullets, while the brown(secondary) button fires missiles. Note that the 'Open-Apple' key is equivalent to the orange button and the 'Option' key is equivalent to the brown button.

When the tank is destroyed press either joystick button to resume play.
At any time during the game, press either '?' or '/' to view the help screen and either 'Q' or 'q' to quit.

Other notes:

As the game level increases, creatures begin moving faster and more blue rocks must be destroyed before finding a key. Also the timer decreases more rapidly. Therefore, the higher levels require quick thinking and rapid movement.

Remember that 10 missiles are needed for the last level to destroy the bomb. When the detonation phase begins and the screen begins to flash, movement becomes very difficult due to the shaking ground. Try to shoot the bomb from as near the portal as possible and then get out fast!

The top ten scores of the game are automatically saved. If GolemGS cannot find the scores file it will automatically create a new one.

Other programs by me(Travelling Faire Software):

MAZE.LAUNCHER will run adventure game scenarios following certain guidelines. Included in the package are two scenarios and some starter characters.

The MAKE.CHARACTER program will create new characters for MAZE.LAUNCHER. It allows the creation of a character from various races and classes.

ExplorerGS - Graphic version of MAZE.LAUNCHER.

Shr Castle Metacus GS - navigate through the ever changing castle in search of five fragments of the star key.

Castle Metacus(Text version) - The text version is NOT shareware.

GoldenBugGS - Eat as many bugs as possible but avoid the golden bug.

ORE.MINER and ARROW.DODGE - two old applesoft games that are really fun.

*ShareWare Notice:

This program is shareware - If you really like this program or feel especially generous send \$10 to:

Jason Smart
1158 Panoramic Dr.
Martinez, CA 94553

(Anyone who has sent in their fee for GoldenBugGS does not need to pay for Golem.)

Please say where the program was uploaded/purchased from.

Written by: Jason Smart (JULES33 on America Online). If you have any questions or comments, feel free to contact me. Have fun!
This program was written and compiled with TML Pascal II.

===== DOCUMENT golfs.best =====

Golf's Best Documentation typed up by The Sheik

How to Play:

You are standing at the tee on Hole #3 at the Pinehurst No.2 course. It's a par four, 316/335 yards in length, surrounded by bunkers. You must decide how to play the hole-just like on the golf course.

1. What club should you use?
2. How hard should you swing?
3. How should you hit the ball-straight, with a slice or hook?
4. In what direction should you hit?

Let's look at the hole and "practice" a little before we hit. Press the 2 key. You will see a legend showing the colors, and the patterns they represent. You will notice that the colors correspond to bunkers, fairways, greens, trees, rough, etc. Now hit any key and go back to the tee. You can see the bunkers, trees, etc. on this hole.

Now let's think about club selection. At the end of this documentation you will see a table showing the clubs, force of swing, average roll, an degree of loft. This table helps you determine which club to select and the force with which to hit-full swing, half swing, quarter swing.

Your golf bag contains five woods, nine irons, a sand wedge, a pitching wedge, and a putter. The woods are numbered 1W-5W; the irons are numbered 1I-9I. The wedges are PW, SW, and the putter is PT.

Club Selection:

Look at the bottom left portion of the screen. You will see six figures: a golfer, a golf club, a vertical line, a clock, speaker, and letters with #s. Let's talk about the club first. Before you can hit, you must select a club. Press the letter 'C' and you will see this prompt:

Which club:0A

Type the two letter name of the club you want to hit with. For illustration, type 2W. You will return to the hole. Look at where the club was and you should now see 2W. You have selected the two wood. If you change your mind, type 'C' again and select a different club. You can select a club and return it to your "bag" as many times as you need, until you're satisfied with the selection.

Force of Stroke:

How hard should you hit the ball? Full swing, half swing, quarter swing? Anytime you select a wood or iron, you must decide on the swing; this is the force or the degree of swing.

Press the letter 'F' and you'll see the prompt:

Full, Half, Quarter:

Type 'Q' and return to the hole. Look at the golfer now; he's taking a quarter swing! (wow) Press 'F' again and respond by typing 'F'. Now he's taking a full swing. You can adjust the swing to fit the situation. For illustration, let's use a full swing. NOTE: The force of stroke is a little different for the wedges and putter.

We'll discuss this in a moment.

Style-Hook, Slice, or Straight

Does this hole require a hook or a slice? Do you need to hit it straight? The vertical line figure means that you are set to hit a straight shot. Press the letter 'S' and see the prompt. Hook, Slice, or Normal: Respond to the prompt by typing an 'H' for Hook. When the hole displays, look at the vertical line-it's bending to the left. If you typed S, it would bend to the right. Press S again and select a normal style (N). Hooks and slices are highly valuable. In general, the amount of curve is the greatest off the tee.

Direction:

So far, you have selected a club, a swing, and a style. The little clock figure tells you that you need to pick a direction. Line up your shot by imagining the ball following a line that points in the direction of the hour hand. Let's try this so you can see. Press the letter 'D' to see the prompt. Enter direction: 00:00 Type in 10:30 and try to imagine where the hour hand is pointing when the time is 10:30. Watch while the game plots your direction with a line. Did the line intersect with the hole? Play around with the direction and line the shot up with the hole. NOTE: If you do not select a direction, the ball will go in the general direction of the pin.

Stroke the Ball:

Are you ready? Have you selected a club, swing, style and direction? Good! Hit the ball by pressing 1. Watch the lower portion of the screen as the computer plots the flight of the ball. Hope you didn't hit a tree!

Quiet Please:

Suppose you'd like to play at work (during lunch, of course!) and don't want to disturb anyone-especially, your boss. Press 3 anytime to silence any beeps, clicks, or music and your "speaker figure" will turn off its sound.

A Reminder:

The current hole you are playing and its par are displayed for your convenience.

Other Features and Shots:

See how easy it is? How did you do? Sometimes the ball may hook or slice even though you hit it straight. Don't get too frustrated-it happens to the pros, too. Let's play with some of the other features before you hit your next shot.

Range-

The range feature plots a line with a selected number of feet or yards, from the ball to the pin. Press the 'R' key to see the prompt. Enter range in units? For illustration, type 100 and press RETURN. You will see a line that represents a range of 100 yards (or feet) from your ball toward the pin. The computer determines if the unit should be yards or feet, depending upon how close you are to the pin. The "range" feature should be used to help you determine when to "play short," or "go for it."

Correction:

Press the ESC key, if you see you are entering an invalid response, and you will return to the main prompt screen.

The Second Shot:

Ready to hit the second shot? If you are within 70 yards of the pin, you will notice that you are seeing a different view of the hole. GOLF's BEST<tm> shows three different views of the hole: one from the tee, one from the fair- way, and one from the green. You may need to select a

wedge for your next shot. The wedges (and putter) do not require you to select a degree of swing; instead you select force by specifying a distance, in feet.

Lets try a pitching wedge. Press the 'C' key, and select PW (pitching wedge). Now press 'F' key to select force. You will

Enter Force:

Type the distance you wish to hit the ball, in feet. Remember: You may need to hit your second shot. Select a club, force, style and direction. Press 1 and watch the ball go. (If you ended up in the woods, you may want to select a hunting wedge. HA!)

NOTE: You do not select a style for putts or wedge shots.

The Putt:

When you are on the green and ready to putt, press the letter 'C' to select a club and type 'PT'. Press the letter 'F' to select the force and enter the force in feet. The computer shows you the slope of the green by displaying an arrow that points to the LOWEST area on the green. Be sure to take this into consideration.

For example, if you are 20 feet from the pin and the slope is steep, you may need to hit with a force of 30 feet to "play the break." Now select a direction and press 1. Did it go in? No? Try again!

The 19th Hole:

That's all there is to it! Just select a club, force, style, and direction to hit the ball. It's just like being on the course!

In all cases, the normal rules of golf apply. The person who is the farthest from the pin hits first; all out-of-bounds and water shots will cost you a stroke; and no Mulligans are allowed! The computer keeps score for you. Press 4 to see the scorecard. How are you doing?

Sometimes the real world interferes with the important things we like to do - like play golf. From time-to-time, we must return to work and family duties. The player who is "up" can quit at any time: just press the letter 'Q' and respond to the prompt by typing the letter 'Y' (yes). Press RETURN and you're off the course and back at work.

No need to take a shower, turn in your cart, or carry your clubs to your car-they are safely stored away until the next game!

Have a good round on Pinehurst No. 2!

Course Rules:

1. Player farthest from the pin hits first.
2. One stroke penalty if ball goes in the water.
3. One stroke penalty if ball goes out of bounds & loss of distance.
4. Replace all divots!
5. Courtesy demands "quiet" when a player is ready to hit.

Command Keys:

C - Club Selection	Q - Quit
D - Direction	R - Range
F - Force	S - Style

Function Keys:

1. Hit the ball
2. Color Pattern legend
3. Sound Control
4. Scorecard Display

Your Bag of Clubs:

Club	Full	Half	Quarter	(Ave.roll)	Loft
1W	266	156	104	16	16.0
2W	232	136	91	15	18.0
3W	222	126	81	11	22.0
4W	101	113	71	9	25.0
5W	197	108	66	7	30.0
1I	233	134	88	13	16.0
2I	218	124	80	11	18.0
3I	197	110	68	8	22.0
4I	167	94	59	8	25.0
5I	149	83	52	6	30.0
6I	142	78	48	5	34.0
7I	126	69	42	5	38.0
8I	118	64	39	4	42.0
9I	98	53	32	3	46.0
PW	Up to 300 feet				
SW	Up to 200 feet				
PT	Up to 200 feet				

Disclaimer:

This file was typed in exactly as presented in the original instructions.

- end of file -

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DOCUMENT gothmogs.lair

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* GOTHMOG'S LAIR *

* BY: JEAN LAFITE *

COMMAND - EXAMPLE

ATTACK - ATTACK SNAKE AXE	BURN - BURN BOOK
DIG - DIG	DRAW - DRAW CIRCLE CHALK
DRINK - DRINK FLASK	DRIVE - DRIVE SOUTH
DROP - DROP SHOVEL	EAT - EAT SPINACH
EXAMINE - EXAMINE ROPE	EXIT - EXIT
GET - GET AXE	HELP - HELP
INVENTORY - INVENTORY	JUMP - JUMP POOL
LIGHT - LIGHT LANTERN	LOOK - LOOK AROUND
NEWGAME - NEWGAME	NUKE - NUKE SNAKE AXE
PRAY - PRAY	PUT - PUT SHOVEL CAR
READ - READ DIARY	REST - REST FOR 8 HOURS
RUN - RUN EAST	SAY - SAY HELLO
SCORE - SCORE	SEARCH - SEARCH CAR
SHOOT - SHOOT SNAKE	SLEEP - SLEEP FOR 1 DAY
SMASH - SMASH BOTTLE	TAKE - TAKE AXE
THROW - THROW AXE SNAKE	WALK - WALK NORTH

* - TO WALK IN A DIRECTION, JUST TYPE THE FIRST TWO LETTERS OF THE DIRECTION WITH NO OPTION AT ALL. EXAMPLE: NO, WE, ETC.

The Black Market....[615] 377/6929!!

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DOCUMENT gple

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G.P.L.E. DOCUMENTATION

ENTERED BY: JUDIE MAC

PLE.48 LOCATES ITSELF BETWEEN DOS AND ITS BUFFERS, MOVING HIMEM DOWN BY 4K.

PLE.LC IS USED WITH THE ALTERNATE BASIC ON THE RAM CARD.

PLE.DM IS USED WHEN YOU HAVE DOS ON THE RAM CARD. (TO BE USED WITH DOS MOVER)

EDIT MODE:

"<-,->":

ARROW KEYS MOVE THE CURSOR BACKWARD AND FORWARD IN A LINE. THEY MAY BE USED WITH THE REPT (REPEAT KEY) FOR SPEED.

CONTROL I:

INSERTS CHARACTERS BEFORE THE CURRENT CURSOR POSITION. AS YOU INSERT CHARACTERS, THE REMAINDER OF THE LINE MOVES TO THE RIGHT TO MAKE ROOM. ANOTHER EDIT MODE COMMAND WILL CANCEL INSERT.

CONTROL D:

DELETES THE CHARACTER AT THE CURRENT CURSOR POSITION. THE REMAINDER OF THE LINE MOVES TO THE LEFT AS YOU DELETE EACH CHARACTER. CTRL-D WITH THE REPT KEY QUICKLY DELETES MULTIPLE CHARACTERS.

CONTROL B:

PLACES THE CURSOR AT THE BEGINNING OF THE LINE YOU ARE EDITING, OVER THE FIRST CHARACTER OF THE LINE NUMBER. THIS COMMAND CAN ALSO REPOSITION THE CURSOR FOR A FIND COMMAND, AND FOR RENUMBERING LINES. (NOTE* WHEN YOU RENUMBER A LINE, THE OLD LINE NUMBER STILL EXISTS!!)

CONTROL N:

PLACES THE CURSOR ONE PLACE TO THE RIGHT OF THE LAST CHARACTER OF THE LINE. THIS COMMAND IS HANDY FOR EDITING CHARACTERS NEAR THE END OF A LINE.

CONTROL O:

THE OVERRIDE COMMAND, WORKS THE SAME AS CTRL-I, EXCEPT THAT THE FIRST INSERTED CHARACTER MAY BE A CONTROL CHARACTER. AFTER ACCEPTING THE FIRST CHARACTER, THIS COMMAND FUNCTIONS EXACTLY LIKE CTRL-I. OVERRIDE IS USEFUL FOR INSERTING A CTRL-D INTO A DOS COMMAND AND/OR FOR IMBEDDING OTHER CONTROL CHARACTERS IN TO REM AND PRINT STATEMENTS.

CONTROL F:

THE FIND COMMAND, FOLLOWED BY A CHARACTER TYPED "N" TIMES, WILL LOCATE AND MOVE THE CURSOR TO THE N'TH OCCURRENCE OF THAT CHARACTER IN THE LINE. TO FIND THE 4TH "P" IN A LINE, TYPE CTRL F PPPP. THIS RAPIDLY MOVES THE CURSOR TO THE CORRECT POSITION.

CONTROL Z:

THE ZAP COMMAND, FOLLOWED BY A CHARACTER TYPED "N" TIMES, DELETES ALL CHARACTERS UP TO THE N'TH OCCURRENCE OF THAT CHARACTER.

CONTROL R =THIS IS THE RESTART COMMAND. IT RESTORES THE LINE YOU ARE EDITING TO ITS PRE-EDITED STATE. YOU MUST ENTER THIS COMMAND BEFORE HITTING RETURN. RESTART IS VERY HANDY FOR RESTORING CHARACTERS YOU MISTAKENLY DELETED OR ZAPPED.

CONTROL P:
PACKS A LINE BY REMOVING EXTRANEIOUS SPACES.

CONTROL C:
CONVERTS UPPER CASE CHARACTERS TO LOWER CASE AND VICE-VERSA.
CONTROL C WITH THE REPT KEY SPEEDS UP THE CONVERSION.(SEE NOTE ON
UPPER/LOWER CASE BELOW)

CONTROL Q:
DELETES ALL CHARACTERS FROM THE CURRENT CURSOR POSITION TO THE END OF
THE LINE, AND THEN "EXITS" EDIT MODE.

CONTROL X:
CANCELS THE LINE YOU ARE EDITING AND "EXITS" EDIT MODE.

CONTROL M:
THIS IS THE SAME AS RETURN. IT TERMINATES EDIT MODE AND SAVES THE
MODIFIED LINE.

CONTROL A:
THIS CONTROLS UPPER AND LOWER CASE MODES.

UPPER/LOWER CASE:

G.P.L.E. SUPPORTS BOTH LOWER CASE ADAPTERS AND A VARIETY OF 80 COLUMN
VIDEO BOARDS. G.P.L.E. CONVERTS APPLE- SOFT,DOS, AND MONITOR COMMANDS
IN LOWER CASE TO UPPER CASE. G.P.L.E. ALSO SUPPORTS THE VERY POPULAR
"SHIFT-KEY MODIFICATION" WHICH MAKES ENTERING UPPER AND LOWER CASE A
SNAP. CONTROL A PLACES YOU IN LOWER CASE MODE; HOWEVER, LOWER CASE IS
NOT TURNED OFF BY HITTING THE RETURN KEY.

YOU REMAIN IN LOWER CASE MODE UNTIL YOU TYPE ANOTHER CONTROL A. ONCE
IN LOWER CASE MODE, A SINGLE CONTROL A PUTS YOU IN UPPER CASE MODES
FOR THE NEXT CHARACTER ONLY. TYPING CONTROL A "TWICE"(CONSECUTIVELY)
PLACES YOU IN UPPER CASE.

GLOBAL EDIT COMMAND:

A GLOBAL EDIT COMMAND DISPLAYS EACH LINE REQUESTED OR FOUND BY A
SEARCH, ONE AT A TIME. AS EACH LINE IS DISPLAYED, YOU ARE PLACED IN
EDIT MODE WITH THE OPTION TO FURTHER MODIFY THE LINE, PROCEED TO THE
NEXT LINE, OR EXIT GLOBAL EDIT MODE PREMATURELY. TO AVOID ENTERING
EDIT MODE FOR EACH LINE, USE THE FAST OPTION (/F) ON THE GLOBAL EDIT
COMMAND LINE. THIS PERFORMS A QUICK GLOBAL SEARCH AND REPLACE, OR
LISTS ALL LINES WHERE A CERTAIN STRING EXISTS. FOR EXAMPLE, CTRL E
"POKE"/F QUICKLY LISTS ALL LINES CONTAINING THE KEYWORD "POKE".

EXAMPLES:

CONTROL E L1,L2,"STRING1","STRING2"/O

L1 = STARTING LINE NUMBER
L2 = ENDING LINE NUMBER
STRING1 = SEARCH STRING (16 CHAR.MAX)
STRING2 = REPLACEMENT STRING (16 CHAR.MAX)
O = OPTION:R=RAW SEARCH,F=FAST SEARCH

HOW LINE SHOULD BE TYPED:

CONTROL E 100,150 = EDIT LINES 100 THRU 150 CONTROL E 10,50,"POKE" =
EDIT ALL LINES BETWEEN 10 AND 50 WHICH CONTAIN THE STRING "POKE"
CONTROL E "READ","WRITE" =REPLACE EVERY OCCURRENCE OF "READ" IN YOUR
PROGRAM WITH THE STRING "WRITE"

ALL OF THE ARGUMENTS DEFINED ABOVE ARE OPTIONAL. STRING1 AND STRING2
MUST BE ENCLOSED IN QUOTES (" "). TO IMBED QUOTES IN THESE STRINGS,
YOU MUST DOUBLE THE IMBEDDED QUOTES. FOR EXAMPLE, IF YOU WANTED TO

SEARCH FOR THE STRING "ENTER",STRING1 WOULD BE ""ENTER"". A SEARCH
STRING WILL BE IGNORED IF IT IS A SUBSTRING OF A LARGER STRING. FOR
EXAMPLE, THE SEARCH STRING "O" WILL NOT MATCH THE "O" IN THE KEYWORD
"POKE". G.P.L.E. WILL FIND THESE SUBSTRINGS WITH THE RAW SEARCH (/R)
OPTION ON THE GLOBAL EDIT COMMAND LINE(E.G. CONTROL E "O"/R)

PAGE LIST COMMAND-YOU STILL USE CONTROL S TO STOP AND START A LISTING
OR CATALOG, AND CONTROL C TO TERMINATE A LISTING. CONTROL P (PAGE
LIST) HALTS A LISTING AND EACH SUBSEQUENT CONTROL P DISPLAYS THE NEXT
20 LINES FOR THE LISTING.

ESCAPE FUNCTIONS:

ESC 1 - CATALOG DRIVE 1
ESC 2 - CATALOG DRIVE 2
ESC L - LIST PROGRAM-HIT ESC TO STOP/HIT ESC TO START AGAIN
ESC U - USR FUNCTION
ESC T - TEXT (POKE -16300,0)
ESC R - RUN
ESC W - BEGINNING AND END OF LAST BINARY LOADED FILE
ESC * - MONITOR
ESC 0 - CALL 936 - CLEAR SCREEN TO TOP
ESC / - PRINT SYMBOL (?)
ESC Q - MEMORY CONTENTS
ESC S - SECTORS FREE
ESC H - DISPLAY CONTROL CHARACTERS
ESC V - VTAB 1
ESC M - RETURN
ESC N - CLEAR,START,STEP,FROM,TO

TO SEE WHAT ESCAPE FUNCTIONS ARE IN THE ESC MENU, BRUN ESCAPE PRINTER
ON DISK.

ALSO YOU CAN CREATE YOUR OWN ESC FUNCTIONS.

UPPER/LOWER CASE:

G.P.L.E. SUPPORTS BOTH LOWER CASE ADAPTERS AND A VARIETY OF 80 COLU MN VIDEO BOARDS. G.P.L.E. CONVERTS APPLESOFT,DOS, AND MONITOR COMMANDS IN LOWER CASE TO UPPER CASE. G.P.L.E. ALSO SUPPORTS THE VERY POPULAR "SHIFT-KEY MODIFICATION" WHICH MAKES ENTERING UPPER AND LOWER CASE A SNAP. CONTROL A PLACES YOU IN LOWER CASE MODE; HOWEVER,LOWER CASE IS NOT TURNED OFF BY HITTING THE RETURN KEY. YOU REMAIN IN LOWER CASE MODE UNTIL YOU TYPE ANOTHER CONTROL A. ONCE IN LOWER CASE MODE, A SINGLE CONTROL A PUTS YOU IN UPPER CASE MODES FOR THE NEXT CHARACTER ONLY. TYPING CONTROL A "TWICE"(CONSECUTIVELY) PLACES YOU IN UPPER CASE.

GLOBAL EDIT COMMAND:

A GLOBAL EDIT COMMAND DISPLAYS EACH LINE REQUESTED OR FOUND BY A SEARCH, ONE AT A TIME. AS EACH LINE IS DISPLAYED, YOU ARE PLACED IN EDIT MODE WITH THE OPTION TO FURTHER MODIFY THE LINE, PROCEED TO THE NEXT LINE, OR EXIT GLOBAL EDIT MODE PREMATURELY. TO AVOID ENTERING EDIT MODE FOR EACH LINE, USE THE FAST OPTION (/F) ON THE GLOBAL EDIT COMMAND LINE. THIS PERFORMS A QUICK GLOBAL SEARCH AND REPLACE, OR LISTS ALL LINES WHERE A CERTAIN STRING EXISTS. FOR EXAMPLE , CTRL E "POKE"/F QUICKLY LISTS ALL LINES CONTAINING THE KEYWORD "POKE".

EXAMPLES:

CONTROL E L1,L2,"STRING1","STRING2"/O

L1 = STARTING LINE NUMBER
L2 = ENDING LINE NUMBER
STRING1 = SEARCH STRING (16 CHAR.MAX)
STRING2 = REPLACEMENT STRING (16 CHAR.MAX)
O = OPTION: R=RAW SEARCH, F=FAST SEARCH

HOW LINE SHOULD BE TYPED:

CONTROL E 100,150 = EDIT LINES 100 THRU 150
CONTROL E 10,50,"POKE" = EDIT ALL LINES BETWEEN 10 AND 50 WHICH CONTAIN THE STRING "POKE"
CONTROL E "READ","WRITE" = REPLACE EVERY OCCURRENCE OF "READ" IN YOUR PROGRAM WITH THE STRING "WRITE"

ALL OF THE ARGUMENTS DEFINED ABOVE ARE OPTIONAL. STRING1 AND STRING2 MUST BE ENCLOSED IN QUOTES (" "). TO IMBED QUOTES IN THESE STRINGS, YOU MUST DOUBLE THE IMBEDDED QUOTES. FOR EXAMPLE, IF YOU WANTED TO SEARCH FOR THE STRING "ENTER",STRING1 WOULD BE ""ENTER"". A SEARCH STRING WILL BE IGNORED IF IT IS A SUBSTRING OF A LARGER STRING. FOR EXAMPLE, THE SEARCH STRING "O" WILL NOT MATCH THE "O" IN THE KEYWORD "POKE". G.P.L.E. WILL FIND THESE SUBSTRINGS WITH THE RAW SEARCH (/R) OPTION ON THE GLOBAL EDIT COMMAND LINE(E.G. CONTROL E "O"/R)

PAGE LIST COMMAND YOU STILL USE CONTROL S TO STOP AND START A LISTING OR CATALOG, AND CONTROL C TO TERMINATE A LISTING. CONTROL P (PAGE LIST) HALTS A LISTING AND EACH SUBSEQUENT CONTROL P DISPLAYS THE NEXT 20 LINES OF THE LISTING.

ESCAPE FUNCTIONS:

ESC 1 - CATALOG DRIVE 1
ESC 2 - CATALOG DRIVE 2
ESC L - LIST PROGRAM-HIT ESC TO STOP/HIT ESC TO START AGAIN
ESC U - USR FUNCTION
ESC T - TEXT (POKE -16300,0)
ESC R - RUN
ESC W - BEGINNING AND END OF LAST BINARY LOADED FILE
ESC * - MONITOR
ESC 0 - CALL 936 - CLEAR SCREEN TO TOP
ESC / - PRINT SYMBOL (?)
ESC Q - MEMORY CONTENTS

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DOCUMENT gple.app

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G.P.L.E. DOCUMENTATION
ENTERED BY: JUDIE MAC

PLE.48 LOCATES ITSELF BETWEEN DOS AND ITS BUFFERS, MOVING HIMEM DOWN BY 4K. PLE.LC IS USED WITH THE ALTERNATE BASIC ON THE RAM CARD. PLE.DM IS USED WHEN YOU HAVE DOS ON THE RAM CARD. (TO BE USED WITH DOS MOVER)

EDIT MODE:

"<,->" = ARROW KEYS MOVE THE CURSOR BACKWARD AND FORWARD IN A LINE. THEY MAY BE USED WITH THE REPT (REPEAT KEY) FOR SPEED.

CONTROL I = INSERTS CHARACTERS BEFORE THE CURRENT CURSOR POSITION. AS YOU INSERT CHARACTERS, THE REMAINDER OF THE LINE MOVES TO THE RIGHT TO MAKE ROOM. ANOTHER EDIT MODE COMMAND WILL CANCEL INSERT.

CONTROL D = DELETES THE CHARACTER AT THE CURRENT CURSOR POSITION. THE REMAINDER OF THE LINE MOVES TO THE LEFT AS YOU DELETE EACH CHARACTER. CTRL-D WITH THE REPT KEY QUICKLY DELETES MULTIPLE CHARACTERS.

CONTROL B = PLACES THE CURSOR AT THE BEGINNING OF THE LINE YOU ARE EDITING, OVER THE FIRST CHARACTER OF THE LINE NUMBER. THIS COMMAND CAN ALSO REPOSITION THE CURSOR FOR A FIND COMMAND, AND FOR RENUMBERING LINES. (NOTE* WHEN YOU RENUMBER A LINE, THE OLD LINE NUMBER STILL EXISTS!!)

CONTROL N = PLACES THE CURSOR ONE PLACE TO THE RIGHT OF THE LAST CHARACTER OF THE LINE. THIS COMMAND IS HANDY FOR EDITING CHARACTERS NEAR THE END OF A LINE.

CONTROL O = THE OVERRIDE COMMAND, WORKS THE SAME AS CTRL-I, EXCEPT THAT THE FIRST INSERTED CHARACTER MAY BE A CONTROL CHARACTER. AFTER ACCEPTING THE FIRST CHARACTER, THIS COMMAND FUNCTIONS EXACTLY LIKE CTRL-I. OVERRIDE IS USEFUL FOR INSERTING A CTRL-D INTO A DOS COMMAND AND/OR FOR IMBEDDING OTHER CONTROL CHARACTERS INTO REM AND PRINT STATEMENTS.

CONTROL F = THE FIND COMMAND, FOLLOWED BY A CHARACTER TYPED "N" TIMES, WILL LOCATE AND MOVE THE CURSOR TO THE N'TH OCCURRENCE OF THAT CHARACTER IN THE LINE. TO FIND THE 4TH "P" IN A LINE, TYPE CTRL FPPPP. THIS RAPIDLY MOVES THE CURSOR TO THE CORRECT POSITION.

CONTROL Z = THE ZAP COMMAND,FOLLOWED BY A CHARACTER TYPED "N" TIMES, DELETES ALL CHARACTERS UP TO THE N'TH OCCURRENCE OF THAT CHARACTER.

CONTROL R = THIS IS THE RESTART COMMAND. IT RESTORES THE LINE YOU ARE EDITING TO ITS PRE-EDITED STATE. YOU MUST ENTER THIS COMMAND BEFORE HITTING RETURN. RESTART IS VERY HANDY FOR RESTORING CHARACTERS YOU MISTAKENLY DELETED OR ZAPPED.

CONTROL P = PACKS A LINE BY REMOVING EXTRANEIOUS SPACES.

CONTROL C = CONVERTS UPPER CASE CHARACTERS TO LOWER CASE AND VICE-VERSA. CONTROL C WITH THE REPT KEY SPEEDS UP THE CONVERSION.(SEE NOTE ON UPPER/LOWER CASE BELOW)

CONTROL Q = DELETES ALL CHARACTERS FROM THE CURRENT CURSOR POSITION TO THE END OF THE LINE, AND THEN "EXITS" EDIT MODE.

CONTROL X = CANCELS THE LINE YOU ARE EDITING AND "EXITS" EDIT MODE.

CONTROL M = THIS IS THE SAME AS RETURN. IT TERMINATES EDIT MODE AND SAVES THE MODIFIED LINE.

CONTROL A = THIS CONTROLS UPPER AND LOWER CASE MODES.

ESC S - SECTORS FREE
 ESC H - DISPLAY CONTROL CHARACTERS
 ESC V - VTAB 1
 ESC M - RETURN
 ESC N - CLEAR, START, STEP, FROM, TO

TO SEE WHAT ESCAPE FUNCTIONS ARE IN THE ESC MENU, BRUN ESCAPE PRINTER ON DISK.
 ALSO YOU CAN CREATE YOUR OWN ESC FUNCTIONS.

```
=====
DOCUMENT grafedit
=====
```

+++

GRAFEDIT
 By: Philip Guiochon

GRAFEDIT can be used with keyboard, joystick or mouse, although some operations operate from keyboard only, as you will see. If you have a mouse card in your Apple, you may hit ESCAPE when prompted to do so in order not to use the mouse. A whole picture is devoted to menu, which is made up of icons. The icons are explained below.

Here are cursor moves with keyboard :

NOTE: Because of proportional spacing the following may look strange on the screen. A Printed copy of this documentation will show correct spacing.

```
      W          I
     A  D      J  L
      S          K
```

Use with or without CONTROL for faster movements in some cases. In all options, RETURN (or button 0 or a press on mouse) means "GO" while ESCAPE (or button 1) means "OUT". With some functions, you will have to crop picture with following moves (some with CONTROL to go faster) :

```
      W
     :   S   :
     :   :   :
  A : D       J : L
     :   :   :
     :   I   :
     :   :   :
      K
```

A little practice will show it is convenient, fast and easy! Do not forget that cropping is done only by keyboard! To go to picture after having selected a function, go to the lowest part of picture (on line 191) and press RETURN (or button or mouse).

Color selection is a little strange: work color is composed of one color for even Y and one color for odd Y. You have: color1+color2=work color. With cursor and RETURN (or equivalent), you have on screen:

```
back advance back advance result
coll coll col2 col2 color
```

Note that all plots are solid ones, to have some good control over color problems: therefore, GRAFEDIT works in 140 mode, although it could easily adapted to "normal" but awful 280 mode.

Functions are, from upper left to lower right (in nearly all cases, ESCAPE or equivalent is a UNDO function). To go back to menu while working on a picture, place cursor at lowest part of screen (on line 191) and press RETURN. In most functions, a zoom feature is available with the SPACE bar, while one also can toggle joystick/keyboard with the "!" key.

- erase screen in current color.

- cut window to create a window which can be saved and loaded later on. Crop it with the frame.

- paste: show the current window on screen. Then you can move it with A-S-D-W or I-J-K-L keys. ^T toggles bit 7, ^I inverse bits, ^R reverses it, ^F flips it, and four keys (; / > < on a II+) are used for rollings in four directions: which compensates for the byte operation.

NOTE: ^ = CONTROL

- text adding is easy: set cursor to position then RETURN. <- and -> arrows control case (for II+), while CONTROL with I, J, K and L does a bit movement. Some control characters allow a II+ to generate non-keyboard characters.

- DOS 3.3 menu is obvious: hit key (inverse character means with CONTROL) then give filename if asked to. RETURN to exit, or ^X). Suffixes are automatic. The "Command" prompt allows a DOS 3.3 command such as LOCK, DELETE, UNLOCK. You can load and save 33 sectors pictures (".PI"), packed ones (".FC") or windows (".WI"). To save packed picture, just crop part of picture you want to pack, then hit RETURN and give a name. ESCAPE cancels this operation. Be careful, as windows and packed files share the same buffer! RETURN alone exits DOS menu.

- point plots a point!

- draw draws continually until a RETURN.

- line wants a starting point and then a ending one, as in every graphics editor!

- lines links them automatically.

- fill allows you to fill on any standard primary color: it is fast and rather powerful. In some cases (on complicated colors), it can "hang up": press any key to exit or to stop filling.

- circle: select center, then radius in relation to Y movement.

- disk: same as circle, but will be a solid circle.

- frame: obvious!

- box: idem!

- reverse: works on the Y axis after cropping.

- flip: works on the X axis.

- toggle toggles bit 7 which changes colors.

- inverse toggles all bits.

- clean is a very useful function: it can erase all colors, letting only outlines on screen. Used with inverse, it allows to wipe out colors without having to redraw everything.

- shrink is a mere gadget, creating four small pictures with four different masks: not very useful with Apple's low Hi-RES resolution!

- some brushes are here for the user: they work with functions like draw, plot, lines, frames, etc...

A zoom is available through SPACE key. You can toggle joystick and keyboard input with the [!] key.

We suggest that these instructions be printed for reference while working on a picture.

Files Needed

GRAFEDIT
GRAFEDIT.1
STANDARD.CS--Character Set (font)

```
=====
DOCUMENT graphic.system
=====
```

```
*****
*           Complete Graphics System       *
*           Command List                   *
*           Written by the Ghost           *
*****11/9/84*****
```

This is only a list of the commands for the Complete Graphics System, if you want the complete docs, Email me on Apple Manor, and I'll type them in. No Problem

Main Menu

D) Drawing module 3) 3-D module
 T) Text module S) Shape module
 P) Draw a 2-dim panel for 3-D module K) Shrink a picture
 C) Display collar bars for monitor adjustment
 I) Issue disk command

Drawing module

L) Load picture S) Save picture
 C) Clear background to color 0-7 T) Load a shape table
 D) Draw

L: Line mode, button 1 sets point, button 0 draws line

F: Fill mode same as line mode, except start point stays the same

A: Auto fill, button 0 fills enclosed black area with color 0-107, paddles position cursor.

P: Palette, displays palette for testing auto fill colors, type color #,<CR> to display a color, C clears palette, <space> returns to drawing page

C: Select color 0-7 or 0-107 depending on mode

B: Brush mode, select brush # 1-9. button 1 lifts brush, button 0 sets it down, destroys shape table in memory

S: Shape mode, uses a shape table loaded in, button 0 plots shape, button 1 allows the paddles to be used for rotation and scaling. Any button returns from rotate and scale mode

R: Arc E: Ellipse
 Esc: Displays full screen graphics. O: Returns to options
 Any key returns to mixed mode.

J: Joystick toggle
 M: Returns to master menu

3-D Module

A: Add figure, enter a name, then you are put in edit mode
 E: Edit a figure
 Select name, type name or press <CR>, with the latter, names are displayed one by one using the arrow keys until you press <CR> to select the name.

L: Display and edit lines, color point 1, and point 2 are shown

P: Display and edit points X,Y,Z coordinates are shown

D: Delete the line or point at the cursor position

O: Return to options.

<Space> changes direction of cursor movement. Symbol in lower left corner shows direction(!,.)

<- -> arrow keys move cursor left/right or down/up Moving past last point or line adds a new point or line.

0-9 Enter number at cursor position and press <cr> to replace current value

V: View figure in memory

A: Operate on all figures in memory.

E: Edit a point by moving it only. Flashing cursor lets you select point press <cr> to select point, any other key to move to next point.

C: Chose center, point is selected as in 'E' command

Esc: Full screen graphics, any other key returns to mixed.

O: Return to options.

V: Scale view on screen, but coordinates of figures remain unchanged.

<Space> change direction Following options depend on mode.

(Rotate, Scale, Move, D-stort)	
U/D Up/Down	L/R Left/Right
C/C Clockwise/Counterclockwise	W Width
H Height	D Depth

For the first four, either letter in the option has the same effect
 0-9 Number followed by <CR> selects constant to be used in Rotate, Move, Scale, and Distort modes
 <- -> Arrows effect an operation(rotate, scale, etc) as per the displayed parameters, -> is right/up/forward/larger, <- is left/down/back/smaller as per displayed

S: Save set of figures in memory.

L: Load a figure, you may give it a new name, in the case that more than one figure will be loaded.

I: Save 2-D image as a picture that can be used by other modules.

D: Delete a figure name from memory C: Clear all figures from memory.

M: Return to master menu.

Text Module:

L: Load a picture S: Save a picture
 T: Type paddles position cursor
 J: Joystick toggle button 1 sets cursor for typing and releases cursor for positioning. Button 0 allows command insertion while actually typing Commands:

C: Color(0-107) large font only.	S: Use small font
L: Use large font.	R: Type reverses background.
D: Destructive, background is covered by block, the size of the character.	
N: Nondestructive, character is placed over background.	
H: Horizontal spacing	V: Vertical spacing
P: Palette, same as in drawing module	
Esc: Full screen switch in command mode, preceding a letter or number while typing gives a capital or extra letter, twice while typing	

types ESC char.
 Esc-,: One dot left
 Esc-.: One dot right
 O: Returns to options
 G: Get font(large and small default are loaded automatically)
 F: Save Font
 E: Edit font
 Displays large or small font, allows you to replace or edit characters.
 You specify which keystroke for ESC character.

C: Create a character
 I,J,K,M normal movement
 Z: Plot on
 X: Plot off
 F: Finished

Shape Module:

N: Clear memory for a new table
 L: Load an existing shape table
 A: Add a shape
 K: Keystrokes
 I,J,K,M normal movement
 Z: Plot on
 X: Plot off
 F: Finished
 Paddles rotate and scale figure as it is shown.
 P: Paddles, select width and height: paddles move cursor, button 0 plot on
 button 1 plot off
 F: Finished
 Figure is displayed in hi-res and you have the following options:
 S: Save as is
 E: go back to lo-res and edit
 R: Replace a figure that is already in table, same method as add
 D: Delete shape from table
 V: View a shape, paddles control rotation and scale, any key
 returns to options
 M: Return to master menu

Panel Module:

S: Save panel on disk as a 3-D figure
 C: Create panel, you may clear the screen. Or leave it displaying
 any previous panels for reference. You may also change the scale
 by which the points and distances are interpreted.
 L: Draw a line connecting the points at the cursor positions
 P: Move the flashing cursor to one of the previously used points Any key
 moves the cursor to the next point in sequance, <CR> selects that point
 D: Display the coordinates of the cursor points and the distance between
 C: Color, select 1,2,3,4,5,6,or 7 lines will be drawn in last
 selected color I,J,K,M normal movement.
 <space> switch cursors, so the other point will move
 Esc: Full screen switch
 F: Finished, return to options
 M: Return to menu

Shrink Utility:

L: Load a picture
 T: Transfer and save, transfers small pictures to page1, and saves them.

S: Shrink picture, puts small picture on page2, you select the quadrant(1-4)
 and intensity(1-4, 4 being brightest).

Esc: Full screen switch

<space>: Switches display between page 1 and page 2 of graphics

M: Return to menu

Color Bars:

Displays and labels primary Apple colors for TV or monitor adjustment

Colors:

Primary Apple Colors are	
0 Black	4 Black
1 Green	5 Orange
2 Violet	6 Blue
3 White	7 White

Colors mix well with those in the same column, but not with those of
 the other Orange and blue may be different on some TVs The autofill
 colors are blends of one to four primary colors.

0	White
1-13	Some tint, but closer to whites or black
14	Black
15-22	From sand to peach, to light oranges
23	Orange
24-42	Darker oranges, to yellows, to light shades of green
43	Green
44-49	Darker greens
50-63	Blue-greens, to light blues
64	Blue
65-71	Darker blues
72-86	Violet-blues, to light violets
87	Violet
88-107	Darker violets, to red violets to orange violet

CUT-COPY-PASTE

The Edit Menu

The Edit menu offers some "tools" that you can use while working with a document. It will allow you to take characters or words in your document and Cut them out, Copy them, or Paste the Copy back into your document. These are used so often that they have keystroke equivalents for them: OPEN APPLE-X to Cut, OPEN APPLE-C to Copy, and OPEN APPLE-V to Paste.

Removing Text

It is very easy to REMOVE text from a document. All you have to do is highlight the desired text, then press the BACKSPACE key. Another way is to highlight the text and just start typing. The first keystroke will eliminate the highlighted text before inserting the newly typed characters. The text will be removed permanently. (However, if "Undo" is active on the Edit menu, you may select it to cancel the last activity.)

Cutting Text

A more sophisticated way to remove the text is to highlight the desired section and then Cut it from the document.

The Clipboard

When you Cut out some text, it isn't gone forever. It goes into the Clipboard. This "stores" the text in memory for future use (replacing whatever text was there before it). You can always review the contents of the Clipboard by selecting "Show Clipboard" from the Edit menu. The Clipboard window can be moved about the screen by dragging the window by it's top "black" part. You can put this Clipboard window away by clicking in it's Close Box or by selecting "Hide Clipboard" from the edit when presented (or by clicking directly on the title of your document).

Copying Text

Another function you can employ while text is highlighted is to make a Copy of it. By selecting "Copy" from the Edit menu, the highlighted text will also be moved into the Clipboard, but this time the highlighted text will NOT be taken away from the document.

Therefore, the only difference between Cut and Copy is that Cut removes the text from the body of the document. They both will "save" the text on the clipboard. Using the BACKSPACE key or just typing when text is highlighted will, of course, remove the text WITHOUT placing it onto the Clipboard.

Pasting Text

When the Clipboard has some text in it, either by Cut or Copy, you can then take it's CONTENTS, and Paste it anywhere back INTO your document. To do this, position the I-beam pointer and click the mouse button at the desired STARTING location so that the edit cursor is "blinking" there. The pasted text will be INSERTED into the document beginning at this point upon selecting "paste" from the Edit menu. you might notice that the new text is placed into the document while retaining it's original font, size, color, and style.

It should also be pointed out that if any text is highlighted when selecting "Paste", then the highlighted text will be eliminated before the new text is inserted. This is exactly like removing the highlighted text by first hitting the BACKSPACE key just prior to Pasting.

DOCUMENT graphicwriter.1

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[-][-][-][-][-][-][-][-][-]
[-]                               [-]
[-] GraphicWriter Softdocs [-]
[-] Typed by Rodger Dodger [-]
[-]                               [-]
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THE WORD PROCESSOR

Creating a New Document

To create a new document simply start up GraphicWriter and you're ready to begin typing. If you're already into a document, then save the changes (if you wish to), then CLOSE the window and go up to the File menu and select "New Document". This brings up a new, "Untitled" window, just the same as if you boot-up from scratch. A blinking cursor awaits your keystrokes. The blinking cursor advances along as you type indicating the eventual position of the next typed character. As you are typing the pointer changes from an arrow to what we call an I-Beam. By moving the mouse you can select where you would like the blinking cursor to be positioned and inserted within your document. You can maneuver this I-Beam Pointer between characters, click the mouse button and a new position of the blinking cursor will be obtained. From there you can begin typing in new characters, or BACKSPACING out characters on the left.

Highlighting Text

The key to using the Word Processor centers around HIGHLIGHTING TEXT. By "HIGHLIGHTING" we really mean "SELECTING". Thus, to process words, you need to tell GraphicWriter which WORDS you want to PROCESS and HOW you would like this done. Position the cursor next to the word(s) you wish to highlight, click and hold down the mouse button while DRAGGING the POINTER across them. Highlighted words become blackened.

Processing Highlighted Text

When some text has been highlighted (selected), you can perform various operations on it. Examples would be choosing a different FONT from the Font menu, or a different SIZE from the Style menu, or any combination of them. Just the text that was highlighted will be changed. As your document grows, you can even highlight multiple paragraphs (by dragging across them) and "operate" on the entire sum of highlighted text.

Other Ways To Highlight Text

There are a few other ways to highlight text besides dragging the pointer over it. DOUBLE-CLICKING ON A WORD will highlight that particular word. It doesn't matter which character of the word the pointer is on when you double-click, the whole word will become highlighted allowing you to choose a new font or style (or color) just for this word.

SHIFT-CLICK (holding down the SHIFT key while clicking) will highlight ALL OF THE TEXT BETWEEN the current position of the "blinking" edit cursor and the position of the click. For example, suppose the "blinking" cursor is located at the Beginning of a sentence. If you were to position the I-Beam pointer at the END of the sentence and do a SHIFT-CLICK, then ALL OF THE WORDS OF THE SENTENCE will become highlighted. In this way, multiple paragraphs, or even an ENTIRE DOCUMENT (through the use of "scrolling") can be highlighted and operated upon.

RULER SETTINGS

The RULER is used as a "measuring stick". Although it is displayed across the top of your document, it is only IMAGINARY in that it will NOT appear when you print your final document. It simply serves as a "guide" for FORMATTING your documents. By selecting various SETTINGS, the text can be "molded" or confined within certain boundaries dictated by left and right margins, or it can be forced into certain positions on a line by using what's called TAB MARKS.

Rulers VS. Paragraphs

A Ruler is always related to a specific PARAGRAPH. There is only one Ruler per paragraph and each paragraph will contain a Ruler. A paragraph is simply defined as a body of words or sentences that ENDS with a carriage return. When you are typing, as soon as you press the RETURN key, the paragraph ends and a new one begins. A new Ruler is automatically created for this new paragraph and will conveniently be an exact "copy" of the same Ruler from the previous paragraph just finished.

Since each paragraph has a Ruler, you can actually have SEPARATE Ruler settings for your paragraphs. A Ruler is set for a particular paragraph WITHOUT effecting any other paragraphs. The rule to remember: THE RULER YOU SEE ON THE SCREEN WILL ALWAYS BE RELATED TO THE PARAGRAPH THE "BLINKING" CURSOR IS LOCATED IN AT THE TIME.

Formatting A Document

There are 4 possible ALIGNMENTS: Left, Right, Centered, and Fully Justified, as found under the Format menu. Select the type of justification and begin typing. The new text entered will then appear in the chosen ALIGNMENT. Or, for previously typed text, you can highlight the text (actually, any characters in the paragraph) and then select the justification. Multiple paragraphs can be highlighted, in the usual manner, and then justified all at once. LEFT JUSTIFY positions all the text, for each given line, at the LEFT SIDE of the document. RIGHT JUSTIFY forces each line to end exactly on the RIGHT SIDE of the document. CENTER JUSTIFY places the text an EQUAL distance between the LEFT and RIGHT MARGINS. FULL JUSTIFY is a type of alignment where the text is both LEFT AND RIGHT JUSTIFIED at the same time. If the words of the sentence do not add up to a full line across the page, the GraphicWriter adds spaces between the words in such a way until all of the words fit evenly on that same line.

Left And Right Margins

The left and right sides of a document are called MARGINS. The RIGHT MARGIN can be set so that typing will never go past a specific mark.

Paragraph Indentation

The INDENTATION MARK, at the LEFT SIDE of the Ruler, signifies where the FIRST WORD of a paragraph will be positioned. As you type, and the sentence "wraps", a new line will begin at the LEFT MARGIN MARK. The INDENTATION MARK can be moved by placing the pointer on it and dragging it to a new setting.

Single & Double Line Spacing

The body of text of a document can also be formatted with Single or Double Line Spacing. Selecting "Double Spacing" from the Format menu will insert a BLANK LINE between every line. Re-selecting "Single Spacing" will remove the added lines. Note that the chosen Spacing will affect the ENTIRE document.

Tab Markers

A TAB MARK is used to designate WHERE you want the cursor to go when you hit the TAB key. These MARKERS, when placed on the Ruler, will "force" the text to be positioned on the screen. When a TAB MARK setting is changed, the text will ADJUST to specific locations, as called for by the MARKS.

There are 3 types of TABS: Left; Center and Decimal, as found under the Format menu. They can be selected using OPEN APPLE-1, 2 or 3, respectively. They can be used individually or in COMBINATION. You may select up to a total of 6 for each paragraph.

Left Tabs

When you select "Set Left Tab", a new mark will appear on the Ruler. To change this MARK, position the pointer on it and DRAG it to a new location. This will act upon the text in that paragraph only.

You can place multiple Left Tabs on the Ruler. For example, if a second Left Tab is placed at the 3 inch MARK, the edit cursor will move to the 3 inch MARK when you hit the TAB key again. In this way you can control where the edit cursor will move, but more importantly, you can begin to dictate where the typing will occur on the document window. This process is very important when it comes to designing the desired document.

Center Tabs

A Center Tab can be placed in a similar manner and cause the text, after pressing the TAB key, to be CENTERED as you begin typing. The position of a sentence on a line will be determined by it's LENGTH when centered beneath this MARK.

Decimal Tabs

A Decimal Tab has a "dot" to it's right. This is how you can tell the difference between a Decimal Tab and the other Tabs. The interesting thing about a Decimal Tab is that when typing begins, any numerical values will have their DECIMAL POINTS aligned vertically. This sets up the possibility of creating a professional report which will show a LIST OF AMOUNTS, such as PRICES or DOLLAR TOTALS and so forth.

Removing Tabs

A TAB MARK can be removed at any time by simply dragging it off the Ruler and letting go of the mouse button.

PAGING

Page Numbers

You can type out a very long document without stopping (although you should always Save your document from time to time for "insurance" against unforeseen disasters). The Word Processor uses what's called VIRTUAL PAGE which means it acts as if you had an infinitely long piece of paper fed "forever" through the program's "typewriter".

As you type, the document will be separated into NUMBERED PAGES. These pages will simply be the divisions of what the document will look like when printed.

Each PAGE therefore represents ONE PIECE OF PAPER. The Page Number that you are currently typing in will be shown at the lower left corner of the window.

Scroll Bars -----

On the right side and along the bottom of the document window are what's called SCROLL BARS. These allow you to move through a large document rather swiftly, in order to pin-point the exact Page you would like to edit.

Clicking on the DOWN ARROW moves the contents of the window upward a LINE or two at a time. Or clicking on the UP ARROW will move the contents downward on the screen. Holding down the mouse button on an ARROW will act like "consecutive clicks" and continue moving the contents. You can also SCROLL RIGHT or LEFT by using the bottom SCROLL BAR which works in a similar fashion. However you will really only need to do this when your RIGHT MARGIN is set beyond 8 inches. Note that you can go out to the right up to 15 inches, but you can ONLY print such a document on the Wide ImageWriter.

The Thumb -----

The way to move through the document a few "screens" at a time is by dragging the white rectangle called the THUMB. You might have noticed that when you clicked on the ARROWS, this THUMB also moved. The THUMB rectangle is positioned along the SCROLL BAR in the exact PROPORTION of the contents you currently see with respect to the ENTIRE DOCUMENT. Thus, if the THUMB is at the top of the SCROLL BAR, then you will know that you are at the very beginning of your document. If you drag it to the middle of the SCROLL BAR, then release the mouse button, you'll be at the halfway point of your document, and so forth. Clicking on the actual gray part of the SCROLL BAR will also advance the contents a few "screens" at a time. You can reverse the direction of the "scroll" by clicking on the OTHER SIDE of the THUMB (when the gray appears on that side).

As you drag the THUMB, the Page Number of its position will also be shown (in its usual place at the bottom left corner). Therefore, you can drag the THUMB while examining the displayed Page Number in order to "pinpoint" the exact page you'd like to go to. Note that the actual SIZE of the white rectangle represents how much memory remains for you document. As you document grows in length, the THUMB rectangle will shrink.

Page Breaks -----

As you are typing a document, you will come to the end of a page (as it would be printed on paper). At this time a line will be displayed across the screen indicating the fact. This is known as a PAGE BREAK. What this means is that during printing, the paper will be fed through the printer to the next sheet. You can force this to happen at any time by positioning the "blinking" cursor at the desired place and then selecting "insert Page Break" from the Page menu. During printing, a form feed will occur exactly at this point, with subsequent printing continuing on the next sheet of paper.

You can always tell where a Page Break exists by the fact that the screen will be "empty" between the Break and the bottom of that Page. Of course, you aren't allowed to type within this area. Upon reaching such a Break during typing, the cursor will "hop" down to the next Page. However, an inserted Page Break can be removed by positioning the cursor anywhere within the LAST PARAGRAPH of the Page and selecting "Remove Page Break" from the Page menu thereby removing the Break "area" from the document.

Headers And Footers -----

A HEADER, or a FOOTER, is simply a line, or a few lines, that you would like to have printed at the top or bottom of every page. To create a HEADER or FOOTER simply type the text and HIGHLIGHT it. Immediately select "Copy as Header" or "Copy as Footer" from the Page menu. The text will be saved (replacing any

previous ones) and will appear during printing. You can examine a HEADER or FOOTER by selecting "Show Header" or "Show Footer" from the Page menu in which case they will appear on the screen. Common usages for HEADERS or FOOTERS include your company's name and address (or logos and other Graphics drawings as cover later) which will then become your special Letterhead stationery.

Show Full Page -----

Since an entire 8 1/2 by 11 page cannot "fit" onto the screen all at once, there is an item under the Page menu called "Show Full Page". By selecting this you will be shown a miniature representation of the current page of your document.

This function is often used to see what your page will look like prior to printing, especially when it contains numerous graphics drawings or complex layouts. By examining the Full Page from time to time, you can then create your document with full assurance it will be taking the form you had originally planned. Click the "OK" button when done viewing the Full Page window and you will be returned back to the normal editing mode.

CREATING DOCUMENTS -----

Saving Documents -----

When you have finished typing your document and are ready to save it to your disk simply go up to the File menu and select "Save Document" or press OPEN APPLE-S instead. Upon doing so you will be asked to give your new document a NAME (For untitled docs). The default name "Untitled" appears at the bottom of this Save window. Note that it is highlighted. As usual, it can be edited by simply typing in a name or by clicking the pointer between characters and begin typing or backspacing.

When ready, click on the "Save" button, or press the RETURN key (the "ring" around the button means it is the default button), and the document will be saved. You will then be returned back to your document, Notice that the TITLE of the window will change from "Untitled" to "XXXX" (the name you enter).

About The Save Window -----

It is important to know some more things about the Save window. At the top you will be shown the name of the current PATHNAME. The Disk icon will be followed by a name that indicates the main directory to where you document will be Saved. You are also given the amount of disk space remaining.

Those items in the window which are grayed mean they do NOT apply to the activity. Naturally saving your new document with the same name as one already saved will completely destroy the contents of the original. The Cancel button when clicked, will simply return you back to your document WITHOUT saving the document.

Saving To A Folder -----

What you are really trying to do when you save a document is to save it INTO A FOLDER. Thus, you locate the FOLDER you want (clicking on the Up or Down Arrows to scroll through a large list of them) and then click "open" or press RETURN, or you may double-click on the folder name. In any case, THIS IS WHERE THE DOCUMENT WILL BE SAVED.

A Folder icon represents a SUB-DIRECTORY which in itself can hold other files, and these files can only be found by examining this particular folder. You can recognize it as a SUB-DIRECTORY since the name includes slashes "/", each one meaning a "folder within a folder". Again, this will be the FOLDER your document will be saved in (when you click on Save). When a folder icon is showing, the "Close" button will become activated. Clicking this will take you back to the

previous FOLDER (if you have ventured a few folders deep).

You can create a brand new folder by typing in a name for it then clicking on "New Folder". After this is done you would then type in the name for the document itself and Save it into this new folder.

The "Disk" button is used by first ejecting your disk and inserting another disk. Clicking "Disk" will then read the new disk for all of it's FOLDERS, and then you can carry on as explained above.

RETRIEVING DOCUMENTS

Closing A Document

You can put away your document (in order to get to a different document) by clicking in its CLOSE BOX. If you have been typing before closing your document and you haven't saved these changes yet, then you will be prompted if you wish to Save Changes Before Closing. Clicking "Yes" (or pressing RETURN) will automatically save the document before putting it away. Clicking "No" will put the document away WITHOUT saving any changes. "Cancel" will simply return you back to your document for further editing.

New Documents

Once the current document is put away and the screen clears, you may select "New Document" from the File menu which will bring up a blank "Untitled" window, the same as if you just entered GraphicWriter. Or you can re-open a document which you have already created and saved prior to this session.

Opening Documents

When a document is put away, you can then open a previously saved document by selecting "open Document" from the File menu. In this case the Open Document window will appear. Selecting the filename, then clicking the "Open" button (or pressing RETURN), or double-clicking on the file's name will open the document. The new window will have the document's name as it's title.

Working With Documents

You can then start working with this document in the usual fashion. When finished, you have the option of Saving an changes and then Closing the window, or Close it and save it (or not) directly from the prompt window.

Sometimes one might just want to "see" a document, or "copy" some of its text (or graphics), then close the document and bring up another and paste the copy into this newly open document. Once you get the hang of it you will find there are a number of options available for creating and retrieving documents.

OTHER DOCUMENTS

Save Document AS...

You can work with an existing document by bringing it up, typing new data or making some changes to it and then selecting "Save As..." from the File menu. This will allow you to save this altered document to a different file(name). In this way you can make a "copy" of an entire document. The original document stays intact as the window's title then changes to the new documents name (that you entered in the Save window). This is how you can create "templates" and other such files that you would like to have saved aside. Many documents might actually contain the same "structure", such as "Letterhead" or reports, and by saving a "copy" you won't have to always create a new document entirely from

scratch.

Save As Text File

By selecting "Save As Text" from the File menu you can save just the data you have typed (no pictures). A TEXT ONLY file will be created which will consist of just the numbers and letters. The fonts, sizes, styles, and colors are "Stripped" out. In this way, the data can be moved over to other Apple IIGS programs. Note that saving as TEXT does NOT eliminate the "Save Changes?" factor on your current document.

Importing Text Files

A document can also be created from TEXT type files. This is the process you can use to bring into GraphicWriter any documents or TEXT created from other programs. When you select "Import Text File" from the File menu, another "Open" type window will be presented allowing you to choose a TEXT file (you may insert other disks during this "search"). You then select the TEXT file just like you were opening a normal document, but this time the DATA from that file will be inserted into your document. The insertion of the TEXT will occur at the current point of the "blinking" cursor. Thus, you should first position this cursor and then select "Import Text File". After the TEXT is inserted, you are welcome to edit it (cut-copy-paste,etc). You can also just bring up a "New Document" then import the TEXT. When ready you can Save this new document, or use "Save As..." to a completely different file for an altered document.

GRAPHICS

The Drawing Tools

Each DRAWING TOOL can be selected by simply clicking on its ICON at the bottom of the screen. The "A.." (for ASCII) is used for what is called TYPING MODE. Clicking on it (so that the square becomes highlighted) means you can then begin typing on the document. Clicking on any of the other squares means you will go into the GRAPHICS MODE.

Next to the "A..." we have the LINE TOOL. After selecting it, the arrow pointer becomes a CROSS when you drag it up to the middle of the screen. This is also how you can tell that you are in the DRAWING or GRAPHICS MODE and that you can NOT type at this time.

To use the LINE TOOL you first click and hold down the mouse button and DRAG the CROSS about the screen. A LINE will be drawn FROM THE STARTING POINT of where you FIRST clicked, TO THE ENDING POINT of where the CROSS is when you RELEASE the mouse button. You can "eyeball" the LINE until it is perfectly straight.

Next to the LINE there are four SHAPE TOOLS: a rectangle, a rounded rectangle, a triangle, and a circle (or oval). These tools work the same way, that is, you click and DRAG to draw with them.

The next four FILL SHAPES work exactly the same way, but instead of drawing a "border", the entire area is filled in.

The hand tool is used for moving pictures about the screen. It works by clicking ON the picture, holding the mouse button down, and DRAGGING the picture with the HAND. A ghost picture moves with the HAND and when the mouse button is released, the picture will move from its original position to the new destination. If not satisfied with the position, simply drag it again to another place.

The LINE THICKNESS is determined by selecting one of the 5 CROSSES before you draw. Of course, only the NON-FILL SHAPES are affected by LINE THICKNESS since the FILL SHAPES are essentially solids.

You click on one of these drawing pointers and then choose the TOOL you wish to

draw with. To understand their differences, let's examine how the thinnest one can be utilized to create the same effects as the thicker ones. Using the smallest CROSS pointer, draw a rectangle, then position the pointer just inside the upper left corner and drag into place a new, internal rectangle. Repeating this process creates a thicker "border" just as if you used a larger CROSS. Therefore, as you draw with one of the larger CROSSES, adjacent multiple lines or "dots" are formed at the same time, thus yielding larger "rectangles".

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DOCUMENT graphicwriter.2

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The Paint Palette

Drawing in color is done with the aid of what is called the PAINT PALETTE. This is called up on the screen by selecting "Paint Palette" from the Goodies menu or using OPEN APPLE-A (for "Artist"). The palette is like an artist's tray of colors used during painting. The PAINT PALETTE can be kept on the screen as you are drawing and can be moved about by dragging on its top black part. It can be put away by selecting "Hide Paint Palette" from the Goodies menu, or by clicking in its CLOSE BOX. (Clicking on the title of your document at the very top of the window also puts the PAINT PALETTE away).

Selecting A Color

A COLOR is selected by simply clicking in one of the 48 colored ovals. A check mark next to the oval signifies that it has been selected. Also, the selected color will appear in the COLOR BOX at the bottom of the screen. All subsequent typing or drawing will be displayed in this color. Note that DOUBLE CLICKING a colored oval on the PAINT PALETTE will select that color and put the PALETTE window away.

Typing In Colors

The way to type in color is by first selecting one from the PAINT PALETTE just prior to typing. You can change the color of existing text by highlighting it and then selecting a color. Note that the text will remain highlighted and appear in an INVERTED color until you click the mouse to reveal its true color.

Painting Modes

There are 3 PAINTING MODES. The current MODE will always be checked on the Goodies menu. HEAVY PAINT is very simple to understand. Any color you draw with will paint directly over any drawings underneath it. WATER COLOR results in "mixed" colors when painting over a different color than the currently selected drawing color. The drawings below it will often "come through" resulting in bizarre combinations of colors. However, the primary purpose of WATER COLOR is TO LET THE BLACK SHOW THROUGH. DYE simply paints over any BLACK parts of a picture. On an empty screen, a drawing done in DYE will end up being transparent, but when you paint over a picture that contains the color BLACK, then just let the BLACK portions of the drawing underneath become DYED.

Hiding Colors

On the Display you will find "Hide Red, Blue, Green or Yellow. Selecting one of these will temporarily HIDE that particular color from the screen. The Display menu will then change to "Show Red" or "Show Blue", etc. Re-selecting one will once again SHOW that color. This is how you can view various colored OVERLAYS.

Living Color Or Black & White

You can also select "Black & White" from the Display menu in which case the entire screen will be displayed in black and white, or shades of gray where there are different colors. Selecting "Living COLOR" returns the screen back to all color again regardless of which colors were previously "hidden".

"Living Color" therefore SHOWS ALL COLORS, as if you selected them from the menu one by one. "Black & White" will override any "Show Colors" and HIDE them all at the same time.

Objects

When you draw a shape, it becomes what's called an OBJECT. This means it is INDEPENDENT from the rest of the document or other OBJECTS.

Selecting & Changing An Object

This is proven by the fact that you can change the size, position or color of an OBJECT without disturbing the others. This is done by SELECTING the OBJECT (clicking on it with the HAND TOOL). A "marquis" type border will surround the OBJECT telling you that it is currently SELECTED, which means you can now do various things with the OBJECT.

An OBJECT'S LINE THICKNESS can be altered by selecting the OBJECT and then immediately selecting a different CROSS.

An OBJECT can be RE-SIZED by holding down the CONTROL key while dragging it with the HAND TOOL.

An OBJECT can also be ROTATED by selecting "Rotate" from the Goodies menu. This is ideally used on TRIANGLES to obtain "arrows" of different direction.

You can change an OBJECT'S COLOR by clicking a different colored oval on the PAINT PALETTE. Likewise, the DRAWING MODE for this particular OBJECT can be changed by selecting "Heavy Paint", "Water Color", or "Dye" from the Goodies menu.

Selecting Multiple Objects

You can select a number of different OBJECTS at the same time by holding down the SHIFT key while clicking on them one by one. Each one of the OBJECTS will appear with a "marquis" frame.

These selected OBJECTS will then behave as a GROUP. You can change all their COLORS to the same color, as well as change their LINE THICKNESSES or DRAWING MODES. You can move ALL of them in unison by holding down the SHIFT key while dragging. However, if you try to RE-SIZE any one of them (with the CONTROL key), only that one particular OBJECT will be altered since the others will then become "de-selected".

Cut/Copy/Paste With Objects

Just as you highlighted text and performed Cut, Copy, or Paste, so can you select an OBJECT (or multiple OBJECTS with the SHIFT key) and choose Cut or Copy from the Edit menu. The copied OBJECT will appear on the Clipboard, replacing whatever was there before it. As you'll recall, the Clipboard's contents can be viewed as desired by selecting "Show Clipboard".

When an OBJECT exists on the Clipboard, you can then select "Paste" from the Edit menu and the OBJECT will reappear at the top-left corner of the CURRENTLY SELECTED REGION. For example, if you Cut an OBJECT from your document, and then select a different REGION, the Pasted OBJECT will be placed at the top-left position of this REGION -- no matter what Page you are on (or have scrolled to). You may, of course, DRAG a Pasted OBJECT away from this position by using the HAND TOOL. When you Paste an OBJECT directly on top of another OBJECT, you might wish to move it away (using the HAND) in order to expose any "hidden" OBJECTS beneath it.

Regions

A REGION can be simply defined as "an area". A REGION is usually comprised of a "group" of multiple OBJECTS that form a single picture.

Typing Regions

The simplest REGION is called the TYPING REGION. When you create a new document, a large TYPING REGION is automatically created which essentially "covers" the entire document. You don't have to worry about it. You just keep typing and as you hit RETURN, the lines of text keep growing and growing.

Bottomless Regions

This beginning TYPING REGION is also known as a BOTTOMLESS REGION in that an imaginary "rectangle" surrounds the whole document, with no tangible BOTTOM. You can virtually type forever downwards. And just as you can keep typing, so can you keep drawing and adding OBJECTS into a BOTTOMLESS REGION.

Boxed Regions

A BOXED REGION is one that does have a bottom. It is finite to the degree that if you were to type in this REGION, you would eventually come to a point where you could no longer type, that is, the REGION'S boundaries will restrict the typing to the specified dimensions.

A BOXED REGION is most often used when you want to confine certain OBJECTS within a particular area and act on them without disturbing any others. Such is the case of a complex drawing that is complete to your satisfaction, and you wouldn't want it to be changed. The "set" of OBJECTS can be copied and sent to other places on your document, into other REGIONS or even to other documents (via the Clipboard, or GraphicWriter Scraps).

Creating a New Region

As previously mentioned, a new, "Untitled" document begins with a BOTTOMLESS TYPING REGION. To create and define a totally NEW REGION, simply select "New Region" from the Regions menu and a default "rectangle" will appear on the screen.

The Object Mode

REGIONS have 2 different MODES. The OBJECT MODE is fairly straight forward. The REGION is simply made up of a collection of OBJECTS brought together to form a single picture. You create and draw the OBJECT directly within the REGION.

The OBJECTS within a REGION can be Cut or Copied. You may also create an OBJECT outside the REGION, Copy the OBJECT then Paste it into the selected REGION.

Therefore, the purpose of a REGION is to "group" OBJECTS together. The REGION will then behave as a single entity, which is discussed later. The reasons why you would want to use REGIONS will become much more evident under the heading "Page Making".

The Canvas Mode

The CANVAS MODE is quite different. This is where you draw within the selected REGION using the PAINT BRUSH TOOL to do "free hand" drawings. You must understand that the drawings performed in the CANVAS MODE are NOT OBJECTS. The drawings are nothing more than "dots on the screen". These "dots" CAN NOT BE MOVED nor can they be re-sized. They merely form a picture within the REGION and have become "blended" into the area. You can, however, draw right over them, or erase them by selecting and drawing with "White" paint. You may also Cut or Copy an ENTIRE CANVAS REGION and Paste it into another CANVAS REGION, but NEVER into an OBJECT REGION.

IMPORTANT RULE:Once you have selected either the OBJECT MODE or CANVAS MODE and have started to draw in the REGION, you may NOT revert to the other MODE while working in that REGION.

Black On White/White On Black

The "normal" mode for most applications is "Black on White" which means "black text on white paper", much like a typewriter. However, GraphicWriter allows you to do the reverse by selecting "White on Black" from the Regions menu.

This ONLY EFFECTS NON-COLORED TEXT and pertains to the ENTIRE REGION. You can subsequently paint "over" any part of the REGION. You can revert to the opposite by re-selecting the other "inversion" from the Regions menu.

Selecting & Operating Upon Regions

A REGION becomes selected by holding down the OPEN APPLE key while clicking on it with the HAND TOOL. The OPEN APPLE key is necessary so as to distinguish the REGIONS from OBJECTS. Upon selection, you can operate on the entire area of the REGION at once, such as RE-SIZING it to different dimensions by holding down the OPEN APPLE plus the CONTROL key at the same time while "tugging" on the REGION with the HAND. Note that by using the SCROLL BARS it is possible to create a REGION which is larger than the viewable screen. You would alternately RE-SIZE and SCROLL. However, due to memory limitations, a CANVAS REGION may NOT be larger than 8 inches wide by 10 inches long.

You can change the REGION from "Boxed" to "Bottomless", or you may choose to put a BORDER around a REGION by selecting "Framed" from the Regions menu. This will draw a BOUNDARY FRAME, which can thereafter be removed by selecting "Unframed"/

Selecting "Show Regions" will allow you to see the positions and sizes of your REGIONS in the form of rectangular "frames" on the screen. Thereafter, the Regions menu will say "Hide Regions" which will, of course, remove the viewing frames.

Helpful Rules

The OPEN APPLE key always pertains to REGIONS. If you do NOT use the OPEN APPLE key, then you will be acting upon OBJECTS or TEXT.

The CONTROL key gives you "Control" of a REGION or an OBJECT.

The HAND is used for SELECTING, MOVING and RE-SIZING both REGIONS and OBJECTS.

The SHIFT key, while used to select MULTIPLE OBJECTS or TEXT, unfortunately may NOT be used to select multiple REGIONS. However, you can Copy OBJECTS within REGIONS, or CANVAS pictures, individually into or out of the Clipboard or GraphicWriter Scraps and Paste them elsewhere as desired.

Page Design

For the advanced user or desktop publisher, REGIONS become almost mandatory for sophisticated page layout. For example, multiple text columns (required for creating a NEWSLETTER) can be defined by laying down REGIONS for these columns. You can choose separate colors for the entered text as well as separate justifications for each REGION. Changing one REGION will not alter the other. In this way, a body of text could be typed in one column with the writing carrying over and continuing on in the other column.

You can create as many columns as you wish, with each REGION having a unique size, and you can scatter these REGIONS around a page as well as using multiple pages. (See "Page Setup" to learn how you can change the actual page lengths).

Documents can also be created that are "mixed". An example would be two REGIONS of text along with a third REGION dedicated to some artwork drawings.

Text Plus Graphics

The basic rule to remember when combining text and graphics pictures is that the pictures will always "override" the typed text. This is because a drawing is really a "painting" and will usually cover-up the text. Of course, a WATER COLOR or DYE will change the apparent color of any underlapping text (until you move one of these OBJECTS away).

Typing Over Pictures

As you are typing, the characters might run under an OBJECT, as the text will tend to "disappear". In fact, you might even see a "blank line" across the screen during backspacing of text. What this means is that because you are in the TYPING MODE at the time, there will be an illusion of parts being "erased". You will experience this whenever you are typing and there are pictures that "get in the way".

To review the pictures or text, that is, to see what the document "really" looks like, all you have to do is click on the "Update" button at the bottom right hand corner of the screen.

This will show the OBJECTS in their proper and full pictures, in which case if any text is underneath them, the OBJECTS will "smother" the text so that the text will not be seen. (except for most Water Color and Dye OBJECTS).

Text Within Regions

The text entered into a BOTTOMLESS or BOXED REGION can be operated upon with the normal editing functions such as cut & paste, highlighting and changing font, size, or color, and so forth. However, the REGION can also maintain a set of TABS and MARGINS and because of this, the real power of GraphicWriter begins to be noticed.

When we create a NEW REGION, the MARGINS are set, as a default, to the left and right boundaries of the REGION.

You'll recall the rule that the RULER you see is for the current paragraph. Well, in this case it's our REGION! As with any paragraph, dragging the RIGHT MARGIN MARK to a new setting will alter the text within that REGION.

Mixing Text And Graphics

You can also combine GRAPHICS pictures within the same REGION containing TEXT. For example, if you had a drawing in one REGION, and typed a "label" in a separate REGION just below the drawing, then if you wanted to move both the drawing and label to another position on the page (or to another page), you would have to move them individually. However, the correct way to do this is to COMBINE them all into one single REGION, making this unit much easier to work with.

Cut-Copy-Paste

You can use Cut, Copy or Paste on any TEXT within the OBJECT REGIONS. The TEXT is called REAL TEXT in that it is considered to be "loose" and movable. This is best understood when you think of each REGION as being miniature "documents" within themselves. You can take the text from one REGION and Paste it into another.

Overlays

An OVERLAY is the term used for when you "mask" an OBJECT or a REGION by placing

a WATER COLOR or a DYE OBJECT directly over it. (Of course, using HEAVY PAINT will cover an OBJECT or REGION completely).

Through the use of the "typing fields" and OVERLAYS sophisticated artwork can be obtained. Keep in mind as well that when your creative ideas come to life in the form of a really good drawing, make Copies of them for safe-keeping.

Layouts

You'll recall that "Show Full Page" can be selected from the Page menu in order to view a miniature representation of the PAGE on which you are currently working. This process proves very valuable when applied to Page Making.

Using "Show Full Page"

When brought up on the screen, Show Full Page presents for your inspection the "overall view" of a document Page. Lines of TEXT in this window will be displayed as "waves". The window represents a single page, about 8 1/2 inches across (the "viewable" section of the document window, which will be just a portion of a wider document) and you can view different pages by first scrolling to them prior to selecting "Show Full Page".

Rearranging The Layouts

One of the best usages for Show Full Page is that, by using the HAND, you can actually drag and maneuver the OBJECTS or REGIONS about the page. In this way, Page Making becomes much easier to accomplish. The OBJECTS or REGIONS can also be Cut, Copied, or Pasted directly on the window (or into the Scrapboard). An other process that you can perform on the "regular" document window with an OBJECT or REGION can also be done on Show Full Page. The only function you can NOT do is to RE-SIZE an OBJECT or REGION during Show Full Page.

Templates

A template is the term used for a document which serves as a "model" that can be used to create similar type documents. This is so you don't have to keep creating the same drawings or layouts over and over.

Creating A Template

It is very easy to create a TEMPLATE. All you do is perform your drawings and then Save it back to the disk. For example, a document that has a logo at the top can be used as Letterhead stationery. Then, you open up this TEMPLATE and begin typing a letter. When ready to save this new document you MUST select "Save As..." from the File menu. This allows you to save the document to a new file with a different name. But take caution: Should you use "Save Document" to save it, you'll be saving the TEMPLATE itself! The TEMPLATE will still have the typing on it and therefore become "ruined"!

Examples Of Templates

The main reason for creating TEMPLATES is to avoid doing extra work. When you create a document or a report containing numerous REGIONS all carefully laid out, or sophisticated drawings, or special areas of the document set aside for graphs, etc, then stashing this "raw" document aside will allow you to use it again.

Of course, if the ONLY difference amongst your documents is the actual text you type in the REGIONS, then you could always bring up one of them, highlight the text and Cut it out, then begin typing anew.

It is also a very wise thing to set aside a FOLDER on the disk for special

drawings, artwork, laid out REGIONS and so forth. The extra time spent in creating TEMPLATES and FOLDERS may well prove worth it.

GraphicWriter Scraps

GraphicWriter Scraps is a collection of sample drawings combined together within a second Clipboard. This Scrapboard, as it is often called, can be brought up on the screen by selecting "GraphicWriter Scraps" under the Apple menu.

A picture in this Scrapboard is like a "frame on film", The number of the picture is shown along with the total number of pictures (1 of 4, etc). You can move through the series of "frames" in the usual manner of clicking on the arrows to scroll up or down, or by clicking in the scroll bar, or by dragging the scroll "thumb".

A picture can be Cut or Copied (by using the Edit menu) from your document and into the Scrapboard, or a picture can be Cut or Copied from the Scrapboard and then pasted into your document.

There is an important rule to remember which is called the FRONT WINDOW. If the Scraps window is the front most window at the time, the editing functions (cut, Copy or Paste) apply ONLY to the Scraps window and NOT the document. When you CLOSE the Scraps window (or click on the document window), then the document itself becomes the FRONT WINDOW and all editing functions behave as usual upon the document.

You can store various pictures of your choice into the GraphicWriter Scraps so that all of your documents can access and share them.

Page Setup

Printing your document is accomplished by first selecting "Page Setup" from the File menu. Upon doing so you will be presented with the Page Setup Window. The Page Setup Window allows you to choose various ways of printing. You may bring up this window at any time to "set" the parameters. However, there may be times when you'll want to make changes to these parameters just prior to printing special documents.

PRINTER represents the type of printer you will be using. You can choose the ImageWriter, the ImageWriter II (which can print in colors), the LaserWriter, or a Daisywheel type printer. (The latter can only print in DRAFT). To select a printer, simply click in one of the "radio" buttons.

QUALITY represents the type of printing you want to use. The DRAFT button signifies that you want to print the TEXT ONLY. This, of course, means that NONE of your graphics drawings will be printed nor will the TEXT be able to be printed in the different fonts, sizes, or styles (except bold and underline). This printing mode is used most often for business letters and reports.

STANDARD represents the normal mode for printing graphics. This mode does allow the fonts, sizes, and styles of your text to be printed. HIGH QUALITY mode is a "double-pass" graphics printing which results in a much sharper picture than with STANDARD (although this takes longer to accomplish). NOTE:At this time the routines are NOT included for HIGH QUALITY for the IMAGEWRITER II and no printing from the LASERWRITER. These will be included in GraphicWriter at a latter time when Apple makes the routines available to the developers.

PAPER is for setting the paper length of each PAGE of your document. Note that you can control this length while you are creating a document. The Page Number on the screen, as well as Page Breaks, will be affected by this length. US Letter is you normal 8 1/2 by 11 inches while US Legal is 8 1/2 by 14. A4 stands for the common European size. Computer represents paper that is 15 inches wide. Note that you can only print 15 inches wide PROVIDED you are using the Wide ImageWriter.

PAGE NUMBERS, HEADERS and FOOTERS are selected individually by clicking in their

respective "boxes" (until a check appears). These are additional functions which allow you to print the Page Number, Header or Footer for each page during the actual printing. Clicking a checked box a second time will "un-check" it.

Clicking the "OK" button will accept the parameters, saving them for future printing, and then return you back to your document. Clicking "Cancel" will return you back to your document WITHOUT saving any changes you may have made to the parameters.

IMPORTANT NOTE: These Page Setup parameters are always saved uniquely for each document. You can therefore have many different documents, all with separate settings.

Should your printing not quite come out as desired, then abort the printing and bring up the Page Setup window, select the appropriate option, then continue printing.

Print Setup -----

After assuring the Page Setup parameters are satisfactory, the very next step towards printing is to select "Print Setup" from the file menu. Upon doing so you will be presented with the Print Setup Window.

The COLORS boxes allow you to choose which of the main COLORS you would like included in your printing. You choose a color by clicking in its box (until it becomes checked). You can de-select (un-check) a COLOR by clicking the box a second time. If a COLOR is not checked, then it will be excluded from the final printing. In this way it is possible to print COLORED OVERLAYS by printing your document a number of times. Each time you can print by selecting different combinations of added or removed colors.

SCREEN TONES represent the degree of "screening" to be done during printing. This is as if a screen or "grid" of a specific DOT DENSITY was laid over the document, allowing only certain TINTS to show through. This is measured by the percentage of SOLID BLACK.

FORM FEED is your normal type of paper feed where the printer sends the specially prepared form paper on through during printing. CUT SHEET is where YOU manually feed each sheet of paper during printing, one by one when asked to do so.

The number of COPIES you wish to print can be entered by editing the COPIES box.

Clicking "Cancel" returns you back to your document WITHOUT saving any changes to the Print Setup parameters.

Clicking the "START" button will save the current parameters and begins printing according to all of the parameters from both the Page Setup and Print Setup windows.

You can ABORT the actual printing by pressing OPEN APPLE-PERIOD.

Remember, these Print Setup parameters are saved uniquely for each document.

Bitmap Files -----

Certain video scanning devices that DIGITIZE images (translate real life pictures into patterns a computer can recognize) have the capability of creating a disk file that, when loaded into the computer's screen memory, will display the digitized picture. Such files are called BITMAP FILES. Essentially, they contain BITS ("dots") that constitute a graphic picture for the Apple IIGS. GraphicWriter has the capability of importing these BITMAP FILES provided they have been generated from HIGH RESOLUTION graphics. For the GS this is 640 PIXELS ("dots") per line with 200 lines per screen.

To Import A Bitmap File -----

1)SELECT or create a CANVAS REGION (you can only import a Bitmap File into a CANVAS REGION).

2)Select "Import Bitmap File" from the Goodies menu.

3)A standard file selection list window will be displayed. Select the file you wish to import.

A standard Bitmap File contains 32,000 characters which comprises an entire single GS screen in the High Resolution mode. The initial size of you CANVAS REGION is unimportant. The entire 640 X 200 matrix of "dots" is imported into memory. A smaller CANVAS REGION can be "Stretched" in size in order to see more of the imported picture.

Exporting Bitmap Files -----

It is also possible to EXPORT a Bitmap Do:e from GraphicWriter to another program or device (providing, of course, they have the capability of "excepting" such a file). To do this, simply SELECT a CANVAS REGION and then select "Export Bitmap Files" from the Goodies menu. As usual, you will be asked to enter a new name for the file just prior to saving it.

NOTE:Since Bitmap Files require large amounts of disk space, it is NOT advisable to use "Import" or "Export" just to transfer pictures between GraphicWriter documents. Instead, use either Cut/Copy/Paste or GraphicWriter Scraps.

The Master Palette -----

Since GraphicWriter uses "Super Hi-Res" graphics, there are certain restrictions applied to the selection of COLORS. In the "Super Hi-Res" mode, the GS can only display FOUR unique colors per screen line, and although this restricts the solid color spectrum, it is a necessary trade-off for good quality graphics or word processing.

GraphicWriter behaves like it uses more than FOUR COLORS by employing a technique known as DITHERING. This method, commonly used in the printing industry, blends the different colored "dots" into PATTERNS that give the appearance of different hues and shades. For example, the color PURPLE is created by displaying alternate RED and BLUE dots. ORANGE is created with YELLOW and RED dots, and so forth.

Changing the Master Palette -----

There may be times when SOLID COLORS will be preferred over DITHERED COLORS. For example, one might be designing a layout which will only have one or two colors for the camera-ready artwork at the printing press. In this case, the restriction to four colors (where WHITE and BLACK are two of them) is more desirable since solid, undithered colors are preferred.

By selecting "Set Master Palette" from the Display menu, the Set Master Palette Window will be presented. If you select "Dithered", colors will be displayed on your document using the DITHERING technique (described above). Note that the color selections have no meaning when Dithering is selected.

By selecting "Solid Colors", your document will be displayed using FOUR NON-DITHERED COLORS. White and Black are always chosen for two of the four colors as White is necessary for "background" and Black is necessary for "outlines". But, you can choose, Red, Blue, Green, or a combination of all three for the remaining two colors.

Red, Blue and Green are offered as choices that represent the actual colored "beams" that reflect on your monitor. By selecting different combinations, you can obtain the following solid colors. (Note: An X means the color box is checked while "O" means it is un-checked):

Solid Color Table

RED	BLUE	GREEN	SOLID COLOR RESULT
X	O	O	RED
O	X	O	BLUE
O	O	X	GREEN
X	X	O	VIOLET
O	X	X	TURQUOISE
X	O	X	YELLOW
X	X	X	WHITE
O	O	O	BLACK

Colored Printing

GraphicWriter Version 1.0 supports the Apple ImageWriter and ImageWriter II printers, as well as some Daisywheel "letter quality" printers (which can only print TEXT). The LaserWriter will be supported pending Apple Computer's release of the actual LaserWriter driver software. The same holds true for the High Quality printer drivers for the ImageWriter II.

Of these printers, only the ImageWriter II is capable of printing in COLOR. Printing colored documents to a "Black and white" device requires some discussion:

How Colors Will Print

You can determine the exact way GraphicWriter will print colors to various printers by understanding three general rules:

- 1) If the selected print device is the ImageWriter II, the document is printed with the identical colored patterns as shown on the GS screen. 2) If the selected print device is the ImageWriter or LaserWriter, colors will print in Black and White patterns as follows.
 - A) If DITHERED is selected for the Master Palette, colors will be represented by various shades of gray, depending upon the original colors' relative lightness and darkness.
 - B) If SOLID COLORS is selected for the Master Palette, then all solid colors are printed as solid Black and patterned colors are printed as Black Dots. 3) If SCREEN TONES has been selected (from Print Setup), only the SOLID colors are affected. If DITHERED is selected for the Master Palette, then only Black is affected, whereas if SOLID COLORS is selected, then Black and ALL SOLID COLORS will be affected by the SCREEN TONE selection.

Color Separation

GraphicWriter is an excellent tool for preparing multi-colored copy for printing. However, it's important to plan your document in advance, keeping in mind the various methods for printing, in order to achieve the desired results.

For example, if you are going to design a two or three colored promotional

piece, it is best to force the Master Palette into SOLID COLORS. Then, you would print each OVERLAY one at a time. By selecting one of the colors from the Print Setup parameters (and remember Black is a color), only those specific colored portions of the artwork document will be printed in SOLID BLACK which is exactly what is required for your camera-ready copy.

Daisywheel Printing

A Daisywheel printer, of course, can only print TEXT characters and only in black and white. The printer's "wheel" (which is nothing more than a metal ball with an engraved alphabet) strikes a ribbon to print a character. It is therefore virtually impossible to print any type of graphic "dots". However, Style variations of BOLD and UNDERLINE are supported.

-END-

=====

DOCUMENT gruds.in.space

=====

=====

GRUDS IN SPACE

=====

BY THE METAL MANIAC
THANKS TO THE PHOTON

This summary of the great graphics adventure will take you from the very beginning to the very end in the least amount of moves..Therefore, there will be some short cuts here and there..OK...Let's begin!!!!

(actions are printed inside "greater than" and "less than" signs)

=====

<W,D,D,W>

Now you must instruct the ship's computer where to go...

<SET 64-18-52>

You are now on course towards Saturn

<W,SET77-34-40>

Along with a coordinate for the ship, a coordinate for the teleport is also required.

<GO WINDOW,N,N,N,W,GET COIN,E,N,STEAL ROPE>

As you can see, stealing the rope makes the Gruds very angry...You must go South right after stealing the rope or you will die!!!

<S,S,S,E,S,E,KNOCK>

The butler answers the door and asks you if you are going to pay tribute to Lord Deebo....

<SAY YES, GIVE COIN,E,OFFER SHIP,E SAY HI>

Lord Deebo begins to speak telling you more about the plot... He also gives ya stuff.

<GET ALL,W, W,W,N,W,S,GO WINDOW,E,SET 96-17-14>

Now you are on your way to Venus.....

<W,SET 82-13-64, GO WINDOW, E, TIE ROPE TO TREE, E, D, GET GUN, U, W,

UNTIE ROPE,GET ROPE, N, E, N, SHOOT VENUSIAN, N, DROP GUN>
Failure to drop the gun results in death on the next move!!!

<W,OFFER NOTE, GET MONEY MAKER, E, GET GUN, S, SHOOT VENUSIAN, S, W,

S, W, GO WINDOW,E, SET 64-18-52,W,SET 77-34-40>
Back to Saturn!

<TIE ROPE TO STALAGMITE, D, N, E, S, D, N, W, GET KEY, E, S, U, N, W,

S, U, E, U, E, N, SHOOT BAT, U, UNLOCK CHEST, GET KEY, D, S, U, N, E, S, E, E, N, N, E, S, E, N, N, N, W, N, UNLOCK GATE, DROP KEY, DROP KEY>

You wont be needing those keys anymore..

<N, N, N, W, N, N, GET GREEN ORB, S, S, E, S, S, S, S, E, S, S, S, W,

N, W, S, W, N, W, W, S, S, U, N, N, DROP GREEN ORB, GET ALL, E, S, E, U, N, E, S, E, E, N, GO WINDOW, E, SET 96-17-14, W, SET 66-12-15, DROP MONEY MAKER, DROP GUN, DROP FLASH LIGHT, GO WINDOW>

You are now on an alien ship...The objective here is to find the Black Orb..To open doors, you must use orbs to lock and unlock them..Meaning there will be a series of dropping and picking up orbs..

<E, N, DROP GREEN, GET GREEN, W, GET ORANGE, DROP GREEN, GET GREEN, E, S, DROP GREEN, GET GREEN, E, E, DROP ORANGE, GET ORANGE, E, GET PURPLE, DROP BLUE, GET BLUE, W, W, DROP PURPLE, GET PURPLE, W, W, W, DROP PURPLE, GET PURPLE, W,GET WHITE, DROP ORANGE, GET ORANGE, E, E, E, DROP GREEN, GET GREEN, E, E, S, DROP WHITE, GET WHITE, W, GET YELLOW, DROP PURPLE, GET PURPLE, E, N, W, DROP PURPLE, GET PURPLE, W, W, DROP BLUE, W, DROP PURPLE, GET PURPLE, W, S, DROP WHITE, GET WHITE, E, E, GET BROWN, DROP YELLOW, GET YELLOW, E, E, DROP PURPLE, GET PURPLE, E, N, DROP GREEN, N, DROP BROWN, E, GET BLACK, DROP WHITE, W, S, W, DROP PURPLE, W, W, DROP ORANGE, DROP YELLOW, GO WINDOW>
Now we have the Black Orb!!!

<E, SET 64-18-52, W, SET 77-34-40, GET GUN, GET MONEY MAKER, GO WINDOW>
Now to get the ultimate item..The Gas!! Otherwise called "Heliotropanite"...

<N, W, SMASH TABLE, GET LEG, E, E, S, E, KNOCK, E, E, OFFER MONEY MAKER>
Now Deebo bitches for a while and then gives you a rock for all your troubles (Yippee..)..

<GET ROCK, W, W, W, N, N, E, BUY H-CONTAINER, GET H-CONTAINER, W, S, S, E, N, N, N, W, N, N, N, E, S, E, SHOOT ARLER, U, DROP BLACK ORB, E, W, N, MOVE ROCK, LOOK HOLE, GET HELIOTROPANITE, S, D, W, N, W, S, S, S, S, E, S, S, S, W, N, W, S, GO WINDOW>
Now off to Titan to get a bomb..

<E, SET 70-10-24, W, SET 14-93-96, GO WINDOW, E, GET BOX, W, N, W, GET BOMB, E, S, GO WINDOW, E>
Now we have to go to Pluto where our stranded pilot is and give him his gas..But first we must destroy an enemy ship with our bomb...

<SET 18-98-32, W, SET 36-24-35, GO WINDOW, DROP BOMB, GO WINDOW, LOOK BOX, PRESS RED BUTTON, SET 34-76-21, GO WINDOW, E, DROP LEG, U, PULL LEVER, N, GIVE HELIOTROPANITE, S, D, W, GO WINDOW, E, SET 53-42-75, W, SET 66-43-44>
Going home!!!!

Now you hear a radical tune and you get a million dollars...Later!!

To call this routine from BASIC follow this format:

CALL xxxx,A\$ [xxxx=address of program, A\$=any string variable]

As before A\$ can be any string variable, and if it is not a string variable or the comma is forgotten then a SYNTAX ERROR will result.

Decimal locations:

\$1650 = 5712 [so it would be CALL 5712,A\$]
 \$9200 = 37376 [so it would be CALL 37376,A\$]
 \$BC00 = 48128 [so it would be CALL 48128,A\$]

In order to use GS CLOCK #2 with Telecat MF.STARTUP must be changed so that the BASIC programs do not overwrite the clock drivers. To change them LOAD MF.STARTUP and change the POKE 104,23 to POKE 104,24 - now all BASIC programs will start at \$1800, not \$1700 as before. While you do lose 256 bytes of memory for BASIC programs and variables I kind of think it is worth it, I mean 256 bytes!

I'd also like to say that both programs can be used in any DOS, be it DOS 3.3, ProDOS, or anything. GS CLOCK #1 is fully relocatable, whereas GS CLOCK #2 is not - if you require a new originate address contact me or simply change all of the address-dependent locations. Also do not try to use either clock in immediate mode (from the "]" prompt) they are only made to work inside of a BASIC program. The variable you signify when calling either clock does not have to be defined already, if it is not it will define it and if it is already defined then it will replace it. Another thing is that the clock drivers must be BLOADED not BRUNNED to be installed in memory.

Program and Docs by The Screamer -- 1/21/87

I can be found on these boards:

Apple Tree //.....305/556-6858
 Cap. Connection][.....716/473-8051
 Rock'n Roll Harbour.....305/821-2232

```
=====
DOCUMENT gs.clock.driver
=====
:
:          GS CLOCK for BASIC
:          -----
:
:          Docs & Program by: The Screamer
:
:          Released on 1/21/87
:
:=====
```

GS CLOCK #1 and GS CLOCK #2 are two assembly language clock drivers which interface with BASIC and allow you to easily manipulate the IIGS's built in clock. Neither program checks for a IIGS and if you do not run it on a IIGS then unpredictable things will occur. This was written with Telecat sysops in mind, but of course can be useful in many other programs.

GS CLOCK #1:

This routine reads the clock and returns it in a string variable in this format:

```
12/12/87 12:12:12 [mn=month, dy=day, yr=year
  ^  ^  ^  ^  ^  ^  hr=hour, mi=minutes, sc=seconds]
mn dy yr hr mi sc
```

This routine is fully relocatable and can be loaded up practically anywhere in memory and is only 60 bytes long, the default address is \$300 (768) - and does not interfere with Telecat's Driver in any way. To access the routine follow this format:

CALL 768,A\$ [768=decimal BLOAD address, A\$=any string variable]

If you do not put a comma or do not put a string variable then a SYNTAX ERROR will result and the normal ONERR routines will take over.

If you plan on using it on your Telecat board simply BLOAD GS CLOCK #1,\$1650 and to call it issue this CALL 5712,A\$. MF.STARTUP does not have to be changed, and you lose *NO* memory for BASIC programs or variables with this. Loading it at \$1650 gives you quite a bit of extra memory for your driver as well.

GS CLOCK #2:

This routine is almost the same as the first version, except that it's output is exactly the way the Thunderclock, Thunderclock Plus, Timemaster II H.O., and compatibles output time - it's also much more professional looking. This routine is NOT relocatable and cannot be loaded anywhere in memory, if it is not loaded at it's original address then it will also yield unpredictable results. This routine is exactly 349 bytes long and therefore does not fit at \$300. I have assembled 3 versions, all the same but with different originate address (\$1650, \$9200, and \$BC00). The \$1650 version should fit in fine for all Telecat sysops with a minor change in MF.STARTUP (see end), the original Telecat driver ends at \$15F7 so this provides quite a few (about 70) extra bytes for any modified drivers. The \$9200 version is perfect for 48k DOS and HIMEM must be set accordingly. The \$BC00 version is perfect for 64k DOS and HIMEM should also be set. By the way each version is noted by it's end address (ie: GS CLOCK #2 \$1650 = \$1650 originate version).

The output for all of them is in this format:

```
SUN DEC 25 12:00:00 PM [dow=day of week, mon=month, dy=day
  ^  ^  ^  ^  ^  ^  hr=hour, mn=minutes, sc=seconds, and
dow mon dy hr mn sc AM/PM AM/PM is obvious]
```

===== DOCUMENT gsbug.read.me =====

GSBug & Debugging Tools Update Release Notes
8/26/91

This folder contains the latest pre-release version of GSBug & Debugging Tools. These tools are useful with or without either the APW or ORCA development environments (i.e.: if you're using Merlin, Micol, TML, MPW IIGS, or any other development environment to write Apple IIGS software, then these tools (especially GSBug) will be VERY useful in finding bugs in the software you're developing.

These tools are a fully copyrighted work of Apple Computer, Inc and may NOT be redistributed. They are being provided to you for your own use as our way of saying, "Thanks for developing for the Apple IIGS". All Rights Reserved.

Futher information on using GSBug itself can be found in the "GSBug.Tutorial" file in the same folder as this "Read.Me" file. Details on how to use the new "calls" that have been added to GSBug can be found in the "GSBug.Specs" file which is also in the same folder as this "Read.Me" file. Reading those two files will explain a LOT of things to you. The tutorial is especially useful if you do not have the manual (or you have the manual, but never bothered to read it).

The tutorial and specs files will only teach you the basics, there is a LOT more that can be done with GSBug, but you'll need the manual to be able to tap into them. The 140 page manual for GSBug & Debugging Tools contains full details on how to use these tools. Those of you without this manual can get one by contacting APDA at 1-800-282-2732 (in the U.S.), 1-800-637-0029 (in Canada), and 408-562-3910 (International). The part number for this package is "A0037LL/A" and the price is thirty dollars (\$30). You no longer need to be a member of APDA to be able to order this product, contact APDA for full details.

GSBug best supports debugging of 16-bit software. Recent changes made to it provide minimal functionality for debugging 8-bit software. Please read the "GSBug.Specs" file for details.

ONLY the INIT version of GSBug is being provided. The application version is most likely going to "go away" in the future. Instead, we'll provide an easy way for you to install and remove the INIT version on the fly. Currently, you can remove the INIT version after booting by simply entering the debugger (the tutorial file tells you how) and typing "UNLOAD", then pressing RETURN. This removes the debugger. If your application crashed into the debugger and you unload the debugger, your application will still be crashed (but into the monitor now that GSBug is gone). If your application is NOT crashed (i.e.: you entered the debugger by pressing the key sequence that drops you in safely), then unloading GSBug will resume operation of your application as though nothing happened (actually, plenty happened - GSBug was removed from memory and you can't drop into it any more because it's gone).

Having only the INIT version solves several problems you would have encountered had you tried using the application version of GSBug along with an application that uses resources. GSBug is technically the "current" application, so calls to the Resource Manager would actually look in GSBug's resource fork (which is non-existent) instead of your application's. The INIT version prevents this conflict (and several other similar ones caused by confusion of which app is the "current" one).

Directions for installing theses tools are below:

GSBug & Debugging Tools installation:

- copy the files in the "GSBug/System.Setup/" folder to your boot disk's System.Setup folder (full path would be: "*/System/System.Setup/"). This will provide you with the INIT version of GSBug the next time you boot your computer from the disk you just

installed onto. It will also provide you with the templates for toolbox data structures (such as grafPorts, windows, menu bars, etc). Information on using the templates can be found in the "Templates.Info" file. General info on using templates of your own with GSBug can be found in the GSBug Reference manual (available from APDA).

- copy the desk accessories in the "GSBug/Desk.Accs/" folder to your boot disk's Desk.Accs folder (full path would be: "*/System/Desk.Accs/"). This will provide you with additional debugging tools such as loader/dumper, memory mangler, scrambler, and snooper. You must reboot from the disk you just installed onto in order for those desk accessories to show up.
- copy the Exerciser application to where ever you normally install your applications. It doesn't really care what folder it lives in. There is a desk accessory version of the Exerciser, so you don't HAVE to use the application version if you don't want to.

Double check your */System/System.Setup folder to be certain that you have ONLY one copy of the GSBug INIT file. The old name for this file is "GSBug.INIT" and some pre-release versions went out with the INIT named "debug.INIT". Having two copies of GSBug will cause nasty things to happen since both copies would be trying to do the same thing. One GSBug is all you need.

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=====

DOCUMENT gsbug.specs

=====

GSBbug -- Current Version 1.6b20

Version 1.6b20 (DAL)

Added new GS/OS call name SetStdRefNum, call number \$203A.

Fixed the version string so it doesn't say "Apple Confidential."

Version 1.6b19 (DAL)

To automatically load a templates file at boot time, it must be named GSBug.AutoTemp (in the System.Setup folder).

If you use LoadTemp without a pathname, it still defaults to GSBug.Templates.

Version 1.6b18 (DAL)

Versions with 6.0 stuff included are now 1.6bxx; without 6.0 stuff is still 1.5bxx.

LoadTemp command no longer returns a bogus error after successfully loading a templates file. Also, if you type LoadTemp with no pathname, it uses */System/System.Setup/GSBug.Templates.

Turned off high bits on the GSBug.Setup file pathname, so you don't get a strange error while booting from an AppleShare server.

KNOWN BUG: Don't put a breakpoint on an imbedded name. If you do, the name can get overwritten when the breakpoint is removed.

Version 1.5b17 (DAL)

Now supports inline imbedded procedure names (as generated by the name and procname macros in M16.Debug, for example). These show up in disassembly and as the operands of JSRs and JSLs.

OSBreaks trigger regardless of call class now. For example, you can SetOSBrk for either Open or OpenGS, and either one will cause a break.

Changed named-resource call names to begin with RM (RMLoadNamedResource, etc).

When GSBug notices a toolbox call being made in other than full 16-bit mode, it displays a warning dialog (using TLTextMountVolume). Hitting ESC at that dialog cancels future warnings until you reload GSBug.

When GSBug notices a toolbox call being made with Decimal mode on, it stops cold at a BRK \$F8, rather than letting things get completely baked before crashing.

Fixed one old reference to \$010100 to store \$C0 instead of \$80. Interrupts should reliably use \$100..1C0 for stack space now.

Added 5 blanks to end of 'TRACE ' message so it completely overwrites the 'SINGLE STEP' message.

Version 1.5b16 (DAL)

No such thang.

Version 1.5b15 (DAL)

Option-space now works reliably to bypass a memory-protect range, including

a tool call. (This is an old feature, but keyboard translation normally prevented it from working!)

In trace mode, Space and ESC now kill "awaiting RTx" mode.

Fixed "n" command so it won't crash if nobody has called DebugSetHook.

Having tool breaks on calls which get made indirectly by GSBug no longer cause a crash. You can break on NewHandle now, for example.

In Breakpoint subscreen, Space maps trigger count from 0 to 1 and from nonzero to zero. Tab moves between the address and count fields (easier than hitting arrows).

In the memory-protect subscreen, Tab moves between columns.

Added \$01/FC00.FFFF (OS system service calls) to the memory protect list.

Changed the default trace-window setting to center-screen.

Changed the EmulStack value from \$80 to \$C0 (trying to get rid of some unpredictable crashes, probably caused by AppleTalk running out of stack space). This means you can safely trace a program while the stack is in the \$01C1..01FF range, and that interrupts use \$0100..01C0.

GSBbug now takes a whole bank, minimizing its effect on where things are located in memory relative to each other, and ensuring that tool breaks work reliably (tool calls never break if they come from the same bank the debugger is in).

Note that templates do work; you can ignore the garbage error you still get from loadtemp.

Version 1.5b14 (DAL)

Versions 1.5b12 and b13 were never officially released. 1.5b14 is fine, except that I make no guarantees about the Template commands. I think they work, but you'll get a funky error message from loadtemp.

When you let a JSL execute in real time (including a tool call), the debugger temporarily changes the owner ID of its own handle to match the owner of the handle containing the code you're debugging. This way MMStartUp returns the appropriate memory ID, instead of always returning the debugger's ID.

DebugSetHook(nil) now removes the hook.

The 1K bank 0 segment GSBug allocates now has the same ID as the debugger (was previously always \$80xx).

Fixed OS breaks to work after return from ProDOS 8 (added a Notify Proc to re-trap the OS vectors).

Changed the "_" command so that if you don't type a number, it's like typing zero. For example, if you have a template called "Template" which displays an informational message, you can type "_Template" instead of "_Template 0".

DP:xxx command dumps 16 bytes from DP to the command line.

Tool call \$0CFF DebugGetInfo(word):long. Word=0 returns the current value of the program counter (useful from a procedure called by the N command).

Note that real-time counted breakpoints don't work for JMP() (\$6C), JMP(X) (\$7C), JML() (\$DC), and JSR(X) (\$FC).

With Monte's help, located the misplaced CLI that was causing the X command used on a JSR to accidentally return with the Bank register set to the debugger's bank, and the Stack set to the Interrupt-time stack.

Version 1.5b11 (DAL)

You can use SetOSBrk and ClrOSBRK with call names now. Class-1 names all end in GS to distinguish them from their class-0 siblings. Examples:

```
SetOSBrk #1
SetOSBrk _Create
SetOSBrk #2001
SetOSBrk _CreateGS
```

The debugger now changes its own handleUs memory ID during a real-time JSL to match the code being stepped. For example, now you can step over an MMStartUp and get the expected ID returned (the application's instead of the debugger's).

Changed 'D' command to 'I' so it doesn't interfere with typing a hex number that starts with a D. The I command toggles the 'ignore REP/SEP instructions mode' when disassembling.

Changed parsing for the P (Print screen) command so that it just beeps if there are any characters after the P. (Typing 'put' instead of 'out' can no longer hang your system.)

Put the help screen for MP mode back in.

The solid flashing cursor in MEM, MP, and BP no longer flashes. In exchange for this, special characters (like braces) that happen to be in Inverse don't flash while you're in the subscreens.

Added pseudo tool call \$0BFF=DebugSetHook (one Long parameter). The N ("neat- o") command calls this hook.

Removed a conditional hard-coded increment of \$004002 when X-ing a JSR.

Added REP #\$30 on the two tool-dispatcher-intercept routines. Making tool calls in other than full native mode is still not a good idea.

Fixed real-time breakpoints for most 1-byte instructions and all 16-bit load immediate instructions. Previously, they crashed when used with a count greater than one.

Please note that */System/System.Setup/GSbug.Setup is *already* loaded automatically (has been for quite a while).

Version 1.5b10 (DAL)

Stepping in emulation mode should be much more reliable now, although it isn't perfect (in particular, one place where there's a window of vulnerability is using X on a JSR in emulation mode, but if you have the I bit set in your P register there's no problem).

Having the stack in \$01xx works much better now, whether you're in emulation or not. This works by frequently stuffing a \$80 into \$01/0100 (EMULSTACK, the location the interrupt manager and other things used to set the \$01xx stack when needed).

If you trace code that actually uses the \$01/0100 value to set the stack pointer, you still have a problem, since your program will start using the part of the stack that gets toasted on every interrupt.

You can now type in GSbug even if the Event Manager is on but keyboard interrupts are off. Previously this would leave you dead in the water.

Files created with CSave now have a real filetype/auxtype assignment (\$5A/0005).

Fixed DebugStr to return no error (previously it was returning the high two bytes of the caller's address as an error).

Took out code that was checking \$C020 (not SLOTREG at \$C02D) to see if the printer slot was switched in. Makes no sense anyway, because a printer can legitimately be either an internal or external slot.

Brought the list of Toolbox call names up to date for System Software 5.0.3 (see changes below).

Added tool set names (for example, \$0002 is Memory Manager). For some time, you've been able to use SetTBrk with a tool set number, to force a break on every call to that tool set. Now you can do it by name, too.

```
Examples:
SetTBrk #2
SetTBrk _Memory Manager
ShowBrks
```

Saved about 900 bytes by removing many extra copies of the string "Unknown".

Obsolete call names removed:

```
1522 TEInsertPageBreak
2022 TEGetHooks
2122 TEGetHooks
2222 TEGetDefProc
```

Call names corrected:

```
0D02 RemoveFromOOMQueue
2115 SelectIText
1021 VDKeyGetKRCol
1121 VDKeyGetKGCol
1221 VDKeyGetKBCol
```

Call names added:

3603	ReleaseROMResource	3703	ConvSeconds	010A	SANEBootInit
020A	SANEStartUp	030A	SANEShutdown	040A	SANEVersion
050A	SANEReset	060A	SANEStatus	090A	FPNum
0A0A	DecStrNum	0B0A	ElemNum	5D0E	TaskMasterContent
5E0E	TaskMasterKey	1713	GetDeviceName	1813	PrGetPrinterSpecs
1913	PrDevPrChanged	1A13	PrDevStartup	1B13	PrDevShutdown
1C13	PrDevOpen	1D13	PrDevRead	1E13	PrDevWrite
1F13	PrDevClose	2013	PrDevStatus	2113	PrDevAsyncRead
2213	PrDevWriteBackground	3013	PrDevIsItSafe	2022	TEOffsetToPoint
2122	TEPointToOffset	2222	TEGetDefProc	2322	TEGetRuler
2422	TESetRuler	2522	TEScroll	2622	TEGetInternalProc
2722	TEGetLastError	2822	TECompactRecord		
0123	MSBoot	0223	MSStartUp	0323	MSShutdown
0423	MSVersion	0523	MSReset	0623	MSStatus
0923	SetBasicChan	0A23	SetMIDIMode	0B23	PlayNote
0C23	StopNote	0D23	KillAllNotes	0E23	SetRecTrack
0F23	SetPlayTrack	1023	TrackToChan	1123	Locate
1223	SetVelComp	1323	SetMIDIPort	1423	SetInstrument
1523	SeqPlayer	1623	SetTempo	1723	SetCallBack
1823	SysExOut	1923	SetBeat	1A23	MIDIMessage
1B23	LocateEnd	1C23	Merge	1D23	DeleteTrack
1E23	SetMetro	1F23	GetMSData	2023	ConvertToTime
2123	ConvertToMeasure	2223	MSuspend	2323	MSResume
2423	SetTuningTable	2523	GetTuningTable	2623	SetTrackOut
2723	StartMIDIriver	2823	StopMIDIriver	04FF	DebugVersion
06FF	DebugStatus	09FF	DebugStr	0AFF	SetMilestone

Tool Set Names (You can use these with SetTBrk.)

```
0001 Tool Locator
0002 Memory Manager
0003 Misc Tools
```

Apple II Computer Info

0004 QuickDraw
0005 Desk Manager
0006 Event Manager
0007 Scheduler
0008 Sound Tools
0009 ADB
000A SANE
000B Integer Math
000C Text Tools
000E Window Manager
000F Menu Manager
0010 Control Manager
0011 Loader
0012 QuickDraw Aux
0013 Print Manager
0014 Line Edit
0015 Dialog Manager
0016 Scrap Manager
0017 Standard File
0019 Note Synth
001A Note Seq
001B Font Manager
001C List Manager
001D ACE
001E Resource Manager
0020 Midi
0021 Video Overlay
0022 Text Edit
0023 MIDI Synth
00FF Debugger

GS/OS Call Names

Brought the list of GS/OS call names up to date for System Software 5.0.3.

Removed this call:

\$000E ExpandPath (because there's no class-0 version)

Added these class-1 call names:

\$2029 Quit
\$2033 FSTSpecific
\$2034 AddNotifyProc
\$2035 DelNotifyProc
\$2036 DRename
\$2037 GetStdRefNum
\$2038 GetRefNum
\$2039 GetRefInfo

What It Doesn't Do Yet

Note--sometimes the debugger gets mysteriously disconnected from the Apple-Ctl-ESC vector. If you can reproduce this, let me know.

Some of the help screens are incomplete or inaccurate.

Templates currently limited to 64K. If template file >64K, it gets left open by accident.

Breakpoints don't work quite right in bank-switched memory, either (it doesn't store the original instruction into the right bank?).

Should show OS call names on a JSL \$E100B0 (examine stack if stepping, and look for a PEA \$xxxx in a disassembly).

The debugger chains into the tool-dispatcher vectors its own way. It should use the standard method defined in GS Technical Note #87.

Will implement pseudo Tool calls to set and clear debugger breakpoints under program control.

May make the MEM locations labelable (and save labels in the config file).

"Handle" template partially implemented?

Unload should call UserShutDown on self (under ProDOS 8, just beep instead).

Make sure that "\ " for changing display modes is documented.

Documentation

The GSDebug manual from APDA of 3/16/89 seems to be the latest there is. All features not covered there should be in these release notes.

History

This part of the document details all changes made to the debugger from version 1.3b1 to 1.5b8.

Bug Fixes:

Real Time Tool Breaks - The mechanism for using tool breaks real time has been modified, the old method never worked quite right, what used to happen was that when a tool break was to occur, the stub in the dispatch vector would simply jump into the debugger, this would cause the stack and processor not to be set as if they came from an interrupt, and the next exit of the debugger would cause code execution to start at an inappropriate case, also the actual tracing of a tool break would also cause the debugger to improperly save the current registers, so that the stack/direct page and processor status might come back damaged from a tool break. The stub has been modified to now enter the debugger with a break instruction instead of jumping to the front. This seems to solve all real time tool break problems.

Error tool breaks - These also did not work well, and did not seem to be used by anyone anyway, so they have been removed to make room for OSBreaks.

Version 1.5b3:

% display code was fixed so that the '*' would properly be displayed in front of any toolbox glue that is detected.

% Fixed template data display so that if the data being displayed crosses a bank boundary, the data is properly followed into the new bank.

% Modified the IN command so that it respects trigger counts of 0 and does not insert real time breaks.

Version 1.5b5:

% Added Glue tool break support. Now toolbreaks work for regular and glue tool breaks. ErrorBreaks do not work for glue as they do not make a lot of sense.

% Made debugger work even when a DA window is open. See new features below.

% Added keyClick so that you hear whenever the system draws a key from the event queue. Also, cleaned up some comments.

Version 1.5b6:

% Added new DebugStr toolcall that can be used to get more from the debugger.

Version 1.5b7:

% Added support for real time conditional breaks.

% Added OSBreaks.

% Fixed the Debugger tool calls (like DebugStr) so that they use the proper tool numbers (they had the toolset number in the high byte instead of the low byte) Documentation for them should also be right.

Version 1.5b8:

% Added a debugger version and status call to the debugger tools.

% Enhanced the OSBreak facility.

% Removed the keyclicks because Dave complained.

Version 1.5b9:

% Fixed some bugs.

New Features:

DebugStr:

This feature is designed to allow developers to better know where in their program the debugger was entered. The way this feature works is that if you want to enter the debugger programatically you can now also pass a string to the debugger which will be printed on the bottom line of the screen when the debugger is entered.

The way this mechanism works is a fake tool call that the debugger now supports. Since this looks like a normal tool call it can be easily called by any high level language as well as by assembly language. This toolcall called DebugStr takes a single parameter, a pointer to a pascal string. When the tool call is made the debugger is entered as if you had put a break into your code, but the string you passed is displayed on the screen and the program counter has been bumped passed the tool call jsl. This way you can simply resume execution with two simple keystrokes (with the init version hit 'R' <return>).

Calling this new feature might look something like this

```
PushLong #DebugStr
ldx #$09FF
jsl >E10000
```

...

```
DebugStr str 'You are about to do blah.'
```

from pascal the same would be achieved by doing this...

```
DebugStr('You are about to do blah.');
```

I would recommend that assembly language users use a macro to make the toolcall and call it _DebugStr. MPW IIGS Pascal users could use the following to define the debugstr routine:

```
Procedure DebugStr(theString:str255);
  INLINE $09FFA2, $E1000022;
```

This call will also work when being called via the glue vector.

NOTE: Since this call is only available when the debugger is loaded you will ALWAYS want to be sure to remove ALL calls to the debugger before releasing your program (or even using it on machines that do not have a debugger installed).

SetMileStone:

SetMileStone operates exactly the same way as debugstr except that the debugger is not actually entered. This will allow tracking of random crashes by allowing you to call the SetMileStone routine with milestones that have been met. Any time the debugger is entered via a BRK instruction or thru the keyboard, the last string passed via the SetMileStone call will be displayed. The toolcall number for SetMileStone is \$0AFF, the MPW IIGS Pascal interface might look like this:

```
Procedure SetMileStone (theString:str255);
  INLINE $0AFFA2, $E1000022;
```

DebugVersion, DebugStatus:

These calls are added so that an application can identify the version of the debugger that is loaded and thus know what calls can be made to the debug tool. Currently, these calls are identical and return the same result. The DebugStatus call returns non-zero for true (as opposed to \$FFFF which most people might want...) other than that these calls act the same as any other toolbox status or version call, each call requires a word space on the stack for the result which is on the top of the stack when the call completes. If a debugger is loaded that does not support this feature you will get a standard tool locator error. For version 1.5b8 the version number returned is \$158F. As you might expect, this number will change as the debugger version changes and it will always go up, never down.

Glue Snypher:

Glue snypher is a routine that can recognize high level language tool calls that are made with the standard glue entry, when a call to glue is detected while disassembling an instruction the call to glue will be replaced with *_TooName in a manner similar to how real tool calls now work. Glue snypher is also used by the memory protect feature, if a glue call is detected while the standard toolbox memory protect range is on, the glue call will be treated as if it were a JSL >\$E10000. All glue entries MUST be a JSL to one of 3 standard types of glue that are shown below:

```
ToolGlueType1 LDX #ToolNum
  JSL >E10004
  ...
  RTL
```

```
ToolGlueType2 LDX #ToolNum
  JML CommonCall
  ...
CommonCall JSL >E10004
  ...
  RTL
```

```
ToolGlueType3 LDX #ToolNum
  JMP CommonCall
```

If any other types of glue calls are used, they will not be properly detected.

Glue Breaks:

In addition to glue snypher further support was added for high level languages by extending the tool break support to the glue vector (\$E10004). Since error conditions are treated differently with glue (The second RTL ain't mine no more...) it seems unreasonable to also support error breaks via the glue vector.

OSBreaks:

OSBreaks work very much the same way that tool breaks work with three exceptions. First, instead of breaking on a tool call they will break on a call to the OS. Next, you can NOT specify an OS break by name, only by number. Lastly, they are not supported in trace mode, only in real time mode. To use OSBreaks you simply type setOSBrk #xxxx where xxxx is the

number of the OS routine that you want to break on. This number is matched exactly when an OS call is made, so if you do not know if the target call is class 0 or class 1 you must set the break for both calls. OSBreaks are supported via both vectors, inline and stackbased. The following is a list of commands that operate on OS breaks and what they do.

SetOSBrk - adds a number to the OS break list
 ClrOSBrk - Removes a given number from the OS break list
 ClrAllOSBrk - Removes all numbers from the OS break list
 OSBrkIn - enables real time scanning for OS breaks
 OSBrkOut - disables real time scanning of OS breaks
 ShowBrks - lists all tool and OS breaks currently set.

DA Debugging support:

In the past it has always been difficult to debug certain new desk accessories because they accept keystrokes, and keep the debugger from receiving them. I have added a patching mechanism to the system event call that is installed when the debugger is installed that fixes this problem. The way this feature now works is that if the caps lock key is down no keyboard events get passed to system event (and then to any open DA's) and the debugger will always get them. A side effect of this is that when the debugger screen is not active applications will get the same keystroke events if the CAPS LOCK key is down. As a gentle reminder of this feature, when installed, it will make your GS speaker click whenever a key is processed by getNextEvent. The debugger used to click on every keystroke, regardless of the state of the CAPS LOCK key. Dave complained enough that the debugger was changed to only click when keys are pressed if the CAPS LOCK key is down.

New Template types:

We have added support for a few more data types in templates, these are mainly for use with GS/OS strings, but can also be used for any word length string. they are:

- InputStr: This type will read the next word of data and treat it as a length word for string data that follows. The entire contents of the string will be displayed.
- OutputStr: Similar to InputStr except that the first word is a buffer length and the second word is the string length. After the string is displayed the debugger will skip to the end of the buffer to find the next byte of data to process.

RealTime Conditional Breakpoints:

The debugger now supports conditional real time breakpoints. In the past when a breakpoint was entered in the breakpoint list and you used the IN feature to make them work real time, the trigger count that you entered was ignored. Now, If you the trigger count is supported the same way it is supported in trace mode, that is, if you insert a real time breakpoint with a count higher than 1 it will break on the Nth execution of the opcode at that location. NOTE: Currently the following opcodes are not supported as real time conditional breakpoints: JSL(mem), JSR(mem), JSR(mem,x), JMP(mem), JMP(mem,x), RTI.

In addition to supporting a count value for real time break points, the debugger now also allows a simple conditional statement to be used instead. The debugger allows only one conditional statement at a time, but as many of the breakpoints can use it as you want. To enable the conditional statement (henceforth called IF) simply type an "i" when entering a breakpoints trigger value instead of a hex digit. To set the current IF

use the command SetIF. the syntax of the SetIF command is as follows:

SETIF {width} {Spec1}{Operator}{Spec2}

Legal {width} values
 W for word
 B for byte

Legal {Operator} values
 = for is equal to
 # for is NOT equal to
 < for is less than
 > for is Greater than or equal to

Legal {Spec1} and {Spec2} values are
 A,X,Y,S,D,P,B for the corresponding register
 \$BBXXXX as the address of a value in memory
 #\$XXXX as a hexadecimal constant ({SPEC2} only)

Some examples of IFs

SETIF W A<#\$0101 (Break if the word in <A> is less than #\$0101)
 SETIF B \$021234=\$034321 (Break if the bytes at \$02/1234 and \$03/4321 are the same.)

NOTE: Currently only long addresses are supported.

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DOCUMENT gsbug.templates

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GSBugs Templates Release Notes

Version 1.0d3

Written by: James M. Luther

Copyright 1990

Apple Computer, Inc.

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Revision History

Date	Version	Who	Description Of Changes
01-Mar-90	1.00d1	JML	Initial draft of document.
18-Jun-90	1.00d2	JML	Cleanup for release.
18-Jun-90	1.00d3	JML	Fixed Print Manager templates PrStyleRec and PrRec.

About the templates

This is a complete set of templates for the Apple IIGS system software 5.0.2. It includes templates for almost all toolbox records, GS/OS parameter blocks, FST specific parameter blocks, and ProDOS 16 parameter blocks. GSBugs cannot support variable length data structures, so those data structures were either implemented partially (up to the point where the structure becomes variable length) or were not included.

Very briefly, here's how to use the templates:

Type "LoadTemp GSBugs.Templates" to load the template file.

Type "_name address" to view the memory starting at 'address' through the template specified by 'name'.

About the help templates

Help templates are included in GSBugs.Templates, so you don't have to remember what data structures are templated or how to spell the template names. A help template will display a list of template names for the toolset or part of the operating system you specify.

Type "_Templates 0" to see the names of all the toolsets and operating system parts. For example, with this release, you'll see this:

```

Templates
ADB
AppleShareFST
Controls
Dialogs
Events
Fonts
GSOS
HighSierraFST
LineEdit
Lists
Locator
Menus
MiscTool
NoteSeq
NoteSyn
Print
ProDOS16
ProDOSFST
    
```

```

QDAux
QuickDraw
Resources
SANE
Sound
StdFile
TextEdit
Windows
    
```

Type "_toolSetName 0" where toolSetName is one of the names shown by "_Templates 0" to list the template names for that toolset or operating system part. For example, to see the templates for the Print Manager, you'd type "_Print 0" and you'd see this:

```

Print
PrInfoRec
PrJobRec
PrRec
PrStatusRec
PrStyleRec
    
```

About template formatting characters

Several of the data structures included in this template file have substructures imbedded in them (for example, in a GrafPort, the portInfo field is a LocInfo structure). To highlight the substructure fields in a structure, I've prefixed each field name with a ">" character. For example, here's what the GrafPort template looks like:

```

_START GrafPort
portInfo(LocInfo)
>portSCB WORD
>ptrToPixImage LONG
>width WORD
>boundsRect WORD 4
portRect WORD 4
clipRgn LONG
visRgn LONG
bkPat BYTE 32
pnLoc WORD 2
pnSize WORD 2
pnMode WORD
pnPat BYTE 32
pnMask BYTE 8
pnVis WORD
fontHandle LONG
fontID LONG
fontFlags WORD
txSize WORD
txFace WORD
txMode WORD
spExtra LONG
chExtra LONG
fgColor WORD
bgColor WORD
picSave LONG
rgnSave LONG
polySave LONG
grafProcs LONG
arcRot WORD
userField LONG
sysField LONG
_END
    
```

=====

DOCUMENT gsbug.tutorial

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GSBug is Your Friend

(a quick intro to GSBug)

v.1.2

by: Tim Swihart

So, you just got GSBug installed for the first time and don't have a clue how to use it. Sure, you could call APDA (1-800-282-2732) and order the complete package (part #A0037LL/A, price \$30), but you're not sure if GSBug will really help you find those nasty bugs in the Apple IIGS software you're developing. Well, from the next paragraph until the end of this file, I'll present a quick introduction to some of the reasons why GSBug is a "MUST HAVE" tool for all IIGS developers. It doesn't matter what language you program in, or which environment you use, GSBug is the key to tracking down and exterminating those nasty bugs that make your software look shabby.

The version of GSBug that APDA currently stocks is older than the version found on the disk containing this tutorial. So why buy APDA's version? To get the full manual - it's well worth the thirty bucks they're asking!

Installation:

Before we can really get into it, you need to install GSBug and the GSBug.Templates file and reboot your IIGS. If you only have one computer, then print this file and continue reading from the printout. GSBug is an INIT with the file name "GSBug.INIT" - install it by copying this file into your boot disk's SYSTEM/SYSTEM.SETUP folder. Copy the "GSBug.Templates" file into the same folder.

Over the course of time, the name used for the GSBug init file has changed slightly. To be certain you don't accidentally install two (or more) copies of GSBug, carefully examine the contents of your boot disk's System/System.Setup folder. If you see more than one file with a name similar to "GSBug.init" (such as "debug.init" or "GSBug1.5B11init") then take out all but the most recent one. Having more than one copy of GSBug installed tends to cause problems (such as crashes during booting).

Care & Feeding of GSBug:

Now that everything is installed, reboot your computer. No need to launch any particular application just yet, I have to explain the various parts of GSBug's screen and I want to cover a few basic GSBug commands before we go bug hunting. I'll assume you're running the Finder right now, but it really doesn't matter a whole lot what application is running, as long as it is a 16-bit application (i.e.: a true IIGS desktop application).

You can pop into GSBug at any time (assuming interrupts aren't disabled) by pressing OPEN APPLE-OPTION-CONTROL-ESC (if you're having troubles remembering all of those keys at once, just think of it as the same keys that you use to get to the built-in control panel plus the OPTION key). You'll be presented with a rather busy-looking 80-column text screen. (there's a screen dump right below this paragraph - I told you it was busy-looking screen)

----- cut here to start the screen dump -----

```
KEY BRK DebugD K/PC B D S A X Y M Q L P nvmdzic e d
00 0 d 9500 FD/688D FD 2500 1FE0 0000 4D95 0044 0C BE 1 03 00000011 0 0

1FF2:60 00/0000: BE '>' 00/0000-00-00
1FF1:43 00/0000: BE '>' 00/0000-00-00
1FF0:FE 00/0000: BE '>' 00/0000-00-00
1FEF:01 00/0000: BE '>' 00/0000-00-00
1FEE:37 00/0000: BE '>' 00/0000-00-00
1FED:0C 00/0000: BE '>' 00/0000-00-00
```

```
1FEC:00 00/0000: BE '>' 00/0000-00-00
1FEB:4D 00/0000: BE '>' 00/0000-00-00
1FEA:7A 00/0000: BE '>' 00/0000-00-00
1FE9:C0 00/0000: BE '>'
1FE8:00 00/0000: BE '>' E1/0000.000F-T
1FE7:2C 00/0000: BE '>' 00/0000.0000-?
1FE6:00 00/0000: BE '>' 00/0000.0000-?
1FE5:E0 00/0000: BE '>' 00/0000.0000-?
1FE4:6A 00/0000: BE '>' 00/0000.0000-?
1FE3:B4 00/0000: BE '>' 00/0000.0000-?
1FE2:62 00/0000: BE '>' 00/0000.0000-?
1FE1:DA 00/0000: BE '>' 00/0000.0000-?
1FE0:FD 00/0000: BE '>' 00/0000.0000-?
```

:GSBug V1.5b9 w/Glue Support -(C)1986-90 Apple Computer, Inc.

----- cut here to end the screen dump -----

Top Two Lines:

The first two lines of the screen show the contents of various registers. The top line of the screen starts off with "KEY BRK DebugD" - those are headings for the items in the second line of the screen. The meanings of those headings (and the items under them) are:

Heading	Meaning
KEY	Modifiers used to separate debugger keys from application keys
BRK	(beyond the scope of this quick intro - see the manual)
DebugD	Debugger's direct page (1K in size) - in bank \$00
K/PC	K=program bank, PC=program counter
B	app's data bank
D	current direct page in bank zero
S	current stack pointer
A	accumulator's value
X	X register's value
Y	Y register's value
M	machine state register's value
Q	quagmire register's value
L	Language card bank
P	processor-status register's value
nvmdzic	bits that make up "P" (n=negative, c=carry, etc)
e	emulation mode flag
d	disassembly mode flag (0=recognize SEP & REP during "L"isting)

If you want more information on a specific register's meaning then look it up in the IIGS Hardware reference manual, the GSBug manual, or any good book that covers the IIGS's internal hardware. Any of these register's values can be changed - we'll show how to do that in a few paragraphs or so...

The Left-Hand Side:

The next major area of the screen is the 4-digit column of numbers running down the far left side. There is a colon on each line after the fourth digit, and then there is a column (two digits wide) of numbers. All of these numbers are in hex and this area is the stack. The four digit column, the colons, and the two digit column are collectively known as the "stack subdisplay area" - remember that, there's a test at the end of this file. The column on the left of the colon is the address of the stack and the column on the right (the two digit column) are the values on the stack. The bottom-most four digit stack address is the "top" of the stack (i.e.:

if your app pushes anything on the stack, that's the address it would wind up at). As you step through your application (we'll show how in a minute, patience...) the stack will scroll upwards as things are pushed onto it and downwards as things are pulled off of it.

The Not-So-Left-Hand Side:

The next major area should be a column of "00/0000: BE '>'" known as the "RAM subdisplay area". This area is used to display any 19 memory locations that you want to keep an eye on. The value at each of those locations is shown in hex (that's what the "BE" means - location 00/0000 contains hex "BE" when I wrote this) and in ASCII (the ASCII version is between the single quote marks, i.e.: the ">"). It is possible to have this subdisplay show a two-byte or a three-byte value instead of the one-byte value. You lose the ASCII display if you opt for the 2 or 3 byte values.

After I finish explaining the rest of the screen, I'll come back and describe how to change these 19 "windows on memory" to look at what you want to monitor.

The Center Part:

The next major area of the screen is the 9 lines of "00/0000-00-00", better known as the "Breakpoint subdisplay" (they're on the top half of the screen). GSBug lets you set up to 17 breakpoints in your program (not counting BRK instructions you imbed in your program yourself). Curious about how you set 17 break points when there are only 9 lines in this section? Did I mention that APDA stocks the manual (which has full details)? <grin> Seriously, you can "extend" the breakpoint subdisplay by shrinking the section under it (which we haven't described yet). For the purposes of this quick intro, I'm not going to show how to do this (you need some kind of reason to get the manual). I'll just describe this area and later show how to set up to 9 break points.

The "00/0000" part of the breakpoint subdisplay is obviously an address - in fact, it's the address you want to break on. The next part "-00-" is the trigger value. GSBug is smart enough to count how many times an address has been executed and break on a certain number (i.e.: put a "03" here and GSBug will break the third time that address is executed). The last part of this area is the running count - this is how GSBug lets you know how many times that area has been executed (rather than leave you wondering, it tells you and you can be ready for the break). You set the address and trigger portions and GSBug sets the count portion.

The Bottom Part of the Center Part:

The bottom half of the center of the screen is known as the "Memory Protection Subdisplay" and starts off with "E1/0000.000F-T". This area can be expanded (or shrunk) by trading lines of this area for lines of the one above it (the "Breakpoint subdisplay"). If you want to know how to do this, read the manual from APDA, it's big (roughly 150 pages) and I'm not retyping all of it here! <grin>

The "E1/0000.000F" is the address range starting at E1/0000 and ending at E1/000F. The "T" at the end means that this range of memory is protected from code tracing. If you're tracing through your code and it jumps (JSR's, JSL's, whatever) into this range of memory, then the code in this range will NOT be traced - it will be executed at full speed instead.

There are two other options for code protection ("W" and "H"). They are beyond the scope of this quick tutorial (I'm only trying to cover the basics here).

Where You Type Commands:

The bottom line on the screen is the command line subdisplay (catchy name, eh?). When you first enter GSBug, this line will contain the copyright message and version number for GSBug (unless you've used the DebugStr or

SetMilestone "tool" calls to change this string). As soon as you press a key, the copyright message vanishes and your keypress shows up next to the blinking cursor. This is where you'll type various commands to make GSBug help you get the kinks out of your software.

What's the Big Blank Spot For?:

The big blank area towards the far right of the screen is officially known as the "disassembly subdisplay" (it's one of the big reasons you're using GSBug - even if you don't know it yet). As you single-step through your software, trace through it, or just list areas of memory this area will show you the disassembled version of your program. One of the really slick things about this area is that it's smart enough to know about the names of GS/OS calls and Toolbox calls - so you see things like "_CheckUpdate" instead of "JSL E10000". That makes it VERY easy to line up pieces of your source with the disassembly if you're working in a high-level language. It also makes it a LOT easier to see what you're doing!

GSBug also knows about the alternate Toolbox entry point (E10004) and will display those as tool calls also. The leading underscore ("_") lets you know that GSBug is substituting the tool's name for you. If the tool call is being made through "glue", then the underscore is preceded by an asterisk ("*").

If you've ever used the built in "monitor" (I'm not talking about your RGB monitor, I'm talking about the disassembler that's been built into Apple II's for a LONGGGGGG time now), then you'll be able to quickly figure out that the left-most part of the disassembly subdisplay is the address, the inside columns are the hex bytes making up the code about to be disassembled, and the right-most part is the disassembled version of your software.

Your First GSBug Command:

OK, you now know what all of the various areas of this rather busy-looking screen are for, so let's get down to business! The first thing to do is press the "L" key (upper or lower case work the same these days) and then press RETURN. This will fill the disassembly subdisplay with 19 lines of disassembled code (which 19 lines were disassembled really doesn't matter). Study it until you can tell at a glance which parts are the address, which parts are the hex bytes, and which parts are the disassembled code.

Type "L" and press RETURN again - you get the next 19 lines of memory (see, I told you it was a lot like the built-in monitor).

Now, let's do something a tad more useful... Press the "S" key and RETURN (you just told GSBug to start single-stepping through your application). Be careful what keys you press while in the single step mode - lots of weird-looking things can happen (they're all normal, but if you don't expect them you can get confused). For now, ONLY press the keys this tutorial tells you to. If you can't wait and just HAVE to bang on all of the various keys, then go ahead - reboot once you've totally confused yourself, pop back into GSBug and catch up with the rest of the folks reading this.

To tell GSBug to execute the highlighted instruction, press the SPACE BAR one time. Heck, press it several times so that you get a bunch of lines of disassembled code on the screen. Notice that the code scrolls up and the "highlighted" area stays in the same place? Notice it's kind of close to the bottom of the screen? Later I'll tell you how to move it up higher.

Press the ESC key. That takes you out of single-step and returns you to the command line. Press "S" and RETURN again to restart single stepping. Notice that the lines ABOVE the highlighted area have been erased? Remember that - if you halt single-stepping and need some piece of info above the highlighted area, then write it down because it'll be wiped out when you restart single-stepping (or when you do any of a bunch of different things). If you have your printer connected to slot 1, then you can print GSBug's screen using the "P" command (press "P" and RETURN - be sure you're NOT single-stepping when you do this, "P" only prints from the command line).

Lock a Tractor Beam onto Them...:

Want an easy way to have the computer step through source for you without having to bang again and again on the SPACE BAR? Start single-stepping ("S" and RETURN), then press RETURN again. VRRROOOOMMMMM! Can't read all the stuff flying by? No sweat, press SPACE BAR and you'll be back to single-stepping. Pressing the RETURN key a second time kicked GSBug into "Trace" mode.

Trace actually has two speeds, the default is fast (we like to test developers' speed reading skills). To kick TRACE into low gear, press the left arrow key. If you're in single-step mode, then you won't see the speed change (after all, it affects TRACE, not SINGLE-STEP), but fear not brave developer, the speed change has been made. Press RETURN again (to be sure you're in TRACE mode) and press the left arrow key (if you didn't a few lines ago) to kick TRACE into low gear. Want to get back into high gear? Press the right arrow key (sneaky, eh?).

RED ALERT!:

Do NOT press the down arrow key while TRACING or single-stepping (unless you know what you're doing). The down arrow key tells GSBug to SKIP the highlighted instruction! This is a great way to step over BRK instructions, but it's not a real smart thing to do at random while TRACING through an application (randomly skipping an instruction generally results in a crash).

Move That Line Up:

If you want to raise the highlighted line within the disassembly subdisplay, then press ESC (to get back to the command line) and type "SET" (don't type the quotes, ok?) and press RETURN. The up and down arrows now control the vertical position of the highlighted bar within the disassembly subdisplay. Position the bar where you want it and press ESC. That position will be remembered until the next time you move it or until you reboot (then it goes back to the default position). The manual for GSBug tells you how to save this new position to a configuration file (it also tells you that pressing the left and right arrow will move the stack subdisplay up and down, and that pressing a number less than eight will change the slot used to print the screen).

Reaching the Breaking Point:

Alright, time for some fancy stuff! The next couple of sections will assume you were running the IIGS Finder when you popped into GSBug (other apps will work just fine, but why be difficult?). GSBug will let you break on any tool call (or calls) that you specify, so let's set a few tool breaks and learn how to use this feature.

From GSBug's command line (press ESC if you're still stepping or tracing), type "setbrk _sysbeep" and press RETURN. If GSBug beeps at you instead of accepting this line, then you didn't type it right (there are two t's in "setbrk" and don't type the quotes). Type "setbrk #090E" and press RETURN. You just added two tool calls to GSBug's list of tools to break on. The first one was added by naming the tool to break on ("_sysbeep") and the second one was added by specifying the tool's number ("#090E"). This lets you set tool breaks regardless of whether you know the tool's name or number.

Type "showbrks" and press RETURN to see the complete list of tool breaks that GSBug has been told about. Notice that the left hand side of the screen now implies that you can set breaks on GS/OS calls? That's because you can! GS/OS breaks have to be set by number (not by name).

All we've done so far is make a list of tools for GSBug to break on. We haven't actually told GSBug to break on them, that requires a separate command. Type "tbrkin" to tell GSBug to break on all of the tool calls in its list. Now, when either a call to SysBeep or a call to NewWindow (tool \$090E is NewWindow) is made, we'll be dropped back into GSBug.

Oh Yeah? Prove It!:

Make sure you're at GSBug's command line (press ESC if you aren't). Type "R" and RETURN. This resumes full execution of your application. To test the tool breaks we just set, we need to force the Finder (or whatever app you stubborn folks decided to use instead of the Finder) to make a call to NewWindow and/or to SysBeep. Double click on a disk icon, get info on a file, open a folder, open a desk accessory, etc to get the Finder to open a new window. Notice that you land in GSBug?

Press "S" and RETURN to enter single-stepping. Notice that the highlighted instruction is "NewWindow". Ah, the tool break works. Now, press SPACE BAR to execute the NewWindow call, press ESC to stop single-stepping, and type "R" and RETURN to resume running the Finder. (if we didn't bother to single step across the NewWindow call, we would just fall right back into the debugger since we have a break point set on that call).

Take it Out, Wise Guy!:

Tired of falling into GSBug everything a new window is opened? There are several ways to remove tool breaks. The easiest way is to type "tbrkout" to stop breaking on the listed tool calls without trashing the list. Typing "tbrkin" makes GSBug start breaking on them again.

To clear the list of tool breaks, either type "clrtbrk _sysbeep" (to remove the sysbeep break we put in earlier) and repeat that for "_newwindow" or wipe the all out with "clralltbrks". I'll let you decide...

Cheap Trick #1:

Being able to break into the debugger based on a tool call is VERY handy! But what if you want to see the stack being set up BEFORE your code gets all the way down to the tool call itself? After all, if you're not putting enough parameters on the stack (or too many), then breaking on the tool call itself is too late to watch the stack being built. There's an easy solution for this - stick a SysBeep call in your source ABOVE the tool call you really want to break on and set a tool break on SysBeep. This will let you single-step through the stack setup for the call you're really interested in. OK, so it's a cheap trick, but it's darned effective...

This trick was invented in the dark ages before DebugStr was part of GSBug (DebugStr is explained near the very end of this document and is a little trickier to use than Cheap Trick #1).

I Don't Like My Registers:

Remember earlier when I mentioned that you can change the values of the various registers from within GSBug? This lets you change values that are about to be pushed on the stack and do all kinds of neat things. You're sharp, so I won't bore you with all the things this lets you do, I'll just cut right to the description of HOW to do it...

To change the accumulator's value, type "a=value" on the command line. Replace "value" with the hex value you want to stuff into the accumulator. Type "x=value" to set the x register, "y=value" to set the y register, etc. You can't type "a=x" to set the accumulator to the value in the x register, but since you can see the x register's value, this isn't that big of a loss.

Cheap Trick #2:

If you accidentally SKIP an instruction that you didn't mean to (and you haven't executed any more since then), you can "unskip" it by exiting single-step mode, then type "pc=value" where "value" is the address (all three bytes just to be safe) that the skipped instruction is at. Press RETURN and then resume single-stepping (notice that you're back at the skipped instruction now).

This trick works because the "pc" register is the program counter (the thing that determines what address will have its instruction executed next).

Cheap Trick #3:

Fudging the program counter (pc=value) will let you push extra info on the stack in cases where you didn't push enough for a call. Be careful with this - you may need to set the accumulator before re-executing an already-executed PHA and you could totally trash the stack if you're not paying attention. One place this is handy is to compensate for passing a WORD instead of a LONG (easy to do with C when you're dealing with resource ID's). If you don't understand this trick, don't use it!

A minor modification on this stunt is (obviously) to pull extra bytes OFF of the stack in cases where you left something on there that shouldn't have been left on. Once you spot problems like too much or too little data on the stack, FIX YOUR SOURCE CODE AND RECOMPILE IT!!!! You don't really want to have to find this bug a second time do you?

Cheap Trick #4:

GSBug is a lot like the monitor in certain respects. That means many of the commands you're used to from the monitor will work under GSBug. Setting values in memory under GSBug is done just like it is under the monitor (i.e.: address : value1 value2 value3 value4 ...). addressT and RETURN starts tracing at the memory location specified by "address". addressS and RETURN starts single-stepping at the memory location specified by "address". addressL and RETURN lists 19 lines of disassembly starting at the memory location specific by "address". You can even use the built-in mini assembler if you want (type "asm" and RETURN).

Peering Into Memory:

The 19 "windows on memory" can be used by typing "mem" and RETURN on the command line. This puts the cursor on the far right of the first line in the RAM subdisplay area. Type the address you want to watch and press RETURN. That will move you to the next line (so you can set the address for the second memory location). If you want to see two bytes starting at that address, press "P". To see three bytes, press "L". "Z" toggles between direct-page and absolute addressing, ":" toggles between direct, 2-byte indirect, and 3-byte indirect addressing. Press "?" for more info.

This provides a nice way to look at variables in memory, dereference pointers/handles, etc. When the contents of any "peered into" location changes, the corresponding line on GSBug's screen will change also.

Cheap Trick #5:

(this one's actually not cheap, it's pretty dang useful!) While single-stepping or tracing, you can see other "screens" by pressing various keys (this accounts for the weird effects I alluded to earlier). Press "S" to see the SHR screen (i.e.: your desktop application's desktop), "D" to see the double hi-res screen, "T" to see the text screen, "8" to see 80-column display, "4" to see 40-column display, "H" to see the Hi-Res screen, "L" for the Lo-Res screen, and ESC to exit single-stepping. This lets you see your application's screen instead of GSBug's screen (makes it a LOT easier to debug your apps when you can see their screens...).

Study For The Test:

I told you earlier that there would be a test at the end of this tutorial, so now's your chance to kick back and study a bit. So far, we've covered what the various parts of GSBug's screen mean, how to disassemble pieces of memory (using "L"), how to single-step and trace (at different speeds) through your application, how to set, use, and clear breakpoints, how to display various screens, and how to set up the RAM subdisplay area.

Don't Touch That Dial!:

The material covered so far gives you a decent foundation to draw upon as you

hunt bugs in your own software. We've only lightly touched on what GSBug can really do (I'm not typing all 150 or so pages of the manual into this "introduction" to GSBug). GSBug offers a lot of power and capabilities that should be learned by all developers.

Before I wrap up this tutorial I want to cover the use of templates and describe some of the new features in GSBug v.1.5b11 that aren't described in the APDA documentation (because we just added the features and haven't replaced APDA's master manual yet).

Templates By Jim:

GSBug provides an easy way for you to view portions of memory through templates. This allows you to "see" the data structures in memory just like they appear in the documentation (i.e.: see them divided into the various fields). The GSBug.Templates file that you were supposed to have placed in the SYSTEM/SYSTEM.SETUP folder of your boot disk contains a complete set of templates for use with our interface files. One of the Apple II Developer Technical Support Engineers put these templates together (and came up with a pretty neat way to build in a "help system" - so tell Jim "thanks" next time a template bails you out of a jam).

GSBug does NOT automatically load those templates unless you rename them (see the "GSBug.Specs" file for more information). You have to tell GSBug to load them (and you can unload them later). To load these templates, just type "loadtemp */system/system.setup/gsbug.templates" and press RETURN. Keep trying until you get it right - it does work (watch out for typos, etc).

To view a piece of memory with a template, simply determine the starting address of the template. The starting address can be found in a number of ways - you can dereference a pointer that you just pushed on the stack, etc. Then, type an underscore, the type of structure you want used, a blank space, and the starting address (don't forget the bank). (i.e.: if you know you have a graf port starting at location 06/15E4, then type: "_grafport 06/15E4" and press RETURN.

To use the built-in template help system that Jim came up with (thanks Jim!), just type: "_template 0" and press return. This will give you a list of all the categories of help you can get more info on (such as ADB, FONTS, etc). The categories are grouped by toolbox manager. To get details on a particular toolbox manager's tool calls, type "_toolmgrname 0" and press RETURN (replace "_toolmgrname" with the name of any tool manager - lead with an underscore or it won't work). (i.e.: "_quickdraw 0" for details on QuickDraw data structures) For more details, read the separate documentation file on using the templates.

If you want to create your own custom templates, then read the GSBug manual (pages 86-88) or decipher the templates in the GSBug.Templates file. To unload the templates (and free up the memory they're eating), type "killtemp" and press RETURN from GSBug's command line.

The New Stuff:

As if all of this weren't reason enough to use GSBug, the man behind this jewel added several more reasons (he calls them features). All of these are fake tool calls that the debugger sees, intercepts, and acts on.

The new calls are SetMileStone, DebugStr, DebugVersion, and DebugStatus. The two most important ones (in my opinion) are "SetMileStone" and "DebugStr".

SetMileStone simply changes the debugger's copyright message to be a string of your choice and lets your app keep running. If you're having a problem figuring out where your code was last at before it jumped off into the weeds, then sprinkle SetMileStone calls into your source code (with different strings on each, of course). Then, when your app chokes and dies, you'll be presented with the text from the last SetMileStone that was executed.

DebugStr works like SetMileStone (i.e.: changes the copyright string

to something with info about your application) except it dumps you immediately into GSBug. This is a little more work than Cheap Trick #1, but you can line up your source easier (since you'll have the debug string's message to guide you).

DebugVersion and DebugStatus act just like normal version and status calls for regular tool sets - they simply allow you to verify whether GSBug is running and if so, what version of the debugger is running before you try to make any debugger tool calls.

The tool numbers and parameter lists for these calls are:

Name	Tool #	Parameter (returns)
DebugStatus	\$06FF	(non-zero = true, ToolLocator error if not loaded)
DebugStr	\$09FF	pointer to Pascal-style string
DebugVersion	\$04FF	(\$159F for v.1.5B9)
SetMileStone	\$0AFF	pointer to Pascal-style string

Cheap (and short) Trick #6:

If you get really fancy, you can build the strings for DebugStr and SetMileStone on the fly and imbed the values of key variables into them to further simplify locating bugs.

Calling all Debuggers:

Do NOT leave calls to these debugger tools in your software when you ship it to customers! Why? Because making these calls on a system that doesn't have GSBug installed makes a real mess...

Want More Info?

Contact APDA and order the full package (you have a newer version of GSBug with this file, but APDA has the full manual). Order it by calling APDA (1-800-282-2732) and asking for part #A0037LL/A (the price is \$30). Due to recent changes in APDA, you no longer need to be a member before you can order this product.

===== DOCUMENT gscii =====

For those of you who had problems with GScii crashing, please try this one out and send me bug reports.

Now, then, here's the scoop on GScii+.

I've added BinHex decoding and sped up BinScii decoding * 3 (at least). It almost keeps up with D.W.'s BinScii (not bad for an NDA).

There is a skip button, it will allow you to go on to the next file in the queue if you selected a bunch of files.

There is a speed bar at the bottom of the screen :

- 1) GScii allows you to do other things while it is working because it gets called by the desk manager every so often.
- 2) In order to get any real work done, GScii needs to do several lines per call.
- 3) The more work GScii does per call, the slower the desktop will become.
- 4) This means, if you want the file decoded NOW and aren't going to do anything in the meantime, put it on fast.
- 5) If you are messing around with your current application and don't want to wait forever to get a response to your clicks, put it on slow.

There is some pretty extensive error testing upon startup, so lemme know if anything funny pops up on the screen and then won't let you do anything.

Re-written in C, so it's much more compact. However, ORCA/C is not perfect, so this is still a beta version, I'm not sure I've worked around all the compiler problems.

Mail me!!!

dat33228@uxa.cso.uiuc.edu

Derek Taubert
8 Chestnut Court
Clinton, IL 61727-2427

v1.0.5 to extract, you won't lose any data).

GS-ShrinkIt v1.0.4

Extracting NuFX from America-Online actually works now.

Graph box now listens to OA-period to get it to abort.

Fixed bug which would cause data to be archived such that it couldn't be extracted. The exact problem was caused by the string table filling up and issuing a clear code (\$101) after the last character for a block had been output. The corresponding decoders in ShrinkIt and GS-ShrinkIt know nothing about any codes after the final code in a block and get very confused at that point saying that the data has been corrupted.

GS-ShrinkIt v1.0.3

Fixed a bug which caused "Fatal Error \$0401" to occur after clicking "extract" when some of the static segments were bank-aligned. Apple DTS (specifically, Dave Lyons) helped me track this down at the A2-Central Kansas-City Developer's Conference. Extra credit goes to Dennis Doms who built a system disk which duplicated the problem.

GS-ShrinkIt v1.0.2

The select-all button in the archive, addto, and delete dialogs now works faster.

Fixed a problem that caused GSHK 1.0.1 to crash whenever someone hit a key which was mapped to the SF list on screen. This only happened to the archive, addto, and delete dialogs. (Stowe Keller)

When a stuffit file's forks are split into separate file (presumably to make use of ResSpy), the filetype for the res fork was whatever the HFS filetype routines deemed appropriate. Now, the res fork is saved as a BIN file to make ResSpying yet even easier -- it probably should have been BIN in the first place. (Robert Rosenberg)

Prefix 18 is no longer used. Prefix 20 (and 8) are now saved before GSHK starts and restored after exiting gshk. (Bryan Pietrzak)

Separate source and destination directories are now provided. The destination pathname is initially set to the source pathname -- the source path is left as prefix 8 if prefix 8 exists and prefix 0 if prefix 8 is null. "New Archive" works FROM the source TO the destination. "Open Archive" works from the source and TO the destination when extracting. The paths can not be predefined, yet. (most of the known world).

GS-ShrinkIt v1.0.1

DO NOT use the ShowText NDA or ShowPic NDA (below v4.60) with GS-ShrinkIt. ShowText causes really bizarre stuff to happen, especially when GSHK shuts down. You will occasionally get an "Error \$0003" message if ShowText is installed. Chris Haun's WriteIt! 2.0 NDA is a good replacement for ShowText in that it's much faster and you can edit what you see. ShowPic's before version 4.60 can not handle having the "shadow" bit set in System 5 QuickDraw II and trash the scanline control-bytes (SCBs) leaving the screen a horrible mess.

If you suspect something is wrong with GS-ShrinkIt, before you jump to any conclusions please remove all the Desk Accessories (DAs) and INITs from your system. It's quite possible that a DA or INIT is contributing to the problem. If you have a problem which occurs with GS-ShrinkIt and -several- DAs (ie, each one seems to always cause the same problem in GS-ShrinkIt), then most likely the problem is with GS-ShrinkIt and you should tell me. If you find that the problem is only caused by a single DA or INIT, most likely the DA or INIT is flakey and you should contact its author.

=====

DOCUMENT gshk.history

=====

GS-ShrinkIt v1.0.5 (3/21/92)

Fixed a bug which made GSHK unable to extract several (usually small) files from StuffIt and ARC files. The bug only happened if the file was compressed with RLE (run-length-encoding).

Fixed bug when archiving, the name displayed would be prefixed by elipsis, but the right-hand side of the name wouldn't be displayed at all (Andy McFadden).

The default text for "New.Folder" is now selected.

Fixed a bug that caused EOF errors to happen when extracting from .QQ files which were smaller than 4k (Karl Bunker and Bryan 'Zack').

Fixed a bug where if you'd extract and overwrite an existing file, the extracted file would magically inherit the filetype, auxftype, and other attributes from the file that was overwritten, not from the file that was being extracted (Karl Bunker).

When archiving an HFS disk, if you have the HFS FST installed, GSHK will now save the file_sys_id for the disk inside the archive.

Added "Save COMPRESS files as" popup to preferences so that when compress files are decompressed, they can be saved as binary or text files.

Fixed bug where if a file was saved with "Save as .BXY file" and it was named something like "filename.bxy", the Binary II header would contain "filename.bxy.SHK". Now it properly contains "filename.SHK" (Dean Esmay).

If "Save as .BXY file" is checked and the filename is filename.SHK (instead of the more common filename.BXY), the last character before the suffix will be incremented to provide a name unique from the outside name instead of incrementing the first character (which seemed to confuse some people) (Dean Esmay).

Changed "Save as .BXY file" to "Add Binary II to this archive" (Dean Esmay).

When archiving a disk with a bad block, GSHK will report the error instead of just closing the thermometer dialog and deleting the archive (how annoying!).

The HFS filetype and creator are now used when extracting from a StuffIt archive (very handy if you're extracting to an HFS disk using System 6's HFS FST which you intend to someday use on a Macintosh).

The high bits are only removed from files in archives which need them removed, not always removed. Also, slashes ("/") are no longer turned into colons for files in StuffIt archives.

GetFile dialogs now display prettier and more distinct icons in the standard file lists.

Added elipsis to a few buttons to indicate a modal dialog will happen if the button is clicked.

Changed text of 'Cancel' button in extraction dialog (the one with the thermometers) to more accurately be 'Stop'.

Fixed bug which caused data to not be able to be extracted. The exact problem was that if a clear code was issued by the compressor with 1 byte remaining to be compressed in a 4k chunk, the decompressor would put garbage in the output file. The decompressor has been fixed (which means that if you archived something with an older version of GSHK, if you use

Fixed problem that GSHK 1.0 had leaving a file open after receiving an error when someone would try to sort an archive, such as trying to sort on a write-protected disk. (Stowe Keller)

A <Select All> button has been added to the New File Archive dialog, the Add Files dialog, and the Delete Files dialog.

Because the AppleDisk5.25 Driver doesn't support getting the volume number from a DOS 3.3 disk (or specifying it when formatting), DOS 3.3 disks can't be archived or extracted under GSOS. Warnings have been installed to this effect.

If the preference "Split StuffIt forks when extracting" is checked, each of the forks of a Stuffit file will be saved as a separate file. The res fork's default name is filename.r -- this should make people who use ResSpy happy.

There are 2 more pop-ups in the prefs, "Save ARC files as: TEXT/BIN" and Save ZOO files as: TEXT/BIN" -- these cover some of the most frequently asked-for enhancements.

The TextEdit flag fRecordDirty is checked to see if any changes have taken place since the last time the update button was clicked to determine whether or not to highlight the update button instead of relying on finding that the TE control got hit. This allows you to scroll through the comment without GSHK thinking that you need to click the update button.

Changed the way the info icon is displayed. If any text is available in the archive comment, the icon will be shown as a yellow comment icon. If no text is available, then the icon will be shown as a grey comment icon. The difference is probably subtle enough that some people will not notice the change, but the icon looks better with the interior colored grey than if it's masked with alternating dots. If you edit a comment and change the amount of text in it, the correct icon will be redrawn in the list when the update button is clicked.

Added HFS creator_type of "pdos" support for the unStuff routines. The filetypes are now interpreted the same way that the AppleShare FST does a filetype translation from Macintosh HFS. The ProDOS filetype and auxftype are now set correctly if the creator is 'pdos'. If the filetype is TEXT, then the prodos filetype is set to TXT. The create date is now set correctly when extracting stuffit archives -- the mod date is set to the current date. The correct filetype and creator are set if you unstuff to an AppleShare volume.

Added recursive delete routines to the DELETE option in the file menu. 1.0 used to refuse to delete folders unless they were empty. Now, if you select a folder, everything in that folder will be deleted. You'll be properly prompted if a file is locked, also. (Dennis McClain-Furmanski)

Fixed problem with GSHK 1.0 reporting "file not found" when a folder with files in it was archived with "Delete after archiving" turned on. This always happened with 0 files remaining to be archived and didn't affect the resultant archive. (Rick Zeman, Dennis McClain-Furmanski)

Fixed problem with GSHK 1.0 always saying it got error \$1202 whenever it couldn't finish the _StartUpTools call. The error code was wrong -- new error codes have been installed which explain the error and what to do about it.

=====
DOCUMENT gshk.v1.06
=====

SHRINKIT FOR THE APPLE IIGS

Program by Andy Nicholas
Documentation by Karl Bunker

Send comments/suggestions on ShrinkIt to:
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GEnie, America-Online: shrinkit
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Internet: shrinkit@apple.com

Note: In online discussions, GS-ShrinkIt is often abbreviated "GSHK".

Send comments/suggestions on this documentation file to:
Karl Bunker
GEnie: k.bunker

What is GS-ShrinkIt?

GS-ShrinkIt is a utility program for archiving files and disks. "Archiving", in this usage, refers to the process of placing files or disks "within" another file -- the archive file. This is usually done to prepare the files/disks for transmission via modem, or for storage purposes. Thus, an archive file, whether created with GS-ShrinkIt or another archiving utility, will be a file which serves as an envelope, containing one or more other files, or complete disks. There are a number of reasons for archiving files before transmitting them with a modem. The principal reason is that an archive provides a means of sending the "attributes" of a file -- its filetype and other information -- along with the file itself. An archive also allows several related files (or an entire disk) to be packed together into a single file. True archiving utilities will also have the capability of compressing the files they contain to minimize the transmission time and disk space the archive requires.

GS-ShrinkIt uses a highly efficient compression algorithm known as dynamic LZW, and creates archive files with a format called NuFX. GS-ShrinkIt and the 8-bit version of ShrinkIt are currently the standard archiving utilities for Apple II telecommunications. GS-ShrinkIt can unpack files which have been archived with GS-ShrinkIt, as well as those which have been packed with certain other Apple II file-packing utilities, such as BLU and ACU. One of GS-ShrinkIt's most exciting features is that it can also unpack a variety of non-Apple II archives. This will be discussed in more detail later in these instructions.

About These Instructions

Most users of GS-ShrinkIt will be interested in unpacking files that they have downloaded from a Bulletin Board Service or Information Service. Others will also be using it to pack files that they want to upload to such a service. In these instructions I will first describe how one uses GS-ShrinkIt to unpack archives, and then how to create a new archive file. Then I will give an explanation of each of the options available in GS-ShrinkIt's pull-down menus. If you are ONLY interested in how to unpack a file which you have downloaded, you can read as far as the end of the section entitled "Unpacking an Archive", and skip the latter sections. I will attempt to make these instructions understandable to the relatively new computer-user; if you are unfamiliar with any of the terms used, or become generally

confused, you may want to consult the instruction manual to your telecommunications software, or a magazine article on telecommunicating with the Apple II.

System Requirements

GS-ShrinkIt requires a IIgs with System Disk 5.02 or later, and a minimum of 768K of RAM. If you are using a GS/OS program launcher other than the Finder, it's possible that your system (boot) disk doesn't have an "Icons" folder. GS-ShrinkIt requires that you have this folder on your system disk, and that it contain (at least) the file "FType.Main".

GS-ShrinkIt and ShrinkIt

GS-ShrinkIt is (of course) for the Apple IIgs. There are also versions of ShrinkIt available for 8 bit Apple II's. Archives created with GS-ShrinkIt can be unpacked with version 3.0.3 or later of the 8 bit ShrinkIt, providing that none of the files being extracted from the archive is an "extended" GS/OS file (also know as files with resource forks). Since ProDOS-8 can't handle extended GS/OS files, someone who doesn't own a IIgs would probably have no reason to extract such a file.

Distribution and Copyright Info

GS-ShrinkIt is a Freeware program. This means that you are under no obligation to pay the author anything for it, but the copyright is retained by him. You are encouraged to distribute this program to whomever you please.

Some Terms Defined

In the Apple II telecommunications community, there are a number of different file- and disk-packing formats which have been used over the years. Most of these formats have been superseded by ShrinkIt and its NuFX format, others are still used. These various formats are usually denoted with a three-letter suffix appended to the file's name (as in "MY.FILE.BNY"). The following is a list of the suffixes you are likely to encounter, with brief descriptions of their related file formats:

- .BNY: Binary II format. Though not a true archive format, a Binary II "envelope" will preserve a file's attributes through a download or upload. GS-ShrinkIt can unpack .BNY files, and they can also be automatically unpacked during downloading by many telecommunications programs.
- .BQY: "Squeezed" (i.e., compressed with a different algorithm than the one used by GS-ShrinkIt) files within a Binary II envelope. Created with the utility BLU, these files can be unpacked with GS-ShrinkIt.
- .QQ: If you remove the Binary II envelope from a .BQY file, the squeezed files it contains will have the suffix .QQ. These files can be unsqueezed with GS-ShrinkIt.
- .ACU: The archive format used by America Online (formerly AppleLink Personal Edition); these files can be unpacked with GS-ShrinkIt. (America Online currently uses .SHK format for new uploads.)
- .SHK: NuFX format; can be created and unpacked with GS-ShrinkIt.
- .BXY: A NuFX archive within a Binary II envelope. This is the format currently required for new uploads to the Apple II libraries of GEnie and Compuserve. .BXY files can be created and unpacked with GS-ShrinkIt. Although this "envelope within an envelope" format may seem redundant, it has several advantages. Ideally, the Binary II envelope will be entirely "transparent" to end users -- it will be automatically added by telecommunications software during uploading, and automatically removed during downloading. As more telecommunications programs come to support

automatic Binary II packing and unpacking, this ideal will be increasingly realized. Thus, if your telecommunications software supports automatic Binary II unpacking during downloading, you can turn this option on when downloading a .BXY file. Doing this will give you a downloaded file which is a "bare" NuFX archive. Thanks to the Binary II wrapper, this file will automatically be given the correct name and filetype.

Unpacking an Archive

GS-ShrinkIt uses the standard Apple Desktop interface commonly found in IIgs programs, with the familiar pull-down menus and dialog boxes.

When you have downloaded a file with one of the suffixes given above, you will want to process this file through GS-ShrinkIt to unpack it and get at the files or disks it contains. It doesn't matter which of the packing formats your download is in; GS-ShrinkIt will automatically recognize the format and handle the file accordingly. To unpack an archive, you select "Open Archive..." from the "File" menu. This will give you an "Open which Archive?" file-selection dialog box. In addition to the usual "Disk", "Open", "Close" and "Cancel" mouse buttons, there are also two radio buttons labeled "Show Only Archives" and "Show All Files". GS-ShrinkIt uses two methods to decide whether a file is an archive file: It checks the attributes of the file (its filetype and auxtype), and it checks to see if the filename has an appropriate suffix. When a file is downloaded, its attributes may not be preserved through the download. If your archive doesn't have EITHER the appropriate attributes OR a suffix that GS-ShrinkIt recognizes, GS-ShrinkIt won't be able to identify that file as an archive. If you don't see your archive file listed in the window (after you've opened the appropriate folder), try clicking the "Show All Files" button.

(A bug in System 5.0.2 sometimes causes the file dialog to hang if it can't find a disk which it expects to be online. To avoid this, you should only swap disks in your drives AFTER the file dialog is on-screen.)

When you click the "Open" button with your file highlighted, a window will be displayed showing what type of archive file you have selected, and listing the "items" (the packed files or disks) contained within the archive. This window will also show several buttons: "Extract", "Info", "Delete", "Sort", "Add Files", and "Add Disk". If you simply want to unpack this archive, only "Extract" and "Info" need concern you.

If the archive is NuFX format, there may be a brief message included within the archive by the person who put it together and uploaded it. Items which have space set aside for an attached message will have a small document icon to the right of the item's name. If there is an actual message, this icon will be yellow; if the message space is blank, it will be gray. You can read the message by highlighting the item and then clicking the "Info" button. This will display a window with various pieces of information about that item, and the message text, if there is any.

To unpack an archive, you must first highlight those items which you want to extract. Usually you will want to extract all of the items listed, but you also have the option of extracting only one or a few items. To highlight all of the items, press Apple-A. You can select several individual items by holding down the Apple key while you click on those items you want. You can select a group of items by holding down the shift key and clicking on the first item in the group you want, and then on the last of the group.

When the items you want are highlighted, click the "Extract" button. Another file-selection dialog box will be displayed allowing you to choose which disk and folder you want to put the new, unpacked files in. Open the appropriate folder, and click the "Accept" button. If there is a file in the folder with the same name as the file you are about to unpack, GS-ShrinkIt will ask if you want to overwrite the existing file, rename the unpacked file, skip that file, or cancel. You can set GS-ShrinkIt to automatically overwrite any existing same-name files by turning off the "Prompt before overwriting" check

box which appears in the file-selection dialog.

If the archive file contains a packed disk (or disks), GS-ShrinkIt will prompt you to select a "device" (disk drive) for the archived disk to be unpacked to.

Creating an Archive

As you might expect, creating an archive is somewhat more involved than unpacking one. However, the process is quite straightforward.

If you are going to be archiving files (rather than a disk), select "New File Archive..." from the "File" menu. A file-selection dialog box will be displayed, allowing you to select the files to be archived. There are two check boxes in this file-selection dialog box; these let you choose whether to "Use Compression" (usually you will want to compress the files you archive) and to "Delete after archiving".

As when selecting items to be extracted from an archive, GS-ShrinkIt gives you several ways to highlight files in this dialog box. You can select all the files in the open folder by clicking the "Select all" button, you can select several individual files by holding down the Apple key while you click files, and you can select a group of files by holding down the shift key and clicking on the first and last files of the group.

When the files you want to archive are highlighted, click the "Accept" button. A new file-selection dialog box will appear, prompting you for a "Destination Name" -- a filename for the archive file you are about to create. After opening the disk and folder you want your archive to be saved to, enter a name for the archive in the text box. To avoid confusion, be sure the filename has the correct suffix: Straight NuFX archive should have the suffix ".SHK", and NuFX-within-Binary-II archives should be suffixed ".BXY". After entering the filename, press <return> or click the "Save" button, and the archive will be created.

There is a check box in the "Destination Name?" dialog box labeled "Save as '.BXY' file". This box must be checked if you want your archive to be saved to disk in the NuFX-within-Binary-II format.

The best way to create a .BXY file is to use GS-ShrinkIt to make a .SHK file, and then let your telecommunications program add the outer Binary II envelope during uploading. However, not all telecommunications programs can do this. GS-ShrinkIt does not allow you to add new items to a .BXY archive after it has been created. This can only be done with "bare" NuFX archives. For this reason, if you are using GS-ShrinkIt to make a .BXY file, you must start out with all of the files you want to archive in the same folder, so you can select and pack them all at once.

After creating a new archive, you can perform a number of operations on it. You can delete items, you can add a file or disk item (provided the archive isn't a .BXY file), you can sort the archive to change the order in which its items are listed, and you can add a short message to the archive to be read when the "Info" button is clicked. All of these operations are performed via the "Open Archive..." option in the "File" menu; that is, you must first select and open the archive, just as you would if you were going to unpack it.

To add a message, or "comment" to an archive, you first highlight the top item listed in the archive, and then click the "Info" button. Enter the text of your message in the lower half of the "Info on Item" window, and then click the "Update" button in that window.

The other operations are performed by clicking the appropriate buttons in the Open Archive window. The various options for sorting items within an archive can be set in the "Preferences" dialog box, selected from the "Special" menu. This will be described later. The sorting operation requires an amount of free disk space equal to the size of the archive file. If GS-ShrinkIt doesn't find sufficient space on the currently open disk, it will report the problem and abort the operation.

To create a new archive from an entire disk, you would select

"New Disk Archive..." from the "Disk" menu. Disks to be archived may be ProDOS disks, or they may use other operating systems, such as DOS 3.3, CP/M or Pascal. Some non-standard, "customized" operating systems can also be handled. Unfortunately, due to a bug in the Iigs 5.0.2 System Disk, GS-ShrinkIt disk-archiving only functions correctly with 3.5" disks and ProDOS 5.25" disks; non-ProDOS 5.25" disks cannot be archived or unpacked. To archive or unpack 5.25" disks, you will have to use the 8 bit version of ShrinkIt.

Pull-down Menu Options

The above instructions give a fairly thorough overview of GS-ShrinkIt. This section provides a list of each of the options available in GS-ShrinkIt's pull-down menus. This will serve as a reference section to the instructions, and will also fill in some details not dealt with above.

"Apple" Menu:

About ShrinkIt...
Information about the programmer, distribution & copyright information, addresses for user support, thanks to those who helped out.
Your NDA's are also under this menu.

File Menu:

New File Archive... (Apple-N)
Create a new archive (from files).
Open Archive... (Apple-O)
Open an existing archive to unpack its contents or to modify it.
Close (Apple-W)
Close the active window.
Delete...
Delete files from your disks.
Quit (Apple-Q)
Exit from GS-ShrinkIt.

Edit Menu:

Undo
Cut
Copy
Paste
Clear
These are provided for use when editing an archive message, and for possible use by NDA's.
Select All (Apple-A)
Select all files in the displayed folder, or all items in the displayed archive.

Disk Menu:

New Disk Archive... (Apple-D)
Create a new archive from a disk.
Erase...
Erase the contents of a disk.
Format...
Format a disk. Due to a quirk in the ROM 03 IIGs firmware, the Format option will not work on this machine.

Special Menu:

Create AppleSingle...
AppleSingle is a relatively simple file-packing format designed by Apple, Inc. to provide a means by which extended GS/OS files can be handled on "foreign" file systems (such as ProDOS 8). AppleSingle files can only contain one file, and don't use any compression. Because NuFX archives are also able to store extended GS/OS files, and have many other capabilities as well, most users will have no need for this option. GS-ShrinkIt can also unpack AppleSingle files, and

AppleSingle within Binary II files.

Preferences...

This option puts up a dialog box with several check boxes and pop-up menus, allowing you to set a number of parameters. These settings will be saved in an "invisible" file called "ShrinkIt.Prefs" in the folder containing GS-ShrinkIt.

The check boxes are as follows:

Show invisible files

Show invisible files (such as "Finder.Data") in file-selection displays.

Prompt on every extraction

When multiple items are selected for extraction from an archive, you will be prompted to select a new disk and folder for each file before it is unpacked.

Force extracted names to fit ProDOS

When extracting a file from one of the "foreign" archive formats (see below), the name of the file may not fit ProDOS's rules for filename syntax. With this box checked, GS-ShrinkIt will automatically modify such a filename to make it legal. If the box is unchecked, you will have to modify such filenames manually.

Use sessions when archiving

"Sessions", also referred to as "cache-deferred writes", are a feature of GS/OS which can save considerable time with disk-intensive operations, such as creating large archives. With "Use sessions" selected, the new archive will be saved in memory until the entire archive-creation process is completed (or until memory runs out). Then it will be written to disk. A disadvantage of using sessions is that it uses up memory which GS-ShrinkIt may need for its file compression process.

Use sessions when extracting

This option corresponds to "Use sessions when archiving" above, but enables the use of sessions when an archives are being unpacked.

Attach suffix when archiving

With this box checked, GS-ShrinkIt will automatically add the appropriate suffix -- either ".SHK" or ".BXY" -- to the default archive name it offers you.

To the right of these check boxes there are eight labels with pop-up menus; the titles of these menus are:

Sort by:

This allows you to set how the items in an archive will be sorted when you click the "Sort" button. The choices are:

- Name (Alphabetical order)
- Length (Of the uncompressed file)
- Percent Size (How much the file was compressed)
- Date Archived
- Filetype
- Auxtype

Sort order:

- Ascending
- Descending

Comment size:

This lets you set the maximum size of the comment that can be added to an archive; the choices are:

- 100 Bytes
- 200 Bytes
- 400 Bytes
- 800 Bytes
- 1000 Bytes

Add Comment to:

- First File
- All Files

With First File (the default), a message can only be

attached to the first item in an archive. This menu gives you the option of adding comments to all of the items.

Archive As:

- Hierarchy
- Flat File

It is possible to select a folder for archiving with GS-ShrinkIt. When you do this, the entire contents of that folder (including the contents of any folders within the folder you selected) will be archived. Normally, when this archived folder is unpacked, GS-ShrinkIt will first create the folder that was archived, and then extract the folder's contents, placing them within the new folder. By changing the "Archive As:" preference from "Hierarchy" to "Flat File", you can change this procedure. A "Flat File" archive will only contain the contents of any selected folders; it will not contain the folders themselves. Thus, when this archive is unpacked, no new folders will be created, and the archived files will simply be placed "flat" in whatever disk and folder you selected.

Extract As:

- Hierarchy
- Flat File

This option corresponds to the "Archive As:" preference above, but it controls how an archive is extracted, rather than created. With "Flat File" selected here, an archive's contents will be extracted "flat", with no new folders being created, even if that archive contains one or more folders.

Save ARC Files As:

- Binary
- Text

Save ZOO Files As:

- Binary
- Text

"ZOO" and "ARC" are two "foreign" archive formats supported by GS-ShrinkIt; this is discussed in more detail below. These two options in the Preferences window allow you to set how files which GS-ShrinkIt extracts from these archives will be saved on your disk. The ZOO and ARC archive formats don't include any internal information that GS-ShrinkIt can use to determine what type the files should be when they are extracted, so the user has to make this decision.

"Foreign" Archive and Compression Formats

 This part of the instructions was left for last because it's a little technical. However, you shouldn't feel too intimidated even if many of the terms used here are unfamiliar. The "short version" of this section is simply this: Thanks to the remarkable versatility of GS-ShrinkIt, IIGs users can now unpack MOST of the files found in MOST of the download libraries of the online services. Whether these files are for Macs, Atari STs, Amigas, IBM PCs, or Unix systems, there is a good chance that GS-ShrinkIt will be able to unpack them. Although programs which were written for these other computers will not run on a IIGs, such things as text files, programmer's source code and graphics files (which can be converted for IIGs viewing with utilities such as SHR.Convert) CAN be used on the IIGs. It's probable that certain other types of non-IIGs files will become usable on the IIGs in the future. The wide range of formats supported by GS-ShrinkIt make it the most versatile archiving utility available for ANY personal computer. So take advantage of this and go exploring in those other libraries!

What follows isn't intended to be a complete description of the archiving and library standards used by these various other computers. It only presents the salient points of using GS-ShrinkIt with the archive formats it supports. The "foreign" (non-Apple II) formats

supported by GS-ShrinkIt are:

- StuffIt (Used on the Macintosh)
- ZOO (Used on the IBM PC, Amiga and Atari ST)
- ARC (Used on the IBM PC, Amiga and Atari ST)
- Compress (Used on computers running the Unix operating system)

StuffIt:

GS-ShrinkIt can extract files from StuffIt archives, sort them, and delete items from them. Encrypted items can not be extracted, nor can HFS folders within other folders. Such items will be dimmed in GS-ShrinkIt's display. StuffIt archives within MacBinary I or II "envelopes" are supported, as are StuffIt archives from America Online.

ZOO:

ZOO archives can be opened and their contents extracted with GS-ShrinkIt. ZOO archives can't be sorted or items within them deleted, however.

ARC:

GS-ShrinkIt's unpacking of ARC archives works only for those created with ARC 5.0, not ARC 6.0, which are less common. Some of the types of compression used in ARC files are not supported, and archive items using these methods will appear dimmed. Sorting and deleting of ARC items is not supported.

Compress:

GS-ShrinkIt should be able to unpack all types of Unix Compress files.

Two fairly common archive formats which are not currently supported by GS-ShrinkIt are ZIP and LHARC (LZH). These formats are used on IBM PCs and other machines.

Table of Supported Formats

For reference purposes, the following is a table showing all of the file packing formats supported by GS-ShrinkIt:

Format	Filename Suffix		Computer(s) Which Use This Format
		[C]reates and Unpacks, or [U]npacks Only	
NuFX . . . . .	.SHK	C	Apple II
NuFX in Binary II . . . . .	.BXY	C	Apple II
Binary II . . . . .	.BNY	U	Apple II
Binary II in Binary II . . . . .	.BNY	U	Apple II
ACU (Used on America Online) . . . . .	.ACU	U	Apple II
ACU in Binary II	--	U	Apple II
SQ (BLU) . . . . .	.QQ	U	Apple II
SQ in Binary II (BLU) . . . . .	.BQY	U	Apple II
AppleSingle	--	C	Apple II
AppleSingle in Binary II	--	U	Apple II
Stuffit . . . . .	.SIT	U	Macintosh
Stuffit in MacBinary I or II . . . . .	.SIT	U	Macintosh
Stuffit from America Online . . . . .	.SIT	U	Macintosh
Zoo . . . . .	.ZOO	U	IBM PC, Amiga, Atari ST, Unix systems
ARC . . . . .	.ARC	U	IBM PC, Amiga, Atari ST
Compress . . . . .	.Z	U	Unix Systems

For More Technical Information...

If you want to know more about data compression:

Welch, T. A. Technique for High-Performance Data Compression. IEEE Computer, Vol. 17, No. 6, June 1984, pp. 8-19.

Ziv, J. and Lempel, A. A Universal Algorithm for Sequential Data Compression. IEEE Trans. Information Theory, Vol. IT-23, No. 3, May 1977, pp. 337-343.

Ziv, J. and Lempel, A. Compression of Individual Sequences via Variable-Rate Coding, IEEE Trans. Information Theory, Vol. IT-24, No. 5, Sept. 1978, pp. 5306.

Storer, James A. Data Compression: Methods and Theory. Computer Science Press, 1988. ISBN 0-7167-8156-5.

Held, Gilbert. Data Compression, Techniques and Applications, Hardware and Software Considerations. John Wiley & Sons, 1987

If you want to know more about the NuFX ("nu-eff-ex") archive format, please consult the Apple Filetype Technote for \$E0/\$8002.

Trademarks

Apple, Apple II, IIgs, GS/OS, ProDOS, Finder and Macintosh are registered trademarks of Apple Computer Inc. ACU and AppleLink are registered trademarks of Quantum Computer Services, Inc. America Online is a registered service mark of Quantum Computer Services Inc. StuffIt is a registered trademark of Aladdin Systems, Inc. and Raymond Lau. ARC is a registered trademark of System Enhancement Associates, Inc. Unix is a registered trademark of AT&T. ShrinkIt is a trademark of Andrew E. Nicholas

skip to section IV.

A Little About the "Main" and "Support" Files

The "main" file stores all the color code information for the GS desktop, in addition to storing the file names of the "support" files. "Main" files are of filetype %C4. (Maybe in the future also by the three letter code GUI!)

"Support" files are merely the font files used to replace the standard GS controls and window icons. However, these font files must be created by modifying the provided standard control and window files, as they use custom boundaries, etc. The file names of the standard control and window files are "StandardControl" and "StandardWindow" respectively. Once again, "Support" files are standard GS font files; filetype %C8. In addition, to standardize things, and can be edited with any GS font editor. Created "support" files should be given the name of the "main" file that they are associated with, suffixed with either a ".w" (for the window font), or ".c" (for the control font).

Writing "Main" Files

To understand how to write a main file, it is best to look at an example. The following is the source code for LacquerGUI (written in standard ORCA/M source), with added comments:

```

                                keep LacquerGUI                                ;redundant if using
included                                                                ;EXEC File
(see later on), otherwise set                                          ;to name for
finished "main" file.
GUI start                                                                ;the label for the
start                                                                    ;directive
can be anything
currentversion equ $0100                                                ;$0100=v1.0 This is the current
of the program at the time                                             ;version
writing.                                                                ;of this
;---Header Information---
signature dc c'GUIM'                                                    ;shows that this is a GUIMaster file
version dc i'currentversion'                                           ;the current version (see equate above)
; The following is a 129-byte block holding the pathname of the "support" file
; containing the control icons. It begins with a standard Pascal string
; of x characters, and then a "ds" of 129-(x+1) bytes is added after it.
; The pathname MUST start with "*/system/system.setup/guifiles/", and then
; MUST be immediately followed by the FILENAME of file.
; ---Note---
; If your GUI does not have any control icons, just use "ds 129" and GUIMaster
; will use standard icons.
controlpath dc il'43'
dc c'*/system/system.setup/guifiles/LacquerGUI.c'
ds 85
; The following is a 129-byte block holding the pathname of the "support" file
; containing the window icons. It begins with a standard Pascal string
; of x characters, and then a "ds" of 129-(x+1) bytes is added after it.
; The pathname MUST start with "*/system/system.setup/guifiles/", and then
; MUST be immediately followed by the FILENAME of file.

```

=====
DOCUMENT guimaster
=====

```

<Shaston 8>
#####
||||| Master |||||
||||| v1.0 |||||
|||||
#####

```

by Kris Olsson

(c) 1991

a --Kuronon Katana-- production

From the author of ChronosII, the ultimate menu bar
clock/calendar/chronograph!

I. What is GUIMaster?

About a month ago, a friend of mine was telling me how nice it would be if he could spruce up the GS GUI (Graphic User Interface). Maybe change an arrow here, shade in a check box there, change the close boxes on all the windows. At first I thought that would be a nice idea, and left it at that. Four days ago (Jan. 1, 1991), however, as I was flipping through GS toolbox reference manuals, I noticed that there were commands built into the toolbox that let me do some of what my friend had suggested a month ago. Some days later, I finished programming. The result: GUIMaster.

GUIMaster lets you change nearly every component of your GS desktop: scroll bars, check boxes, radio buttons, regular buttons, the menu bar, the window size box, and the window close and zoom boxes. Not only can change the way they look, however, you can change their colors, too.

II. Detailed Installation Instructions

Here are explicit instructions on how to install GUIMaster:

- 1) Launch the Finder
- 2) Open your boot disk
- 3) Open the System, then System.Setup folder. System.Setup should be your top window.
- 4) Copy "GUIMaster" into System.Setup.
- 5) Create a folder and name it "GUIFiles" in the System.Setup directory.
- 6) Copy the necessary GUI files into the folder.
 - E.g., If you wish to install a GUIFile called "LacquerGUI" (the one provided), copy all the files beginning with "LacquerGUI" into the folder you have just created (for LacquerGUI, this includes LacquerGUI.w and LacquerGUI.c). Suffixed files are "support" files. The unsuffixed file is the "main" file.
- 7) Copy the file "MasterGUI" into the folder.
- 8) Copy the file "GUISetup" into your NDA folder.

You are finished. If for any reason, GUIMaster cannot read or interpret the "main" file, or if the MasterGUI file is corrupted, you will be presented with the "standard" GS desktop.

III. Creating your own GUI Files

This part gets a little technical. At this point, there is no way for the ordinary GS user to create his or her own "custom GUI files". In the future, if people show interest in the program (by paying the ShareWare fee {I'll get to that later} or by sending me comments, suggestions, etc.), I will write a GUI editor using the standard GS desktop, which will be able to create GUIMaster compatible files.

If you are an ordinary user, and not interested in the technical mumbo-jumbo,

```

; ---Note---
; If your GUI does not have any window icons, just use "ds 129" and GUIMaster
; will use standard icons.

windowpath      dc i'43'
                dc c'*/system/system.setup/guifiles/LacquerGUI.w'
                ds 85

;----Control Definition----

MenuColors      dc i'%00000000000001111'      ;GUIMaster uses standard
                dc i'%0000000011110000'      ;control color tables.
                dc i'%0000000000110000'      ;Please consult your
ButtonColors    dc i'%00000000000000000'      ;Apple II GS ToolBox Reference
                dc i'%0000000011110000'      ;Manuals for more

information     dc i'%00000000000000000'      ;(its a lot of info!).
                dc i'%0000000011110000'
                dc i'%00000000000001111'
CheckBoxColors  ds 2
                dc i'%0000000011110000'
                dc i'%00000000000001111'
                dc i'%0000000011110000'
IconButtonColors dc i'%00000000000000000'      ;Not implemented at this time.
                dc i'%0000000011110000'      ;Can be set to

anything.       dc i'%00000000000000000'
                dc i'%0000000011110000'
                dc i'%00000000000001111'
ListColors     dc i'%00000000000000000'
                dc i'%00000000000000000'
                dc i'%00000000000000011'
                dc i'%00000000000000011'
                dc i'%00000000000000011'
                dc i'%00000000000000000'
PopUpColors    dc i'%0000000011110000'      ;Not implemented at this time.
                dc i'%00000000000001111'      ;Can be set to anything.
                dc i'%0000000000110000'
RadioColors    ds 2
                dc i'%0000000011110000'
                dc i'%00000000000001111'
                dc i'%0000000011110000'
                dc i'%0000000000110000'
ScrollBarColors dc i'%0000000000110000'
                dc i'%00000000000001111'
                dc i'%00000000000001111'
                ds 2
                dc i'%000000000011000000'
                ds 2
                dc i'%00000000000001111'
                dc i'%0000000011000000'
SizeBoxColors  dc i'%00000000000110000'
                dc i'%00000000000001111'
                dc i'%00000000000001111'

;----Window Definition----

WindowColors   dc i'%0000000000110000'
                dc i'%0000111100001111'
                dc i'%00000000000000000'
                dc i'%1100000011111111'
                dc i'%0000000011110000'
TextEditColors ds 4      ;first two textedit colors from color
                end      ;record not implemented yet

Saving Your Source
-----

```

Once you have finished writing your source code, save it as how you plan to name the finished "main" file, with the suffix ".src", e.g., I saved "LacquerGUI" as "LacquerGUI.src". This will provide compatibility with the enclosed EXEC file.

The EXEC File and Assembling Your "Main" File Source Code

```

-----
Included with this archive is an EXEC file for use in assembling your source
into GUIMaster readable code.
To use the macro, enter "GUIExec" followed by a space and the name that you plan to
use for your "main" file (see Saving Your Source, earlier on), e.g., for a source
code file called "LacquerGUI.src", to be compiled into a GUIMaster "main" file called
"LacquerGUI", enter "GUIExec LacquerGUI". The "main" file that you wanted will then
be generated and saved on your disk.
----Note----
Do NOT type "GUIExec" and follow it with the name of your source code or GUIExec will
delete your code! E.g., Do NOT type "GUIExec LacquerGUI.src" if LacquerGUI.src is the
name of your source code; type "GUIExec LacquerGUI".

```

To manually assemble your source code, type:

```

ASML +M "name of your source code"
MakeBin "name your file was 'kept' as" (using the keep primitive in the source)
FileType "the name your file was 'kept' as" %c4

```

This will also create GUIMaster compatible code.

Making "Support" Files

See the A Little About the "Main" and "Support" Files section for details.

Installing Your New GUI

Follow standard GUI-installing instructions, aforementioned.

IV. Selecting Which GUI File to Use

Select this NDA "GUI Setup" to choose your GUI file. Make sure that you select a GUI File in the "GUIFiles" directory (see the installation section for more info). In the future I'd like to write a cdev to do the work of this NDA, but I have no information on how to write a cdev (living in Japan leaves me out of touch).

V. Where it Doesn't Work and Future Upgrades

GUIMaster has trouble with new, extended controls implemented in system v5.0 and up. Unfortunately, this includes the new TextEdit controls and pop-up menus. I tried very hard to implement support for these controls in this version, but could not. As a result, you cannot change the color of pop-up menus, or the frame or background of TextEdit controls. In addition, scroll bars that are part of the TextEdit control will appear in the usual GS desktop colors and format, although the icons will remain the same in.

Another drawback was unavoidable short of rewriting Apple's code for the list control: the list control cannot support a dithered frame. As a result, if you use dithered colors for your scroll bar, they may not blend in well with your list.

I also tried to add provisions for a default "desk pattern" to appear, but despite my efforts to do so with the new_MessageCenter message type 2, I could not get this feature to work. (As a result of this, I have included a file called "DeskPicture" on this disk which works nicely with the LacqueredGUI GUI, through the use of a desk picture displayer such as DeskPicInit.)

Using this with programs that rewrite different parts of the two icon sets may cause an icon that you originally drew to take on a different shape. A good example of this is with AWGS v1.0 v (...?). In the telecomm module, among others, the resize window

icon is replaced with a smaller one. I have just figured out a way to circumvent this minor annoyance and will include it in the next release.

There is only one actual inexplicable problem ("bug" if you will) with this program: when using AWGS v1.0 v(...?), various custom list records (such as the file requester list) will have some foreground and background colors swapped. I have no idea why. I don't know if this bug is present in v1.1; I was loaned my version from a friend of mine. If anyone knows why this happens, or if it happens in the latest release of AWGS, please write and tell me why, so I can fix it.

Future upgrades, in addition to attempting to fix the "bugs" and "shortcomings" present in this version, will probably include the aforementioned GUI Setup cdev in place of the NDA, and a desktop GUI-creation application.

There have been no other conflicts, unwarranted crashes, etc.

I plan to make all future upgrades of this program free, except for the cost of a disk and postage, to all registered users. I will notify registered users when an upgrade is available.

VI. ShareWare Fee and Final Notes

The ShareWare fee for this program is \$5-\$10, depending on how much you think it is worth (more is also accepted!). I spent 5 LOOONG days writing this init file, a total of about 30 hours! Please be honest and pay the ShareWare fee if you think the program is worth it. Otherwise, delete all your copies of it.

Please give unaltered copies of the archive that this file came in to every GS owner you know!

The money I receive from this and my other ShareWare programs will go towards my programming. For further projects I have in mind, please see the "FutureProjects" file. I don't want to bore you here, but I think I have some pretty interesting projects, so it'll pay to send in the ShareWare!.

My addresses:

America:Kris Olsson	Japan:Kris Olsson
American Embassy	Grew Tower
5051	
Box 215	
Roppongi 2-1-1	
APO San Francisco, CA 96503	Minato-ku
Tokyo 103	

If you find a bug, have a suggestion or complaint, or have created a nice GUI file, please write to me.

Enjoy!

Apple II Infintum!

```

=====
DOCUMENT hackamatic
=====
////////////////////:/\////////////////////////////////////////
/////////////////////:.:////////////////////////////////////////
////////////////////:.....////////////////////////////////////////
//KGB//:.....KGB//
////////////////////:.....////////////////////////////////////////
////////////////////:.....////////////////////////////////////////
////////////////////:.....Automan's:..\\
.:.....:
/.....:
|.....:Hayes:.....|
|.....:Hackamatic:.....|
|.....:
|.....:Introduction:.....|
|.....:
|.....:
|.....:
|KGB//:.....KGB//
|.....:
|.....:
|.....:
|.....:

```

Avast thar ye scurvy knaves!

Must a modem have a tail and whiskers to hack? Tired of hearing the famous line "You should have bought a Cat?" Ever wonder if there was more to that little square box under your fone than meets the Cat-scratched eye? If your answer to any of these questions is "yes", then The Hayes Hackamatic is for you. Finally your Hayes Smartmodem compatible can join the ranks of respectability!

("Hayes Smartmodem compatible" includes the following modems: Hayes Smartmodem (usually compatible with itself), Volksmodem, U.S. Robotics, Signalman, Apple modem, Prometheus Promodem, and others. Check your manual for Hayes compatibility if your modem is not listed.)

The Hackamatic consists of three main programs: The Prefix Prowler, The Code Crusher, and The Password Penetrator Program. Have you lost your password to your favorite BBS, but don't want to risk your high access by bothering the sysop? No problem, use the Password Penetrator. Have you lost your Sprint or MCI access codes, but don't want to get lost in red tape by calling the company? No problem, use the Code Crusher. Have you lost the phone number to the school computer which you need to use to finish your term paper (by tomorrow), but everyone at the school has gone home? No problem, use the Prefix Prowler. As you can see, these programs can be very useful.

Warning: Uses other than those described above can be hazardous to your health and continued state of freedom. Use only as directed.

Throughout the programs I have made every effort possible to ensure compatibility with various Hayes compatibles. The Prefix Prowler and Code Crusher should work without difficulty on any Hayes Smartmodem compat connected through a semi-normal serial card (or Apple //c serial port). The Password Penetrator, however, for reasons to boring to describe, requires an Apple Super Serial Card (SSC) or an Apple //c serial port to work properly. The SSC is the most commonly used serial card I have seen, and this restriction should not be too serious. Since there are so many different Hayes Smartmodem compats, though, I cannot guarantee that the

Hackamatic will work on every Hayes known to mankind. For this reason I chose to stick to widely known BASIC wherever possible so the programs could be individually tailored to fit any modem.

I have also tried to maintain compatibility between the programs. They all use the same keyboard input routine. At every requested input, the default value is shown between brackets, and it can be changed by simply backspacing over it and typing the desired value. In each program, the default values are specified and REMarked in the first segment of the code. If you need or want to change the defaults, LIST the program from the beginning until you see REM DEFAULTS. After this point, the default variables are initialized. I have included REMarks for each variable value, and you should have no trouble changing them. Note, however, that this is not necessary if datafiles are used with the programs. Each of the three programs allows you to name and save a datafile which contains all necessary values. When the datafile is later loaded, the saved values become the defaults. This feature is very useful, since different prefixes, alternate long distance services, and mainframe systems behave differently but can be handled individually through separate datafiles.

Because of its many special features not found on other modems, the Prometheus Promodem is specifically supported in each of the programs. Since all of the methods of software Promodem identification I tried proved unreliable, the user is asked if there is a Promodem installed. If you have a Promodem answer (Y)es, and the special features of this modem will be used.

If you have any questions about the Hackamatic, I can be reached through the Utah Elite on:

[C]omputer [P]irates of [U]tah
<CPU>
(312) 623-6761

I would like to thank Peregrin Goodbody and The Crackon for the skull in the title sequence.

Oh yes, by the way...It has come to my attention that there is another pirate with the alias Automan. I strongly suggest that this person acquire a new pseudonym. I am AUTOMAN from area code 801, and I would *NEVER* operate a Cat-fur, a Cat-paw, a Cat-ear, or any other piece of bloody feline anatomy.

Yo ho ho....Blow the man down...a bottle of rum...and all that rot.

May you hack long and pillage prosperously.

automatically,
A U T O M A N
-|-----

of the K.G.B.
Kracking Guild

===== DOCUMENT hacker =====

THE SCSI HACKER V1.1

A Format/Utility Program for Apple's SCSI Card
And ANY Hard Drive

!!
!!
!!
!!

THE SCSI HACKER IS A "NO FRILLS" PROGRAM DESIGNED FOR THOSE WHO UNDERSTAND HARD DISK LOW-LEVEL FORMATTING (AND ITS IMPLICATIONS). THE PROGRAM HAS LIMITED WARNING MESSAGES AND NO HELP MENUS. IT IS CAPABLE OF TOTALLY DESTROYING ALL DATA ON ANY HARD DISK CONNECTED TO AN APPLE SCSI CARD, WITHOUT ANY CHANCE OF RECOVERY VIA "UNDELETE" TYPE PROGRAMS, ETC. THEREFORE, IF YOU DO NOT WHAT YOUR DOING, DO NOT USE THIS PROGRAM!

(C) 1988 Joe Jaworski
18405 Tamarind Street
Fountain Valley, CA 92708

Genie: JVJAWORSKI
CompuServe: [73307,310]

THE SCSI HACKER is FREEWARE. It is copyright material but you may use it and/or distribute it free of charge to anyone for personal, non-commercial use.

Revision History:

Version 1.0 First Release 12/19/88
Version 1.1 Fix Error reporting bug 3/19/89

To get the most out of SCSI HACKER, you will need the following:

- 1) Apple SCSI Card (Rev C. EPROMs)
- 2) A SCSI Integrated Hard Drive or ST506/SCSI Controller
- 3) HDSCPartition program (included on the SCSI.TOOLS diskette)
- 4) ADV.DISK.UTIL (from the GS System Tools diskette)
- 5) DiskTimerGS (FREEWARE program, available on most BBSs)

INTRODUCTION

THE SCSI HACKER allows you to low-level format any hard disk drive in your choice of interleaves. This will allow you to optimize your hard drive for the fastest possible speed. It also provides an extended ("overnight") test program that will verify proper operation of a disk after formatting. In addition, you can selectively park the heads on any drive connected to the SCSI Bus.

Needless to say, you should have adequate backup before experimenting with this program.

MAIN MENU

After launching, THE SCSI HACKER provides the following options in its Main Menu. If you get an error message, either a SCSI Card was not found in any of your slots or there are no devices currently active on the SCSI Bus. If you get an SMP/ProDOS Error and an error number, see note 6 in the section on troubleshooting at the end of this file.

NOTE: The Apple SCSI Card only issues a SCSI HARD RESET on power-up. Among other things, this forces you to power-up your drive before your system (unless the drive you using can respond to UNIT READYs before the motor is up to speed). If things aren't working properly, power-down for 10 seconds and power back up again- Drive first, then Computer second.

Test Unit: This option performs a READ test of every block on a formatted partition. It uses what is called a "butterfly" test, in which blocks are tested from the lowest to the highest and then are incrementally changed, which excersizes the stepper motor and most of the electronics on the hard drive. This test is non-destructive (only does READs) to the data on the drive. If you receive an error, HACKER will report the logical block number that is bad. Run Mr.Fixit or any other bad-block lockout program to prevent ProDOS from using the block. Depending upon how defects are mapped on your drive, bad blocks may be normal.

Select Unit: This option allows you to select any unit currently active on the SCSI bus. The currently selected volume (if any) is listed at the bottom of the screen. Also included is the current slot. If you have two SCSI cards installed in your system, only the one in the upper-most physical slot can be used with SCSI HACKER.

Low-Level Format: This option allows you to perform a low-level format of any drive. You will also have the opportunity to select an interleave value for the low-level format. This test is destructive, destroying all data, all partitions, and all directories on the drive selected.

For the last time, don't play games with your data. Do a full back-up before using this program.

Park Heads: This test will allow you to park the heads of any and/or all devices currently active on the SCSI Bus.

Quit: This exits you from THE SCSI HACKER, getting you back to more friendly territory.

OPTIMIZING YOUR HARD DRIVE

A Proper Interleave setting of your hard disk can make a tremendous difference in performance. Most manufacturers who sell hard drives (especially those who do in different markets) optimize the interleave factor for either the IBM-XT or the Mac. These systems are faster than IIGS's and use interleave factors that are completely different. The object here is to maximize the interleave for the IIGS and GS/OS. Once done properly, you will truly notice a speed-up in Disk I/O when using your everyday applications.

A few notes that will save you headaches:

1) Low-level Format your drive at room temperature. I've worked on these things long enough to know that most drives suffer from temperature differential problems, aggravated at the high end. Leave your system powered-on for a half-hour before starting.

2) Make sure the drive is terminated. Look near the connector on the Drive's printed circuit board for resistor termination packs. Make sure they're firmly in their sockets. Also set the SCSI ID to 6 (for single drive setups) and if you have a choice of LUN settings (see your drive/subsystem manual), set the drive for LUN 0.

FINDING THE BEST INTERLEAVE

The first step is to find the best interleave for your setup. This is a trial and error period that will take some time, but once done,

you'll never have to do it again.

Step by Step Procedure:

1) Low-level format the drive using the low-level format option in the Main Menu. As a starting point, set the interleave value to 5.

2) After formatting is completed, Run the HDSCPartition program that came on the SCSI.TOOLS diskette included with your Apple SCSI Card.

NOTE: If you have upgraded your SCSI card to a Rev C ROM via your dealer, make sure you also get a copy of the diskette called "SCSI Card Utilities". If your dealer is stupid (not uncommon), ask him if you can make a copy of the diskette included in the box with the new SCSI cards.

With HDSCPartition, It doesn't matter what partition sizes you set at this point, as long as you set one that is at least 10 megabytes in size.

NOTE: If you're launching these programs from the FINDER, be sure to answer EJECT from the Finder's request to initialize the volume. DO NOT use the Advanced Disk Utility (ADU) at this point. The two programs do two different things. HDSCPartition creates a DPM (Device Partition Map), while ADU will only allow you to modify the DPM. If ADU doesn't find a DPM, it will low-level format your drive at 1:1 interleave, something you do not want. Hence, don't use ADU at this time.

3) After running HDSC partition and then quitting, answer "Initialize" to the Finder's prompts this time, instead of EJECT. This will high-level format your drive, allowing you to name the volume(s). If you're not using the FINDER, run Copy II Plus or the FILER or any other program that does high-level formatting. Name the disk(s) anything you want. At this point, don't worry about capacity, even if your 64 Magabyte drive only shows up as 20 Megabytes. We'll be fixing that shortly.

The High-Level Format should take only a few seconds. If it takes longer, (indicating that a low-level format has been forced), you messed up somewhere, so go back and start over.

4) Put a Copy of DiskTimerGS on the new volume and launch it from there. Write down the test results.

5) Now try an interleave factor of 10 (\$0A), going through each step again. Now do it again with 15(\$0F).

What we're doing at this point is finding the best interleave factor. For example, suppose you get the following results from DiskTimerGS:

InterLeave:	5(\$05)	10(\$0A)	15(\$0F)	20(\$14)
READ Timing:	90	61	69	78

In this example, the READ numbers from DiskTimerGS got dramatically better when going from an interleave of 5 to 10. This means that the optimum interleave factor is somewhere between 5 and 10. (Don't concern yourself with the SEEK or ADAPTER numbers from DiskTimerGS). Also, you might want to run DiskTimerGS twice each time to make sure your numbers are stable.

Now go back and do the interleave one at a time, from 5 through 10. Your results might look like this:

InterLeave:	5(\$05)	6(\$06)	7(\$07)	8(\$08)	9(\$09)
READ Timing:	90	95	96	58	59

Most of all, have Fun! And I hope I took a little mystery out of this Hard disk game.
-Joe

Bingo! An interleave of 8 is best. This is where the READ timing drops off dramatically. However, as a rule of thumb always add 1 or 2 to get best overall performance when using real applications. Therefore, the best interleave for your drive is 9 or 10.

Now do the following:

- 1) Reformat at an interleave of 10 (if needed).
- 2) Run HDSCPartition as described above.
- 3) Run ADU.
- 4) Select your drive and set up your partitions exactly the way you want them. You should now get your full capacity. The partitions will be named "Apple //" from HDSCPartition. Name them to whatever you want to use as the volume names, adjusting partition size accordingly.
- 5) You're Done! Your hard drive will now work at peak performance.

USING TEST

It's a good idea to run the TEST option at least two passes on each partition before using your drive. TEST will run continuously until stopped by the ESC key, so if you want, you can run it overnight or all day while you're at work. Be patient. Even two passes can take over an hour, depending upon the capacity of your drive. You'll have to high-level format the drive before running test.

PROBLEMS, TROUBLESHOOTING, CAVEATS

- 1) It has been reported that PARK doesn't work right on Chinook drives. The park routine simply issues a SCSI STOP UNIT command to the unit selected. However, Seagate, Quantum, and Rodime drives support this command, as it is part of the Common Command Set and Apple's SCSI variation.
- 2) If your subsystem uses an ST-506 drive and a separate SCSI controller (in addition to Apple's SCSI card), make sure the drive's defects are recorded in the Primary List. The low-level format routine will map out primary list defects, but not grown defects. You may have to use an IBM or Mac with appropriate software to access the Mode Select pages to do this. Check the manual of the Controller. An alternative to fixing defects is to run a bad block mapping program (ala Mr.Fixit), but this is a less reliable method of finding all the media defects.
- 3) If your low-level format operation takes a horrendous amount of time, your controller is probably doing media Certifies. This is good, since all defects are being mapped out for you. Be patient.
- 4) SCSI HACKER won't run if it doesn't find an Apple SCSI card and at least one Unit on the SCSI Bus that will respond to a UNIT READY command. Therefore, the program won't work if you try to use it with anyone elses Apple Disk Controller card.
- 5) The permissable Interleave Factors are governed by the physical number of sectors on your drive. For standard RLL 26 sector units, you can use from 0 to 25 (0 or 1 will both format out to an interleave factor of 1). For 13 sector MFM drives, expect a range of 0 through 12. SCSI HACKER won't format if you specify a number out of range and will report an error message.
- 6) All error numbers reported are passed from the SmartPort and/or ProDOS 8. See APDA's SCSI reference manual or the ProDOS 8 reference manual for a list of error codes and their meanings.

=====

DOCUMENT hangman

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HANGMAN
By: Carl Steadman

You are sure to recognize this classic pen and paper favorite. The object is to complete the word by picking the correct letters before hanging your man. Each incorrect letter chosen will cause one body part to appear on the screen. You have seven guesses before your man is doomed beyond hope.

[ESC] will return you to the startup screen, where you may exit to UpTime or continue the game.

CTRL-S toggles sound on and off.

Files needed:

HANGMAN
GM
HANGMAN.TABLE

Note: There is occasion when the rare ?FORMULA TOO COMPLEX error will pop up. If this should happen just reboot the machine. The reason it happens is ?FAR TOO COMPLEX to explain.

~~~~

=====

DOCUMENT hcadgs

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HCADgs

Copywrite (c) 1990, Joseph A. Huwaldt  
Documentation for Version 1.2 5/18/90

HCADgs is a shareware 3-D computer aided design program. It is useful in viewing, rotating, and scaling 3-D objects. With HCADgs you can linedraw, rotate, scale and translate objects in three dimensions. With the perspective feature you can view objects as they appear in real life (larger nearer to you and smaller farther away). This is opposed to the standard isometric views where distant objects appear the same size as nearer objects. You can print 3-D objects to any printer that your Apple IIgs supports (that you have drivers for), including the Apple Imagewriter II, Apple LaserWriter, and standard Epson printers.

Please note that HCADgs is \_Shareware\_ and as such is NOT public domain or freeware. Details of the shareware agreement can be found below.

==>History

HCADgs was originally conceived as HSKETCH on an Apple IIc in the heart of Nebraska in 1984 or 85 (I don't remember for sure). This 2-D high-res drawing program won the National Ak-Sar-Ben (Nebraska spelled backward) programming contest.

After winning the contest I continued to modify the program (of course). Somewhere along the line the name changed to HCAD. HCAD was a 2-D drafting program for the Apple IIc/IIe enhanced that had a drawing area of 512x184 pixels where 256x92 were visible at any one time. It sported a joystick or keyboard drawing environment, windows (of sorts), a "choose from list" file selection, and file packing.

Now several years went by as I fought my way through college (Aerospace Engineering, University of Kansas, Lawrence Kansas). During this time I got my Apple IIgs and learned to program in TML BASIC. Well one thing led to another and now you have a copy of what I have always dreamed of. A cheap 3-D drawing program for the Apple II. HCADgs.

Version 1.2: This version repaired many bugs that were found in 1.0 soon after its initial release. The general flow and features of the program were not altered.

Future versions (if anyone sends me the shareware fee) will have the following improvements:

Definately: The ability to draw with the mouse as opposed to using the keyboard (if anyone wants, I could make a joystick version too I suppose). Multiple objects that can be moved in relation to one another. Rulers, gridlines, etc for measuring. These things are relatively easy.

Probably: Hidden line elimination, shading and reflection (If my plans for hidden line elimination work out, then the others will be simple). A 320 graphic mode version that uses shades of any hue that you wish for shading. Solid modeling. Fee form curves, circles, cylinders, spheres, cones, etc.

Wish List: High speed animated rotations (for now you will just have to purchase a Transwarp GS for that).

==>Using HCADgs

HCADgs is not difficult to use. It sports the standard graphic desktop interface complete with pull down menus and all your favorite desk accessories. When the program is initially opened it shows a blank screen with the x and y

coordinate axes visible. The view angle is Rx = 0, Ry = 0, and Rz = 0 degrees. The y axis is defined as positive downward, x is positive to the right, and z is positive into the screen. If you hold down the Apple (Command/Propeller) key and press 4 you will move the drawing cursor (a small red dot) to the left (negative x) direction 1 unit. Whenever you use one of the drawing commands the x,y,z position of the cursor will appear in the upper left hand area of the drawing page. The drawing keys make use of the numeric keypad for drawing as follows:

```
-z (7)  -y (8)  +z (9)
-x (4)           +x (6)
+Ry (1) +y (2)  +Rz (3)_
+Rx (0)
```

Just play with the direction keys (make sure you hold down the Apple key) and learn how the drawing cursor moves. Press Apple-B to begin a line at some x,y,z coordinate (initially the beginning will be set to 0,0,0). Move the cursor to the 3-D coordinate for the end of the line and press Apple-D. The line will then be drawn between these two points.

You may use Cut (Apple-X) to remove the last drawn line and you may use Paste (Apple-V) to replace the last cut line. You may cut many lines in sequence but you will only be able to paste back the last cut line! Remember that. This is rather limited editing so look forward to better editing features on future versions.

You may rotate the object that you are drawing by pressing Apple-R. You will be asked to input the rotation angles in degrees. For example you could enter in the edit boxes 30 30 30. This will rotate the object (positively in a right handed system) 30 degrees about the x, y, and z axes all at once. This is a commonly used setting for view angle. With the view set to this angle you will still be able to draw, but now Apple-4 will move the cursor diagonally upward and to the left. This is because you have rotated the xy plane that the cursor used to move in by 30 degrees. This often leads to mass confusion when drawing but you get used to it after a while. I recommend that you follow the x,y,z coordinate information in the corner of the screen to keep track of where you are. It is even kind of fun to learn to move the cursor downward to the right when you press the negative y direction key. :)

## ==>Menu Explanations

### =>Edit

Currently the only options available under the edit menu are CUT and PASTE. You may Cut the last drawn line and remove it from the screen. If you wish to remove a whole series of lines you can repeat the Cut procedure and remove every last drawn line until there are no lines left. Beware: You may Cut as many lines as you wish, BUT you may only paste back the last drawn line!

### =>Scale

Here you may enter the scale factor. When the program is initially run the scale factor is set to 1. That is, one unit of length equals one pixel on the screen. If you move the cursor 1 space to the right it will move one pixel to the right. If the scale factor is set to 2 it will move 2 pixels to the right, etc. You may set the scale factor to any value from 1 to 500 or so. That gets pretty outlandish though since at most all you would ever see on the screen is 1 straight line. Usually you will set the scale factor to something below 50.

### =>Rotation

Under the rotation menu you will be able to enter in the angles by which you view the object. These angles are referenced to the original starting coordinates of the program. All angles are based on a right handed system (ie: If you hold your right hand with thumb pointing positively down the axis of interest, your fingers will curl around the axis in the direction of the rotation). If you are initially looking at an object with rotation angles (0,0,0), and you enter a rotation angle of (0,0,30) the object should rotate around clockwise on the screen.

### =>Draw

This menu is where the keyboard commands for moving the cursor are found. The use of the numeric keypad for moving the cursor is explained above. You may also use the Goto option. Here you may enter the 3-D coordinates that you wish to move the drawing cursor to. With this you may jump around in a drawing rapidly if you know the relative 3-D coordinates. This is often the case if working from 2-D engineering figures. You may use Begin Line... to set the beginning of a line that you wish to draw, then move to the end of the line you wish to draw and choose Draw Line... This will draw in a line in 3 dimensions.

### =>HCAD

This is a general all purpose menu. A goodies menu if you wish. Here you may move the object around in 3-D space with relation to the origin (Translate) or you may move the origin around in space relative to the screen (Move origin). You may also turn on perspective mode here. Perspective mode will cause parts of objects that are closer to you to appear larger and parts of objects that are further away will appear smaller. This does increase calculation and drawing time though, so you may not want to have this option turned on at all times. You will be able to draw with perspective mode in operation though. Finally, you may turn on or shut off the axes. This will either show or remove the little 3-D axes that appear in the center of your drawing area when you initially start the program.

### ==>Need Technical Help?

If you encounter any problems with HCADgs or if you have any comments or questions on the operation of HCADgs, then please feel free to contact me. You may write me at:

Joseph A. Huwaldt  
314 BB Bristol Terrace  
Lawrence, KS 66044

I may be reached on America Online as "JA Huwaldt" or you may reach me at a BBS that I frequent: Sherwoods Forest -- (913) 842-5025. On Sherwoods I am known as "Benu". This is the first place that you will find my latest greatest programming feats as well.

HCADgs is written entirely in TML BASIC. This has often turned out to be a feat in itself. However, it turns out that TML is great for the number crunching needed for this program. (Hint: Don't use TML BASIC if you are going to be manipulating a lot of string variables. It is a mess.) The source code at this point is about 30k long and contains numerous lines.

If you have questions about programming in TML BASIC or if you have questions about how I managed the graphics, then please get ahold of me. I would be pleased to help a fellow programmer if I could. If I can't help you directly I may be able to direct you to a source that could help you.

Apple, ImageWriter II & LaserWriter are trademarks of Apple Computer Inc. TML BASIC is a registered trademark of TML Systems Inc.

### ==>ShareWare Information:

HCADgs is a shareware program. You may use this program on a trial basis for 7 days. If, after seven days, you are not pleased with HCADgs, then please discontinue using it. However, you may upload it to any BBS or information system that you please and you may give as many copies to friends as you wish. In fact I encourage you to do this in order that others may enjoy this program.

If you are indeed pleased with HCADgs and would like to see more programs developed for the Apple II series (including more engineering graphics programs) then please send me the small fee that I request.

### Here's the deal:

\$10 -- You will become a registered HCADgs user and will receive the latest version of HCADgs (and any other useful programs that I just happen to have hanging around). And you will receive the next version of HCADgs free! You will also be free to own any future versions of HCADgs that you ever encounter.

\$5 -- You will become a registered HCADgs user and will receive the latest version of HCADgs (and any other useful programs that I just happen to have hanging around).

In both cases you will be supporting the development of useful software for the Apple II series. And if you pay the shareware fee, my family won't complain so bad that I spend to much time programming and not enough time working at a "real" job. :)

Please send your shareware fee to:

Joseph A. Huwaldt  
314 BB Bristol Terrace  
Lawrence, KS 66044

IMPORTANT: Please include your real name, full address, and the program and version number that you are registering (I have several). I will then send you the latest version of HCADgs as soon as possible.

Thank You for your support.

Ad Astra,  
Joseph A. Huwaldt

===== DOCUMENT hcs =====

Hacking Construction Set  
Documentation

Program and Docs by Cyborg

=====

Hacking Construction Set's features:

1. Totally user-definable, including the service format.
2. Multi-port and multi-carrier hacking.
3. Auto-verification of codes.
4. Random dialup delay.
5. Codes can progress forward or backwards randomly or stepping in any step up to 99999, or completely randomly.
6. Up to nine service configurations on one parm file.
7. Codes are dated to show age.
8. Codes are 95% reliable.
9. Easy to use; entirely menu-driven.
10. Cover Word Processor screen on demand.

HCS is to the //c what Megaphreak is to the AppleCat!

HCS can only be used on a //c until I make a //e version.

=====

Starting out  
-----

HCS will appear on the screen, and set up the modem. You will be prompted to set the date in MM/DD/YY format; set the date correctly.

The Screen  
-----

At the top middle of the screen you should see a block containing

Main 04/14/86

The "Main" is the current module you are on, and the numbers are the current date.

On the bottom row of the screen you should see a line containing

CARRIER CODE WAIT 00 DISK HUNGUP

These are the status registers. They are currently inversed (black on white), but if any of them become 'activated' they will be shown as normal (white on black).

Register....Purpose

|         |                                   |
|---------|-----------------------------------|
| CARRIER | to show if a carrier is detected  |
| CODE    | to show if a code has been found  |
| WAIT 00 | to show a delay of 00 seconds     |
| DISK    | to show any disk access           |
| HUNGUP  | to show that the modem is hung up |

NOTE: The WAIT register alone means awaiting carrier or service hangup.

On the screen now you will see 9 names that have been loaded from a disk based parameter index. Each is a separate configuration. You will see:

```

EMPTY   D:0   F:0   00.0%
  |       |       |       |
  name   dialed found ratio
        \-----total-----/

```

Name : Name of parameter  
Dialed: Total number of tries since created.  
Found : Total number of codes found since created.  
Ratio : Ratio of total found over total dialed, percent found in total tries.

MAIN MODULE To manage parameter files.  
-----

Use: [ARROWS] to MOVE the highlight  
[RETURN] to SELECT the highlighted service parameter file.  
if an EMPTY file is selected, jump to CONFIG MODULE.  
if a non-EMPTY file is selected, jump to HACKER MODULE.  
[SPACE] to EDIT the highlighted file.  
[D] to DELETE the highlighted file forever.  
[ESC] to RETURN to MAIN MENU

CONFIG MODULE To configure an empty parameter file  
-----

After selecting an empty parm file

Use: [ARROWS] to MOVE the pointer  
[SPACE] to EDIT value  
[RETURN] to save and exit  
[ESC] to exit

Use arrows to advance off the page onto next page.

Page One of configure:

Name: Input the name of the service here.  
Service Number: Input the access number for the service here.  
Carrier Number: Input a number which will give a carrier CONSTANTLY  
when dialed up, and will NEVER be BUSY!

Format: define the way in which you wish the digits to be dialed  
using [S]ervice Number: Dial Service Number.  
[C]arrier Number: Dial Carrier Number.  
[N]umber : Enter N followed by a numeric digit you wish  
to be dialed. EX: N0 dials 0.  
[T]ry code : Enter T followed by a numeric digit that  
specifies the number of digits in the CODE.  
EX: T6 try a 6 digit code  
[D]elay : Enter D followed by a numeric digit which  
specifies the number of seconds you wish  
the delay to be. EX: D4 wait 4 seconds.

Combine the five to make a dialing FORMAT that will work for your SERVICE.  
The most common example is:

FORMAT: SD4T6C  
dial service, wait 4 seconds, try 6 digit code, dial carrier number.

if you make a mistake, use the [DELETE] key to erase the last step you did.  
When you are satisfied with the format, hit [RETURN] to continue.

You will then be prompted for the Number of seconds to wait for a carrier. This is  
how long you want the modem to await a CARRIER after finishing the dialing FORMAT.

Page Two of the configure contains (If [ON] these will..):

Auto-Verify: Check any code TWICE, to insure accuracy.  
RND delay : Wait a RANDOM number of seconds before dialing the next code.

Multi-Ports : Use up to 6 extra ports in dialing, picked randomly. If you  
select this option, then input the next 6 ports as you would  
the Service Number. They MUST all use THE SAME EXACT FORMAT.  
Multi-Carrier: Use up to 6 extra Carrier Numbers in dialing. They MUST all  
give a CARRIER and NEVER A BUSY! If this is selected, input  
the next 6 Carrier Numbers.

Note: The multi- options are determined randomly in dialing; if there are X ports and  
X carriers (including Service + Carrier) the port and carrier used  
for any given dial will be determined by a INT(RND(1)\*X)+1 statement.

EDIT MODULE To change a parameter file.  
-----

Simply go through as you would the CONFIG MODULE, except the options have  
been already specified; change them if you wish. Use the same keys as CONFIG  
MODULE. NOTE: there are no defaults! You must trace over a number for it to  
remain the same, not hit return.

HACKER MODULE Hacking a service thru parameter file.  
-----

You will be prompted for a STARTING and ENDING CODE to hack at. Input these  
at the appropriate space. You will be prompted for an increment. An increment is the  
way the program gets from the STARTING CODE to the ENDING CODE. It adds (or  
subtracts, if it's negative) the increment to the STARTING CODE, to get to the ENDING  
code.

| STARTING CODE options:                        | Format | Example |
|-----------------------------------------------|--------|---------|
| 1. Accept default of last code dialed on file | #####  | 10000   |
| 2. Enter new starting code                    | #####  | 20000   |

NOTE: If you use completely random hacking the starting code is irrelevant, but it  
must be inputted.

| ENDING CODE options:         | Format | Example                      |
|------------------------------|--------|------------------------------|
| 1. Simply a code to end at   | #####  | 50000 end at 50000.          |
| 2. A number of codes to find | C###   | C5 find 5 codes and end.     |
| 3. A number of tries         | T###   | T100 dial 100 times and end. |

INCREMENT options:

Use any digit, positive or negative, for that increment.

|              |               |                                            |
|--------------|---------------|--------------------------------------------|
| Increment=1  | 1,2,3,4,5...  |                                            |
| Increment=50 | 50,100,150... | NOTE: if a negative increment is used, the |
| Increment=-5 | 20,15,10,5... | END code MUST be larger than the START .   |

Use two digits separated with a period with an asterisk in front for a random  
increment range within those digits.

|                  |             |                                              |
|------------------|-------------|----------------------------------------------|
| Increment=*1.10  | 1,3,5,15... | Random number 1-10 added.                    |
| Increment=*5.30  | 2,8,12,22.. | Random number 10-30 added.                   |
| Increment=-*5.-9 | 20,15,12... | Random number -5 to -9 subtracted. (NOTE^^). |

Use two asterisks for completely random incrementing.

Increment=\*\* CODES=11233,22923,99740... NOTE: If a random increment is used,  
HCS will not STOP until [ESC] used.

Datafile name: input the name you wish the codes found for the service to be put in.

Now if you're satisfied, press [RETURN] to start hacking, [R] to redo options if you  
aren't, or [ESC] to abort.

HACKING RUNTIME:  
-----

After pressing return, HCS will open the datafile IF it's a new datafile, or if it's an old one, simply APPEND the date of hacking on the end.

HCS will highlight in inverse the numbers it is dialing AS it dials them. It'll also use the status registers (Remember those?) to show what the modem is doing.

You will see:

```
|000000|
|100000| D:0 F:0 00.0%
|100005|
```

The line of numbers is the | last code dialed  
| current code  
| code coming up |

NOTE: If you use a random increment, then HCS can't tell what the next code will be, therefore the "code coming up" will be blank.

D=Number of codes dialed  
F=Number of codes found  
00.0%=Ratio of codes found over codes dialed.

When the "WAIT" register is on, you can use these commands:

```
[SPACE] to go to the next code.
[S] to toggle the modem speaker. NOTE: the speaker isn't cut on/off
[G] to toggle fake screen until HCS goes to the next
      (when mommie walks in) code. IE: use [S],[SPACE].
[ESC] to save progress and go to MAIN.
```

HCS will give you a "CHARGE" tune when it gets a good code (hahaha..) . If it is done with the hacking routine, it will play another tune.

Notes  
-----

You can view the text file created during hacking, or any other text file using the main menu "VIEW TEXT" feature.

The input date routine is easy to modify so it uses your clock, as long as you know a little BASIC. Just go to the subroutine that reads the clock (it's labelled..) and read your clock. Set K\$="MM/DD/YY" and use a RETURN to return the date.

The file where all the parameters are stored is named "HCS.INDEX". HCS will look for the file on the current drive, and if not found, will create an empty file.

HCS can function without the fake word processor screen "FAKEWP" if necessary.

The End. Wake Up.  
-----

You can reach me on The Dungeon..... 714-877-3044  
Rock&Roll Harbour... 305-557-8778  
Kleptic Palace..... 314-527-5551

For comments, additions, complaints, modifications or conversation...

Credit goes to: The Oracle, The Bucketeer, Rick Rocker, and Disk Phantom.

===== DOCUMENT hes.games =====

-----  
- HESGAMES -  
-----

Cracked by  
The Wombat  
Dr. Micro The Gonif  
- Documentation typed by The Wombat -

GAME PLAY  
-----

HesGames uses two sets of keys during game play: the cursor keys (the four arrow keys on the right of your keyboard- IIE) and a set of motion keys (up, down, left, right, and action). You can use the motion key selections provided (see main menu) or you can select your own motion keys. Throughout this doc file, the terms (UP, DOWN, RIGHT, LEFT, and ACTION refer to the general motions, NOT the cursor keys.

MAIN MENU SCREEN  
-----

From the main menu screen, you can register up to two players: type in their names and indicate which keys they will use to move.

From this screen, you can switch from one event to another. Once you have competed in some events, you can review your rank and scores.

ADDING OR CHANGING PLAYER INFORMATION

To add or change information on the menu screen, use the down arrow (IIE) or ctrl-j (II/II+) to cycle through the boxes. The currently selected box will flash.

In the name box type in a name and affiliation, for example, Jeff Burman/USSR. You can use these keys: A-Z, 0-9, /, -, and space bar.

Press down the cursor key to begin the "keys" selection. You can select which keys to use for all the motions you need to make--UP, DOWN, LEFT, RIGHT, and ACTION. When the keys box is flashing, press the actual key you want to use for each motion.

The keys are listed from left to right in the following order: UP, DOWN, LEFT, RIGHT, and ACTION. You can use the following keys: A-Z, 0-9, LEFT/RIGHT ARROWS, /, -, and space bar.

CHOOSING AN EVENT

Once you have registered all the players, load one of the events by pressing the up or down cursor keys (or the ctrl-j, ctrl-k keys on the II/II+) until the event you want to load flashes. Press RETURN to load in that particular event.

COMBINED SCORE

For each first place score, you receive a gold medal and 1000 points.

RETURNING TO MENU SCREEN

Press the escape key and then press 1 from any event to get back to the menu screen.

## COMMAND MODE

-----

The command mode allows you to perform various operations. Pressing the escape key takes you into command mode. Once in command mode, press a key as follows:

### KEY ACTION

- 1 - Return to main menu
- 2 - Enter slow motion mode
- 3 - Save a performance
- 4 - Load a performance
- 5 - Watch an instant replay
- 6 - Enter control mode
- 7 - Turn sound on and off
- 8 - Switch between running and hurdles
- 9 - Switch to next player
- I - Initializes a disk
- D - Display the files on the disk
- ESC - Leave command mode

## CONTROL MODE AND PLAY MODE

-----

Each event has two modes: a control mode and a play mode. In control mode, you review the established records in that event, and change some event options (such as type of dive and amount of weight). In play mode, you participate in the event. Press ESC-6 to go into control mode. Press ESC to exit control mode and return to play mode.

### CHECKING RECORDS

To see the US, world and Olympic records in each event (except Diving because no records are kept in diving), enter control mode by pressing ESC-6. Press the left or right cursor keys to cycle through the records.

## INSTANT REPLAY

-----

You can replay a particular performance if you want to watch it again and study your technique. Press ESC-5 and the last performance will replay. You cannot use the instant replay feature in the archery event.

## SLOW MOTION

-----

Press ESC-2 to participate in an event in slow motion. Slow motion works in all events except archery and weightlifting. Slow motion is in effect for one round only and can be used with instant replay by pressing ESC-2, then ESC-5.

## CLASSIC REPLAY

-----

The classic replay repeats any performance you have saved on a disk. The classic replay works with all events except archery.

### INITIALIZE A DISK

To save one of your performances, you need a specially prepared performances disk. To prepare a performances disk, insert a new disk into the disk drive. Press the ESC key and then press 3 to start the

save function. The program asks you for a filename. Press ESC and then I to start the initialization process. This will take about one minute. When initialization is completed, the program asks for a filename.

## DISK DIRECTORY

To get a listing of the performances you have saved on a disk, first press ESC and then 3 (for save function) or ESC and 4 (for load function). The program will ask for a filename. Press ESC and then D to list the directory.

## SAVING YOUR PERFORMANCES

First, make sure you have a prepared "performances" disk in the drive. To save your best performances, type ESC-3 from any event screen immediately after the performance. A filename prompt will appear at the top of the screen. The filename consists of an abbreviation of the name of the event, a slash, and a filename you provide.

## LOADING A PERFORMANCE

To load a saved performance, type ESC-4 from the event screen. Make sure the disk with the performance that you want to load is in the disk drive. A filename prompt will appear - enter the appropriate filename then simply press RETURN.

Each event (except archery) has a sample performance on the HesGames disk. To load the sample, press ESC-4 and type in the following for the filename:

R/DEMO - RUNNING  
H/DEMO - HURDLES  
L/DEMO - LONG JUMP  
C/DEMO - CLEAN AND JERK  
T/DEMO - TWO HAND SNATCH

After you have loaded in a performance, press ESC-5 to see the classic event replayed.

## 100 METER SPRINT

-----

- Press the ACTION key once to indicate you are ready to start the race. You'll hear the message ON YOUR MARK, and soon after, GET SET. Begin the sprint when you hear the word GO. If two players are running, both must indicate readiness before the race can start. If a previous performance is loaded in, it is always in readiness.

- Press the ACTION key of the second player (when you are running by yourself) to run against the computer.

- The starting blocks are equipped with sensing devices to detect if a false start was made.

- The instant you hear GO, start running by pressing the RIGHT and LEFT keys in rapid succession until you reach the finish line.

- After the runner crosses the finish line, he will continue to run a victory lap until you press any key.

## SWITCHING BETWEEN RUNNING AND HURDLES

You can switch quickly between 100 meter sprint and 110 meter hurdles. While in either one of these events, press ESC-8. Now use the left and right cursor keys to select the event, then press ESC to exit control mode and go to the new event.



## 110 METER HURDLES

-----

- Press the ACTION key once to indicate that you are ready to start the race. When you hear the word GO run by hitting the LEFT and RIGHT keys rapidly.

- Run at an even pace between the hurdles and press the ACTION key when you want to clear the hurdle.

- Skim over the top of each hurdle- try not to fall down or tap the hurdle.

- Timing in the leap is critical- if you hit the hurdle you'll lose seconds.

- The hurdler will continue running a victory lap until you hit a key.

## LONG JUMP

-----

- Start off running as fast as you can by pressing the RIGHT and LEFT keys.

- The white line is the take-off board. Plant your feet and jump as close to the center as possible without going over the line (which would cause a foul and a message "bad jump"). Take off by pressing the ACTION key.

- To make sure you always land forward, press the RIGHT key just before you land.

## ARCHERY

-----

- Each player gets six shots at each distance. (The scores are multiplied by six so that they compare to the actual outdoor event.)

- Keep an eye on the wind speed and direction, which can be unpredictable depending on the weather conditions for that day, such as clear or overcast.

- To select between a clear or overcast day (an overcast day has variable and higher wind speeds), press ESC-8, and use left and right cursor keys to choose. Press ESC to return.

- Select one of the targets; roughly position the bow by pressing the keys below:

U I O

J K L

M , .

- Nock the bow by pressing the space bar.

- Aim the bow as above using the sight and adjusting for wind direction and speed. Press the space bar when you are ready to release the arrow.

- The longer you take to aim and shoot, the harder it will be. Your grip becomes unsteady as time passes, and muscle fatigue sets in under the strain.

- You are allowed only a certain amount of time to shoot. If you fail

to shoot in the time allowed, that shot will be cancelled and you will get a score of 0.

- If more than one player participates in this event, pressing ESC-9 switches from player to player.

## SPRINGBOARD DIVING

-----

- Start with the easier dives until you get the feel of the board. You'll soon be able to execute more difficult dives with precision, and eventually be able to "call" the dive.

- For a simple dive, press RIGHT once for a forward dive, or LEFT for a reverse dive. This signals to the judges the type of dive you will perform. The scores will clear and you'll stand at attention to alert the judges that you are about to dive.

- Press the ACTION key once to start the forward momentum. You do not need to run down the board using the left-right motion.

- With no further action, the diver will spill off the end of the board. To make a better entry position, press the DOWN key to stop the rotation at the precise moment.

- Once having mastered the basics of diving, work on your spring action where you jump at the end of the board. Press the UP, DOWN, UP keys anticipating the movements of the diver towards the end of the board.

- Correct timing and rythm give you the proper amount of height and power.

- Once in the air, time your entry into the water to complete the required number of sumersalts for your chosen dive. Press the DOWN key to begin the entry. In a perfect entry, you enter the water vertically, your toes are pointed, and you make very little splash.

- You will be making a total of five motions once the type of dive has been selected- ACTION to start the run down the board; UP-DOWN-UP to obtain the proper spring; and DOWN to start the entry.

- Each judge scores the overall dive, however they may have different criteria for scoring the dives.

- Practice different types of dives by playing with the timing if the up-down-up motions.

## CALLING THE TYPE OF DIVE

To "call" or announce the dive you plan to do, enter the control mode by pressing ESC-6. The TYPE OF DIVE box should flash. The dive you are required to perform will be indicated before each round. Press the up cursor key (ctrl-k/II+) until the ROUND flashes. Select the round by pressing right or left cursor keys. Press the down cursor key (CTRL-J/II+) to move ro TYPE OF DIVE. Press the right or left cursor keys until the dive you want to perform for the selected round flashes. You can pre-set up to ten rounds. Remember to set the round back to 1 if you want to start at round 1. Press ESC when you are ready to begin the diving sequence.

If you fail to perform the dive announced, you will get a FAILED DIVE message and receive no points, even if the dive was done well. If you complete the dive you announced, the judges will add a bonus of 10% to the score for pre-calling the dive.

## CHANGING PLAYERS

To switch to another player press ESC-9.

## WEIGHTLIFTING

- Your weightlifting power is in your thighs. You can control the thigh muscles with the UP and DOWN keys.

- Start with lighter weights- 45 kg is the lightest; 300 kg is the heaviest, until you develop weightlifting skills. Timing is critical and changes as you increase or decrease the weight.

- If you watch weightlifters in action during competition, you may notice that the lifters develop precise rhythm as they lift all that weight.

- To obtain this rhythm, press the DOWN and UP keys, pausing briefly to rest and gather strength at critical moments.

- In the two-hand snatch, reach down, pull on the barbell, then bend down slightly to split the legs when the weight reaches chest level. Steady yourself and then thrust the weight up extending your arms overhead. (You will be making a total of four down and up motions- DOWN-UP-DOWN-UP.)

- In the clean and jerk, first lift the barbell up to hip level and then drop down into a squatting position. Pause slightly and strengthen your legs (up) as you hold the weight at shoulder level. Pause to summon more power. Drop down slightly to bend your knees and immediately push up to center the weight in front of your nose. Push down to split your legs and extend your arms. Steady the weight and push for the final thrust. (You will be making a total of eight up and down motions- DOWN-UP-DOWN-UP pause DOWN-UP-DOWN-UP.)

- One player will continue lifting until you switch to the second player by pressing ESC-9.

## CHANGING WEIGHTS

To change the amount of weight on a barbell, first enter control mode by pressing ESC-6. The weight box will flash. Use the left cursor key to decrease the weight and press the right cursor key to increase the weight. Hitting these keys will change the weights in 2 1/2 k59QM9 The minimum amount of weight is 45 kg, and the maximum is 300 kg.

## CHANGING EVENTS

To switch from one weightlifting event to another, press ESC-6 to enter control mode. Press the up and down cursor keys until the event flashes. Press the left and right cursor keys until the name of the other event appears. Press the ESC key to leave control mode and go to the new event.

## CHECKING RECORDS

To see the U.S., World, and Olympic records press ESC-6. Press the up and down cursor keys until the records flashes. Use the left and right cursor keys to cycle through the records. Press ESC to leave control mode.

===== DOCUMENT high.speed.scsi =====

## Apple II High Speed SCSI Card

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The Apple II SCSI card significantly increases data transfer speed between Apple II personal computers and SCSI devices such as hard disk and CD-ROM drives. The card works with the Apple IIe and Apple IIGS personal computers and is compatible with all SCSI devices. It provides the fastest data throughput possible for Apple II users. Using direct memory access (DMA) data transfer, it offers speed improvements of up to 10 times faster than that of the previous Apple II SCSI Card, which it replaces. The new card also comes with software utilities for use with hard disk and CD-ROM drives.

Users with a hard disk drive and the new SCSI Card will see a significant speed improvement when using large software applications, such as AppleWorks GS, or large data files.

Features and benefits include:

¥ DMA Data Transfer -- on the Apple IIGS computer, data can be transferred at a rate of up to 1MB per second. On the Apple IIe computer, data can be transferred at a rate of up to .5MB per second. There are four switches on the card. One is used to set DMA on or off. The other three are used to set the SCSI identification number of the card ... each SCSI device, including the computer, is set to a unique number from 0-7.

¥ SCSI Compatibility -- compatible with all SCSI devices, the Apple II High-Speed SCSI Card requires only that device-specific applications and drivers be installed on the system. The card comes with drivers and applications for hard disk and CD-ROM drives.

¥ On-Board Terminator -- simplifies setup for the user when connecting SCSI devices to the computer. The user simply places one terminator at the end of the chain of SCSI devices.

¥ Utilities -- comes with improved hard disk utilities that partition and verify hard disks, and backup information. The Partition and Verify utilities take advantage of the improved firmware commands for hard disk drives. The Backup utility is now able to handle the resource forks that are part of the IIGS files. These are all ProDOS utilities and can be used by both Apple IIe and Apple IIGS users. In addition, the CD-ROM desk accessory for the Apple IIGS, CD-Remote, comes with the card.

## System Requirements

The Apple II High-Speed SCSI Card works on an Apple IIGS personal computer or an Apple IIe computer with a 65C02 microprocessor (note: older Apple IIe's, that have a 6502 microprocessor, will need to upgrade with an Apple IIe Enhancement Kit). The Apple IIGS requires a 3.5-inch disk drive, while the Apple IIe requires either a 5.25- or 3.5-inch disk drive. Both require a device with a SCSI port, appropriate SCSI cabling, and one SCSI terminator.

There is no upgrade program for owners of the previous Apple II SCSI Card.

Apple II High-Speed SCSI Card  
Order # A022011/A

New Product Descriptions  
New Product Highlights  
3/19/90

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COMMUNICATING WITH THE PROGRAM:

In the Hobbit Adventure, the computer will act as a translator between you and the program. You will tell the computer what you want to do in English, and the computer will translate the request and the program will execute it.

The computer will also be your source of information about where you are, what you can see, and what other creatures in the adventure are doing.

If the computer is not sure of something you mean, or if there is an ambiguity in your instruction, it will come back to you with questions for clarification.

The Hobbit program has a large vocabulary (see the section on the English Language). It knows over 500 words and can perform over 50 different actions (combining verbs and prepositions), so it is capable of very sophisticated communication. The use of English to interact with the computer allows you to enter your instructions in familiarly structured sentences.

THE SCREEN DISPLAY:

The screen display is divided into two windows. The bottom five lines of the screen are the "communications window." Everything that you type in will be shown here. This is also the place where the computer will indicate when it does not understand something you typed. For instance, if you mistype the word door as "DOR," the program will come back with:

I DON'T UNDERSTAND THE WORD "DOR."

Other messages will also appear when the program is unable to execute your instructions. Each window will scroll independently of the other.

The rest of the screen is the "adventure window." This is where you will find out what is happening in the adventure, what you can see, and what the other characters are doing and saying.

The adventure window is displayed on the screen in upper- and lowercase. Every action that takes place, whether performed by you or one of the other characters, will be shown here. Descriptions of locations and of objects and their contents, etc., will also be shown.

Usually, the text that is displayed on this screen is short enough to fit in one window. Occasionally, however, the screen must scroll to fit all of the information. When this happens, the screen will pause and the word MORE will appear. Press any key to see the rest of the information.

The adventure window is also the area where graphics depictions of the various locations will appear. Over 80 locations described in the book are represented in this adventure. When this happens, the bottom two lines of the adventure window will remain text to let you know what is happening, and the rest of the window will change to pictures.

Through the pictures of the locations contain many details, it is possible that Bilbo can see things and people in the area that you cannot see on the screen. Don't be deceived by thinking that the screen shows everything. It is always a good idea to take a look around.

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THE ENGLISH LANGUAGE:

The Hobbit program can understand the following words (valid

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DOCUMENT hobbit.1.of.2
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THE HOBBIT
typed by
James Bond (007)
The Sledge Hammer Workshop
\*\*\*\*\*

INTRODUCTION:

Welcome to Middle-earth. This is the world of Bilbo the hobbit, of Thorin and Gandalf, of dwarves and trolls and wizards. This is the magical and mysterious land of J. R. R. Tolkien's The Hobbit.

You are about to play one of the most sophisticated adventures ever designed for the microcomputer. Addison-Wesley and Melbourne House are very proud to be able to present the Hobbit Software Adventure, based on Tolkien's brilliant fantasy novel.

In the Hobbit Adventure, you play the role of Bilbo Baggins. You will be able to roam freely throught Middle-earth, explore and discover this enchanted land. You will meet all types of creatures, some friendly and helpful, others very dangerous. Your adventure will be exciting and will hold many surprises each time you play.

If you are unfamiliar with honbbits, you should know that they are "a little people," about half the size of humans. Since they spend a great deal of their time eating (at least six meals a day), they tend to have large and fat stomachs. Unlike most creatures of Middle-earth, they are not very magical, capable of performing only the most ordinary kind of trick. Hobbits wear bright-colored clothing but no shoes, since their feet have leathery soles and thick fur on the tops to protect them. They are a quiet and simple folk and do not care for anything unexpected. No self-respecting hobbit has any use for adventures.

Like other good hobbits, Bilbo just wanted to be left alone in quiet comfort. But there was always a little spark of adventurouness in him, a tiny bit of the not-entirely-hobbitlike Took-clan, inherited from his mother, Belladonna Took. Perhaps this was why Bilbo was singled out by the dwarves and mistaken for a burglar, and why he found himself reluctantly agreeing to join Gandalf and Thorin on the most incredible adventure any hobbit could imagine in his most unhobbitlike dreams.

As the adventure opens, Gandalf the wizard has talked you (as Bilbo) into entering a new and exciting adventure helping Thorin the dwarf. Your Mission is to seek out the evil dragon, return the treasure he is hoarding to your warm and comfortable hobbit-hole, and place it in a chest for safekeeping. As a secondary mission, you must look after Thorin and protect him. If he should die early in the game, it is most unlikely that you will be able to survive the dangers ahead of you.

It is also important for you to know that, as a hobbit, you are a rather small and milad creature, and most others you will meet along the way will be bigger and stronger than you. You will therefore need to exercise all of your cunning and skill to survive.

Best of Luck, Bilbo, and may you return with wounderful tales to tell on a cold winters evening in front of a log fire.

abbreviations are given in parentheses).

## THE ENGLISH VOCABULARY:

### Movements:

|           |                |
|-----------|----------------|
| NORTH (N) | NORTHEAST (NE) |
| SOUTH (S) | NORTHWEST (NW) |
| EAST (E)  | SOUTHEAST (SE) |
| WEST (W)  | SOUTHWEST (SW) |
| UP (U)    | DOWN (D)       |

### Action Verbs:

|       |        |        |
|-------|--------|--------|
| BREAK | FILL   | SAY    |
| CLIMB | FOLLOW | SHOOT  |
| CLOSE | GIVE   | SWIM   |
| CROSS | GO     | TAKE   |
| DIG   | KILL   | THROW  |
| DRINK | LOCK   | TIE    |
| DROP  | PICK   | TURN   |
| EAT   | PUT    | UNLOCK |
| EMPTY | OPEN   | UNTIE  |
| ENTER | RUN    | WEAR   |

### Special Commands:

|               |          |       |
|---------------|----------|-------|
| EXAMINE       | LOOK (L) | QUIT  |
| HELP          | NOPRINT  | SAVE  |
| INVENTORY (I) | PAUSE    | SCORE |
| LOAD          | PRINT    | WAIT  |

### Prepositions:

|        |      |         |
|--------|------|---------|
| ACROSS | INTO | THROUGH |
| AT     | OFF  | TO      |
| FROM   | ON   | UP      |
| IN     | OUT  | WITH    |

### Adverbs:

|           |           |
|-----------|-----------|
| CAREFULLY | QUICKLY   |
| SOFTLY    | VICIOUSLY |

### RULES OF ENGLISH

English is one of the most sophisticated language-recognition programs developed for the microcomputer. It allows you to communicate with the program in a language and structure that is familiar to you.

The rules of English is simple. The main thing to keep in mind is that each instruction must be in the form of "verb-the-noun," where the noun (or pronoun) can also be implied.

Each sentence must have a verb.

RUN; CLIMB; WAIT

are all valid sentences, with an implied pronoun of "I."

The meaning of the verb may be altered by the use of adverbs.

RUN QUICKLY  
VICIOUSLY BREAK THE DOOR

English grammar applies, and the order of the different parts of the sentences is usually not critical.

WITH THE SWORD CAREFULLY ATTACK THE TROLL

ATTACK THE TROLL CAREFULLY WITH THE SWORD

Adjectives that describe nouns must come before the noun. If it sounds right in English, it is probably valid in English.

OPEN THE GREEN DOOR is correct, but

OPEN THE DOOR GREEN is not.

Prepositions usually come before the noun in English.

ATTACK WITH THE SWORD  
PICK UP THE GOLD

The preposition could go before or after some verbs, or even at the end of the sentence if it sounds more natural.

TURN THE LIGHT ON  
PICK THE GOLD UP

### USE OF AND:

You can use the word AND in all its normal meaning in English. This means, among other things, that you can enter more than one sentence or perform more than one action at a time.

TAKE THE LAMP AND THE ROPE OUT OF THE BARREL  
DROP THE SHORT AND THE LONG SWORD  
TAKE THE TREASURE AND RUN

### PUNCTUATION:

Sentences can be separated by the use of punctuation. You can use commas, semicolons, and periods as you normally would.

Quotation marks are used when you are speaking to another character. (see the section on Conversing.)

The only limitation the computer puts on what you can enter is that the command must not be more than 128 characters long.

Keep in mind, however, that if you enter a very long instruction, other characters in the adventure could use that time their own advantage.

### USE OF EVERYTHING, ALL, EXCEPT:

It is sometimes not convenient to have to enter a long list of objects when the words EVERYTHING or ALL would suffice. You are able to use these words in English just as you normally would.

You may also specify what you want to manipulate by using EXCEPT in conjunction with ALL and EVERYTHING.

EAT EVERYTHING  
BREAK ALL THE BOTTLES  
OPEN ALL EXCEPT THE GREEN DOOR

### LIMITATIONS OF ENGLISH:

To describe an object, you are only able to use the object's name and its associated adjectives (if any apply). For instance, if you see some delicious foamy beer in a bottle, you could say:

DRINK BEER  
or DRINK DELICIOUS BEER  
or DRINK FOAMING BEER

or DRINK DELICIOUS FOAMING BEER

all of these would result in quenching your thirst. You cannot, however, use the position of an object as its description.

DRINK BEER IN BOTTLE

would not be acceptable.

You cannot have more than one indirect object in a sentence. Basically, this means that you cannot do one thing in more than one way in the same sentence.

PUT THE ROPE ON THE TABLE and  
PUT THE REOP ON THE CHAIR

are both valid, but

PUT THE ROPE ON THE TABLE OND THE CHAIR

is not.

By the same general rule, you cannot say things like

ATTACK THE TROLLS WITH EVERYTHING

SPECIAL COMMANDS:

There are a number of special commands unique to the Hobbit Adventure:

LOOK (L) gives you a graphic depiction of your location. Then, by pressing a key, you will receive a text description of the location, including all exits and objects (other than any you are carrying).

INVENTORY (I) describes everything you are carrying.

EXAMINE (object) enables you to have a closer look at any object you come across.

WAIT passes the time.

@ (no return) instructs the program to repeat the last command. (This must always be the first input of a sentence.)

NOPRINT disables the PRINT command. (PRINT and NOPRINT may not be available in all versions. Check your reference card.)

SAVE allows you to save your current game on disk. After you have saved the game, play will continue normally. The next time you play, you can pick up where you left off.

LOAD loads a previously saved game from the disk.

QUIT restarts the game.

SCORE tells you what your presentage is so far.

Pause suspends the game until another key is pressed.

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INTERACTING WITH OTHERS:

One of the fantastic features of the Hobbit Software Adventure is ANIMATION. With ANIMATION, each creature in the program has an independent character of its own. It is capable of performing a wide range of actions and of making decisions based on what is happening around it.

Each character will follow a general course of action that is in keeping with its particular personality. However, the specific actions it takes are (naturally) unpredictable and will be different each time you use the program. They will react in some way, not only to what you do but also to what every other creature they come into contact with does!

Just like in our world, the creatures here are doing things all the time, even when you cannot see or hear them. They will go about their business even when you are not around. This is because the Hobbit is played in "real time," which means that things will happen even if you are doing nothing. If you just sit and watch the screen, you will find that after about 30 seconds, the following message will appear:

- You wait -
Time passes. . .

Only when you are actually keying in an instruction will time "stop" in Middle-earth.

Because of these special features, you will find that each time you enter the Hobbit Adventure, the game will proceed in a slightly different manner. The further you get into the Adventure, the more different your experiences will be. This means that there is no unique solution to the Hobbit Adventure; you will face slightly different problems each time you play.

This is not a program that you will use only once. Each time you play you will be embarking on a new exciting adventure.

CONVERSING:

The Hobbit Adventure also features Anmtalk, which allows you to talk to the other creatures in Middle-earth.

Of course, because all creatures are animated through Animation, they will make up their own minds about whether to talk to you or follow your suggestions.

The way one talks to others in the Hobbit Adventure is quite simple:

You enter

SAY TO (name) "(sentence)"

For instance:

SAY TO GANDALF "READ MAP"

But remember that although this form is certainly correct, you may still receive the message:

- Gandalf says "No!"

Try not to say too much to one creature at a time. If you are long-winded, a creature may think you are a bore and not agree to help you. For the same reason, it is a good idea to try to limit the use of ALL in your sentences to other creatures.

You must be more careful than usual in typing in what you say to other creatures. They, unlike the computer, will not tell you when they do not understand what you are trying to say. They will just think you are a little odd and will probably not be too anxious to stay around you.

COOPERATING

It is important for you to know that, for some of the problems in the Hobbit Adventure, a solution only exists if you are willing to cooperate with the other creatures in the adventure. As you are only a hobbit, you have no magical powers, and you will find that there are many things that others are able to do better than you (see the Laws of Physics in Middle-earth). So you must stay on good terms with your friends. Of course, sometimes you will have to be on your own and learn to fight your own battles.

FIGHTING

As much as Bilbo might like to think otherwise, there would be no adventure in the Hobbit without danger, and many of the creatures you will meet in Wilderland are less than friendly. Many will attack you on sight. Some will try to kill you, while others will want to capture you. It is also safe to assume that any creature will fight back if it is attacked.

As you do not specify a weapon (even if you are carrying one), the program will assume that you want to fight with your bare hands. Because of the viciousness of some of the creatures in Wilderland, don't be surprised if you a dead body in your travels. Take care that it isn't your own!

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GENERAL CONCEPTS

As stated above, in the Hobbit Adventure you play the part of Bilbo Baggins, roaming around Middle-earth and interacting with the other characters.

On your adventure, you will encounter many strange and wonderful objects. Some may have magical properties. Some may be deceiving, and may not be what they first seem to be. Some can be used as weapons, others can be eaten, and so on.

LAW OF PHYSICS IN MIDDLE-EARTH:

There are certain general laws of physics that apply in the Hobbit Adventure and they must be understood and obeyed.

You cannot lift an object that is too heavy for a hobbit to carry. In addition, if you are already carrying something, you cannot lift another object if the combined load is too heavy. This applies to all of the creatures in the adventure, also. However, since they are likely to be stronger than you are, they will be able to lift objects that you can't.

You do not have to be carrying an object in order to be able to use it. For example, if there is a sword lying on the ground, you can say

KILL THE GOBLIN WITH THE SWORD

combining the two actions (picking up and killing) into one sentence. The exception is when the object that you want to use is being carried by someone else. Other creatures are not likely to let you take things

away from them.

Some objects can act as containers, such as sacks, barrels, etc. You cannot put an object into a container if it is too large to fit, nor can you put something into or take something out of a container that is closed.

Some containers may be transparent; others are opaque. You will be able to see the contents of any transparent containers from the outside. However, you can only see the contents of an opaque container if you open it.

Liquids behave as you would expect - they cannot be carried unless they are in a container; if the container breaks or falls, the liquid will spill, and so on.

Some objects may be locked. Doors are obvious examples; others are windows, chests, caches, and so on. To unlock them, you will need the right key.

Some objects are breakable, so you must be careful in how you handle them. In some cases, you might want to break an object. Be careful how you choose to break things. If, for instance, you try to break a door with a bottle, you will find that the bottle will break not the door.

Fighting will make you weaker, as it takes a great deal of energy. You will need to eat regularly to get your strength back. If you don't you may find that you are too weak to lift even the smallest object. But be warned - don't be a glutton. While hobbits may be inclined to eat 7 or 8 meals a day in their quiet, ordinary lives, there isn't time for such things on adventures.

In order to reach the dragon and his treasure, you will need to go through caves, dungeons, and other underground locations. Some places will have natural light (if it is daytime), but others will be dark and forbidding. If you go into a dark location without a lamp or other source of light, you will not be able to see anything. Be careful, since you may become disoriented and lose your sense of direction. It is very dangerous to move around in total darkness.

FINDING YOUR WAY AROUND:

If you want to go through an entrance or passageway, it is quite valid to say something like

GO THROUGH THE GREEN DOOR

You may also go through windows, trap doors, and other passageways. Obviously, if a passageway is closed, you must open it before going through.

You are also able to LOOK THROUGH openings. This can be very useful if you want to see where you would get by going in that direction, or to see who is there waiting for you.

ENTERING PLACES:

If you know where you are going (maybe you have been there before), you can specify the location you want to enter rather than the direction of movement. For instance, to the east of your home is the Lonelands, so you could say

ENTER LONELANDS or GO INTO LONELANDS

if someone you want to talk to has entered another location, you can follow him.

FOLLOW GANDALF

## SPECIAL CROSSINGS:

Crossing rivers, ravines, chasms, and so on can be dangerous and difficult. You can try to jump across a ravine or swim across a river. In some cases you might be able to use materials you find to build a temporary bridge, or use a rope to swing across.

## MAPPING:

As you make your way around the wilderland, you will find that movement here is much more complex than it is in the world of man. You will find yourself on trails and paths, in caves passageways, some of which seem to go around in circles with no escape. For this reason, you will find it very helpful to make a map as you go along, adding to it each time you play the game.

However, one of the obstacles you will encounter in Middle-earth is that the direction you take from point A to point B may not be quite the reverse of the way from point B to point A. In addition, you will at times be climbing up or down, requiring representation of several levels in your map. Therefore you may need to devise an even more creative method of recording your movements. One way is to create a grid, such as the mileage charts used on some road maps. Locations travelled from could be listed on the rows and those travelled to in the columns. The intersecting spaces would contain the directions travelled to get there. Using a grid will enable you to record how you made your way from one location to another and even back again. You can keep track of where you have been and know where you can go from where you are. This method is particularly effective for mapping the twisting, turning paths of Wilderland, entering and leaving the underground locations, and keeping track of secret or magical passageways.

## SCORING:

While playing the Hobbit Software Adventure, you build a cumulative score in increments of 2.5 percent for visiting particular locations or performing certain actions. If you should come to an untimely demise, the program will tell you what your score is. You can also receive the score "in progress" by typing the special SCORE command. You do not have to reach 100 percent in order to "complete" the adventure. In fact, you can fulfill your goal while accumulating a score of only 50 to 60 percent. To build your score, try to be as active as possible, visiting many locations and seizing all opportunities for adventure.

\*\*\*\*\*

## ENGLISH DICTIONARY:

### Key:

|                  |               |                |                |                |     |
|------------------|---------------|----------------|----------------|----------------|-----|
| A = adverb       | GO            | - V            | LOCK           | - V            |     |
| M = movement     | HELP          | - S            | LOOK (L)       | - V            |     |
| P = preposition  | IN            | - P            | NOPRINT        | - S            |     |
| S = special verb | INTO          | - P            | NORTH (N)      | - M            |     |
| V = action verb  | INVENTORY (I) | - S            | NORTHEAST (NE) | - M            |     |
| ACROSS           | - A           | KILL           | - V            | NORTHWEST (NW) | - M |
| AT               | - P           | LOAD           | - S            | OFF            | - P |
| BREAK            | - V           | SHOOT          | - V            | ON             | - P |
| CAREFULLY        | - A           | SOFTLY         | - A            | OPEN           | - V |
| CLIMB            | - V           | SOUTH (S)      | - M            | OUT            | - P |
| CLOSE            | - V           | SOUTHEAST (SE) | - M            | PAUSE          | - S |
| CROSS            | - V           | SOUTHWEST (SW) | - M            | PICK           | - V |
| DIG              | - V           | SWIM           | - V            | PRINT          | - S |
| DOWN             | - M           | TAKE           | - V            | PUT            | - V |
| DRINK            | - V           | THROUGH        | - P            | QUICKLY        | - A |
| DROP             | - V           | THROW          | - V            | QUIT           | - S |
| EAST (E)         | - M           | TIE            | - V            | RUN            | - V |

|         |     |           |     |          |     |
|---------|-----|-----------|-----|----------|-----|
| EAT     | - V | TO        | - P | SAVE     | - S |
| EMPTY   | - V | TURN      | - V | SAY      | - V |
| ENTER   | - V | UNLOCK    | - V | SCORE    | - S |
| EXAMINE | - S | UNTIE     | - V | WEST (W) | - M |
| FILL    | - V | UP (U)    | - M | WITH     | - P |
| FOLLOW  | - V | UP        | - P |          |     |
| FROM    | - P | VICIOUSLY | - A |          |     |
| GIVE    | - V | WEAR      | - V |          |     |

THE BOTTOM, CENTER OF YOUR SCREEN. WHEN AROUND THE COMMAND YOU WANT HIT [RETURN]. THE FOLLOWING IS A BRIEF DISCRPTION OF ALL ICONS AND THE USES.

## THE MAIN MENU

<PRINT>  
TO PRINT PREVIEW YOUR TEXT, SPECIFY PAPER TYPE, OR CHOOSE BEGINNING PAGE NUMBER. THIS ICON LOOKS LIKE (WHAT ELSE?), A PRINTER.

<EDIT>  
TO ERASE, PUT AN ERASED PART BACK, MOVE OR COPY PART OF THE TEXT, FIND A WORD OR A PHRASE AND REPLACE IT WITH SOMETHING ELSE. THIS ICON LOOKS LIKE A PIECE OF PAPER WITH AN 'X' IN IT.

<FILE>  
TO GET A DOCUMENT OUT OF THE FILE, INSERT SOMETHING FROM ONE DOC INTO ANOTHER, FILE A DOCUMENT, OR INCLUDE ANOTHER DOCUMENT WHEN IT'S TIME TO PRINT.

<LAYOUT>  
TO SET SPACING, START A NEW PAGE, SET TEMPORARY NEW MARGINS, MAKE AND OUTLINE, BOLDFACE OR UNDERLINE YOUR TEXT, OR TO MAKE A HEADINGS AND OR FOOTINGS ON YOUR DOCUMENT.

<CUSTOMIZE>  
TO MAKE YOUR HOMEWORD DISK FIT YOUR NEEDS.

===== DOCUMENT homework =====

----->HOMEWORD<-----

WHILE IN THE TYPING AREA, YOU MAY USE THESE COMMMANDS. IF THE CONTROL KEY IS INDICATED, PRESS IT DOWN AND HOLD IT DOWN WHILE YOU PRESS THE APPROPRIATE LETTER KEY.

## CURSOR MOVEMENT

-----

### BY CHARACTER

CTRL D- DELETE CHARACTER UNDER CURSOR  
CTRL Q- BACKSPACE DELETE  
[DELETE]- BACKSPACE DELETE (//E ONLY)  
[<-]- MOVE CURSOR BACK ONE SPACE  
[->]- MOVE CURSOR FORWARD ONE SPACE

### BY WORD

CTRL E- SKIP WORD FORWARD  
CTRL W- SKIP WORD BACKWORD  
CTRL N- DELETE NEXT WORD

### BY LINE

CTRL Z- MOVE DOWN ONE LINE  
CTRL J- SAME AS ABOVE  
[DOWN->]- MOVE DOWN ONE LINE (//E ONLY)  
CTRL A- MOVE UP ONE LINE  
CTRL K- SAME AS ABOVE  
[UP->]- MOVE UP ONE LINE (//E ONLY)  
CTRL L- DELETE SCREEN LINE

### BY SCREEN

CTRL O- MOVE BACK ONE SCREEN PAGE  
CTRL P- MOVE FORWARD ONE SCREEN PAGE  
CTRL T- MOVE TO BEGINNING OF FILE  
CTRL B- MOVE TO END OF FILE

### BY PAGE

(TRUE FORMATTED PAGE)

CTRL F- MOVE FORWARD ONE PAGE  
CTRL G- MOVE BACK ONE PAGE

### MISCELLANEOUS FUNCTIONS

CTRL V- DISPLAY ASCII VALUE OF A CHAR  
CTRL C- TOGGLE INSERT/CHANGE MODE  
CTRL I- TAB KEY  
[TAB]- TAB KEY (//E ONLY)  
CTRL S- CAPITALIZE (SHIFT) NEXT CHAR. NOTE: PRESSING CTRL S TWICE 'LOCKS' CAPITAL LETTERS. PRESSING THIRD TIME UNLOCKS CAPITOLS  
CTRL X- INSERT SPECIAL ASCII CHARS.

HOMEWORD USES THE NEW AND UNIQUE ICONS. ICONS ARE PICTURES THAT REPRESENT SPECIFIC COMMANDS. TO SELECT A COMMAND SIMPLY MOVE THE ICON CURSOR (THE BIG WHITE FRAME) AROUND THE PICTURE OF YOUR CHOICE. TO DO THIS USE THE TWO LEFT AND RIGHT ARROW KEYS. THE SPECIFIC COMMAND CORRESPONDING TO WHAT IS INSIDE THE ICON CURSOR SHOULD BE DISPLAYED IN



Lieutenant, Captain, and Commander. Once you have successfully completed the ASSAULT Mission as Captain, you will be promoted to the rank of COMMANDER. As Captain and Commander, you will attempt the same series of missions -- but against progressively fiercer opponents.

With each promotion you will be given a secret access code that must be entered before you are allowed to select either the CAPTAIN or COMMANDER level. Unless you have been promoted, select LIEUTENANT by highlighting that option and pressing the fire button (or fire key).

CHOOSING YOUR MISSION

Next, you must choose a mission from among the five shown. Missions are listed from easiest (TRAINING) to most difficult (ASSAULT) -- the harder the mission, the less time you have to complete it.

- o TRAINING (without hostages)
- o TARGET
- o ULTIMATUM
- o RESCUE
- o ASSAULT

Move your control forward or back to highlight the mission you wish to choose, then press the fire button to select that mission.

You will direct all operations from Command Headquarters. Surveillance cameras will allow you to see what is happening at all times, and you will be in constant contact with your men; their code names are DELTA, ECHO, MIKE, HOTEL, TANGO, and BRAVO. They are all skilled professionals, but will not act without your guidance. While you are directing one man, the others will remain in their current positions.

--: { STAGE 1 } :--

THE MAP

After selecting a mission, your Command Console will display a map of the Embassy and the surrounding area. A message detailing your first operation will scroll across the screen; when you have read the message, press the fire button to continue. Note the three locations that are marked on the map with an "X." Your first assignment is to place the team's three marksmen (DELTA, ECHO, and MIKE) in these strategic locations across the street from the Embassy. Once inside the selected building, they will make their way to the roof and set up sniper positions to provide cover for the Direct Intervention Team.

"Mad Dog" Mulligan, Assault Force Commander 1987 - 1988

"Don't be tempted to put two men at the same location -- you want snipers on all three sides of the building. For maximum coverage, only one man should be placed at each target area. So what if the last guy takes a few hits -- that'll teach him to stay out of the line of fire next time..."

PLACING YOUR MARKSMEN

To control each man in turn, press the corresponding function key:

Delta: Z                      Echo: X                      Mike: C

An image of the man you are directing will appear on the map in his current location. To begin the maneuver, press the ESC key. A surveillance camera shows your marksman in his current hiding place across the street from the Embassy. Time remaining is shown on the upper left side of the Console (the game clock runs slower than real time); the name of the active man is shown on the upper right.

Terrorists sweep the area with spotlights, looking for Assault Force team members. Once the man you are directing leaves his hiding place, he runs the risk of being caught in the spotlights. If they spot him, the terrorists will immediately open fire and he will have to move quickly to avoid being gunned down. (Your marksmen are vulnerable when out in the open, since they have no protection and are not able to fire back.) The marksmen can drop, roll, duck

DOCUMENT hostage

Factus presents

HOSTAGE GS  
from Mindscape

Documentation brought to you by Commie Scum (the one and only)  
No, I am not doing this specifically for Factus

....SPECIAL ALERT....

ATTENTION ALL SPECIAL FORCES PERSONNEL: URGENT. HOSTAGE SITUATION. PREPARE FOR IMMEDIATE ACTION. TERRORISTS HAVE STORMED OUR EMBASSY AND FORCED THEIR WAY PAST THE SECURITY GUARDS. AN UNDETERMINED NUMBER OF EMBASSY PERSONNEL ARE BEING HELD HOSTAGE. THE TERRORISTS' DEMANDS ARE UNACCEPTABLE ARE NEGOTIATIONS HAVE BROKEN DOWN. THESE TERRORISTS ARE HEAVILY ARMED AND CONSIDERED EXTREMELY DANGEROUS. AS FAR AS WE CAN DETERMINE, THEY NOW CONTROL ALL THREE FLOORS OF THE BUILDING. A SIX-MEMBER ASSAULT FORCE TEAM MUST INFILTRATE THE EMBASSY, NEUTRALIZE THE TERRORISTS, AND RESCUE THE HOSTAGES BEFORE TIME RUNS OUT. THE GOVERNMENT IS COUNTING ON YOU TO AVERT A DISASTER OF INTERNATIONAL PROPORTIONS. GOOD LUCK!

....SPECIAL ALERT....

"You have your orders, Lieutenant.

High-ranking diplomats are being held at gunpoint, and it's up to you and your men to get them out alive. As you prepare for the assault on the Embassy, take a moment to read through the enclosed Briefing Booklet (he means the rest of this file). It will familiarize you with the exact maneuvers required of your team, and provides useful tips from a number of Assault Force veterans. First, make sure that all of your equipment is ready and in working order. Next, proceed to Command Headquarters, where you will direct this life-or-death operation."

--- General Walter P. O'Donnell,  
Special Forces

WHAT YOU NEED:

- o An Apple IIgs (You can have another computer if you don't mind not being able to play the game)
- o A total of 512K memory
- o Color monitor (A IIgs without color? What are they, kidding?)
- o Joystick (optional)

LOADING INSTRUCTIONS:

- o Put the game in the drive and boot the damn thing!

-- TACTICAL UNIT BRIEFING BOOKLET --

It is your responsibility, LIEUTENANT, to direct the 6-member Assault Force team in a daring rescue attempt. Your objective is to bring all the hostages to safety and neutralize any terrorists who open fire. Time is crucial, so you will also be judged on how quickly your men complete the operation. You are given the choice of five missions; each one allows you less time than the last. To succeed, you must rescue all the hostages without losing any men... and complete your mission before time runs out.

After reading the message on your monitor, press the fire button (or fire key) to begin.

YOUR RANK

You will be given the opportunity to attempt missions at three levels ---

into doorways, or dive through windows to avoid the gunfire.

```

- CONTROLS -
      STANDING UP
      Hide
      ^ ^
      /   \
  Run left <- oo -> Run right
      \   /
  Roll left || Roll right
           ||
           Drop
      LYING DOWN
      Stand up
      ^
  Crawl left <- o -> Crawl right
  
```

To PAUSE the game, press the "P" key; press any other key to resume play. Move the joystick left, right, or back to leave your hiding place. If your man is lying down and does not crawl in either direction, he will automatically stand back up. If you do not move your man, he will automatically hide in the nearest location after a few seconds.

If one of your marksmen is gunned down on the street, you must return to the map and select another man (by pressing his function key). When your last man is in position, you are given the option of starting over or proceeding to the next stage. NOTE: If all three marksmen have been killed, you MUST start over.

---: { STAGE 2 } :---

## THE ROOF

Once your marksmen are in place, a helicopter will carry the three-member Direct Intervention Team (HOTEL, TANGO, and BRAVO) to the roof of the Embassy.

Once your men are on the roof, the Console screen will display a map of the Embassy and the surrounding buildings. An "X" shows the position of each man on the roof, as well as the locations of the men stationed across the street. The "X" of the active man is shown in red; the others are shown in white. The name of the man currently under control is shown on the upper left side of the Console. You may switch to a different team member at any time simply by pressing the corresponding key:

```

Delta: Z      Hotel: V
Echo : X      Tango: B
Mike : C      Bravo: N
  
```

A control panel on the right side of the Console shows the time remaining and the names of the surviving team members. If one of the team members is in immediate danger, his name will begin to flash. In this case, you should switch to that man and take whatever action is necessary to prevent him from being killed.

## USING YOUR MARKSMEN

By selecting one of the marksmen across the street from the Embassy, you can survey the side of the Embassy in his field of vision. To view the Embassy from the vantage point of a marksman, select that man and press ESC. The Console screen will show your marksman on the left, and a view of the Embassy as seen through his gunsight on the right.

Move the joystick to move the gunsight around the screen (keyboard users should press the corresponding direction keys). When the gunsight is within range of a window, a dot will appear in the middle of the cross hairs. To shoot, press the fire button while the dot is visible. Press the ESC key to return to the map screen, or activate another man by pressing his function key.

R.J. Richter, Assault Force Captain 1980 - 1984

"Think twice before you order a marksman to shoot -- the person in his gunsight may be a hostage, or even one of his own team. Be sure to scope out the situation using a man on the inside before you make your move."

## RAPPELLING

The Direct Intervention Team (HOTEL, TANGO, and BRAVO) must gain access to the Embassy by positioning themselves on the edge of the roof, rappelling down the side, and breaking in through a window. To select one of these men, press the corresponding key. Next, you must position your man on the edge of the roof. Press the fire button to cycle through the available positions. When you have selected a position, press the ESC key to view the man as he prepares for his descent. Follow the instructions below to direct your man as he descends from the roof.

- CONTROLS -

```

      Climb up
      ^
  Stop <- o -> Descend
  
```

PUSH AWAY: Fire button

First, press fire to have your man push away from the wall. (The longer you hold down the fire button, the further he will push himself away from the wall when the button is released.) Let go of the fire button and quickly move the joystick right to have the man begin his descent; move the joystick left to stop his descent. If your man descends too far and ends up below the first floor windows, you can have him climb up the rope by pushing the joystick forward. (To perform these maneuvers with a keyboard, simply press the corresponding keys.)

## BREAKING A WINDOW

As he approaches a window, your man must stop his descent quickly and attempt to break the glass with his feet. (NOTE: Even if a window has already been broken by one of your men, the next man must still "break" through it.) Once the window is broken, your man will automatically enter the building. Watch out for terrorists inside the Embassy, who can shoot your men through the windows!

"Gunner" McGraw, Assault Force Lieutenant 1977 - 1980

"To hit a window with enough force to break it, you have to push as far away from the building as possible. Also, it's a lot safer to descend in a series of short jumps. If you get moving too quickly, you may not be able to stop in time and you'll hit the sidewalk like a ton of bricks -- I lost a couple of rookies that way..."

---: { STAGE 3 } :---

## INSIDE THE EMBASSY

Once inside the Embassy, a view of the room your man is in is displayed on the right side of the Console. Above this screen is the name of the man currently being controlled. A control panel on the left shows the time remaining, and surviving team members. If one of the team members is in immediate danger, his name will begin to flash. In this case, you should switch to that man and take whatever action is necessary to prevent him from being killed. A mini-map is shown in the center of the control panel.

## THE MINI-MAP

The mini-map shows the rooms and hallways of the floor that your man is on.

By noting where he came in, you will be able to pinpoint his location on the map and then follow his progress as he moves from room to room. The floor number is shown in the lower right corner of the map. Use the stairways on the east side of the building to move to a different floor; the stairs to a higher floor are marked with an up-arrow, the stairs to a lower floor with a down-arrow.

## Additional Mini-Map Clues:

As LIEUTENANT, you are given additional clues on the mini-map that show you the location of your men as well as that of the terrorists and hostages. The man you are directing is indicated by a small red arrow; other men are indicated by red dots; terrorists are indicated by yellow dots, hostages by white dots. As CAPTAIN, you will see terrorists and hostages ONLY WHILE YOU ARE IN THE SAME ROOM WITH THEM.

Richard M. Lawrence, Assault Force Commander 1969 - 1977

"Pay attention to your surroundings and try to learn the layout of the Embassy like the back of your hand. Take advantage of the extra clues on the mini-map -- once you're promoted, you won't have that luxury anymore..."

```

- CONTROLS -

      Forward
      ^
Turn left < - o - > Turn right
      |
      Turn around

FIRE: Fire button
  
```

## MOVEMENT

-----

Move your man forward and turn left or right by moving the joystick in the corresponding direction. To turn completely around, pull the joystick back. Inside a room, your movements will always place you WITH YOUR BACK TO A WALL (or doorway), facing the center of the room. Move the joystick left to face left; move the joystick to face right. Push the joystick forward to move forward through a doorway. If you move forward toward a wall, you will automatically turn around so that your back is to the wall. If you are in a doorway, pull the joystick back to turn completely around; if your back is to a wall, you will not be able to turn around.

Commie Scum, Hostage GS expert 1990 - ?

"Steering yourself through hallways is a lot easier, but maneuvering around in rooms is a bit tricky and will take a little getting used to. But don't worry; it'll come to you in no time. After all, if you're smart enough to own an Apple IIgs personal computer, don't you think you'd be able to figure out some silly game controls?"

## TERRORISTS

-----

When you encounter a terrorist, be prepared to kill... or be killed! Press the fire button to shoot. (You have unlimited ammunition.) While the fire button is pressed, move the joystick left or right to move your weapon in the corresponding direction. Pull the joystick back to shoot higher, and push it forward to shoot lower. (These are like the controls to an airplane, right?)

Terrorists move quickly from room to room, and may hide behind other terrorists or a hostage. Hostages will only move if they are accompanied by a team member or a terrorist; if you see a hostage moving, you can be sure that there is a terrorist behind him! If a terrorist is guarding a hostage, you must try to kill the terrorist without harming the hostage.

Vincent "Hit Man" Perelli, Assault Force Captain 1983 - 1986

"If you're in a room with a terrorist, you won't be able to move to the same side of the room as the terrorist. If a terrorist is behind a door, you won't be able to go through that door until he moves away."

## RESCUING THE HOSTAGES

-----

The hostages are scattered throughout the Embassy, and can be alone or guarded by terrorists. When you meet face-to-face with a hostage, he will automatically follow you (as long as another hostage is not already following you). In order to secure the hostages you must move them all, one by one, to the small room in the upper right corner of the third floor (the room without any windows). Once you lead a hostage into this room, he will remain there and will not follow you out.

As a Lieutenant, you will be able to locate the hostages and terrorists easily by using the clues on the mini-map. As a Captain or Commander, you will have to search each floor room by room to find all the hostages. Once you have placed hostages in the corner room on the third floor, keep an eye on the stairways -- terrorists may go after them while you are searching other floors.

DON'T FORGET THAT YOU CAN CONTROL ANY (SURVIVING) TEAM MEMBER SIMPLY BY PRESSING THE KEY FOR THAT MAN -- SUCCESS DEPENDS ON YOUR ABILITY TO COORDINATE THE EFFORTS OF THE ENTIRE TEAM.

--: { STAGE 4 } :-

(Actually, there is no real Stage 4 in the game, but the manual has a section entitled "Stage 4". Go figure!)

## THE OUTCOME

-----

When your men have secured all the hostages, or killed all the terrorists (or if all three members of your Direct Intervention Team have been wiped out), the final screen will appear. Press the fire button to get an assessment of your performance.

Your mission is a success if you manage to kill all of the terrorists or regroup all of the hostages in the third-floor room, without losing any of your men.

Character needed (example: Open Apple 'P' + 'N' this will show you the actual character in inverse like this ) By using certain of these you turn on Sub Functions like Mousetext, whatever is after the Ctrl-P in the file will be converted to its Mousetext Equivalent [Chart --A.2--] (Not all Keys have Mousetext equivalents).

Viewing PSE with Proterm outside of a BBS

- [1] Boot Proterm 1.9 or Better
- [2] Use the 'Open Apple/Control/T' command to put Proterm into a fake Online Mode
- [3] Now use the Open Apple 'O' command to edit the online parameters.  
  
Press Return until you reach 'Duplex', change this to Half. Change the 'Status Bar' to -No- status bar. And then change the Emulation to 'Proterm Special'
- [4] Now use the Open Apple 'S' command (Send) and choose ASCII send
- [5] You can either send a PSE file from disk or from the Copy Buffer, so choose whichever.
- [6] Now, Edit the ASCII send Parameters like this:

Change the line width to 'AA'  
Use the left arrow key to change the Inter-Char and Inter-Line to '0'  
Now send... it should goto the screen, if not, recheck the Online parameters, and make sure you are in half duplex.

Chart [--A.1--]  
Pse Control Characters

(OA-P = Proterms Open Apple 'P' Ctrl Char Command)  
(These PT keys -ONLY- work in Proterm, SS allows limited use of Ctrl Cmds)

| Ctrl Char's | PT Key's | Description                                                                                        |
|-------------|----------|----------------------------------------------------------------------------------------------------|
| O           | OA-P 'O' | Turns on the 'Inverse' Command (inv=on/mt=off)                                                     |
| P           | OA-P 'P' | Turns on the 'Mousetext' Command (Inv=off/mt=on)<br>(^^Look to chart [-A.2-] for Mousetext Info^^) |
| N           | OA-P 'N' | Turns off both the Moustext and/or Inverse Cmds                                                    |
| H           | OA-P 'H' | Move cursor Left one space                                                                         |
| U           | OA-P 'U' | Move cursor Right One Space                                                                        |
| K           | OA-P 'K' | Move cursor up one line                                                                            |
| J           | OA-P 'J' | Move cursor down one line                                                                          |
| I           | OA-P 'I' | Move cursor to next TAB (Tab's are every 8 spc's)                                                  |
| A           | OA-P 'A' | Move cursor beginning of line                                                                      |
| B           | OA-P 'B' | Move cursor to end of line                                                                         |
| X           | OA-P 'X' | Moves cursor to Home Position (0,0) w/o Clearing                                                   |
| D           | OA-P 'D' | Delete cursor's current position                                                                   |
| F           | OA-P 'F' | Insert a space at cursor                                                                           |
| Z           | OA-P 'Z' | Delete Current line                                                                                |
| V           | OA-P 'V' | Insert a Blank line at cursor                                                                      |
| Y           | OA-P 'Y' | Delete from cursor's position to end of line                                                       |
| W           | OA-P 'W' | Delete From Cursor to end of screen                                                                |
| L           | OA-P 'L' | Clears Screen and moves Cursor to Home pos (0,0)                                                   |
| G           | OA-P 'G' | Sounds Apple's --Bell--                                                                            |

The next chart [--A.1b--], contains more Ctrl Chars, but these require a better explanation, they are MORE involved

Chart [--A.1b--]

DOCUMENT how.to.pse.ptl

An Ace Mccoy / Wetware Inc. Production...

```

-- This a one of a series of files --
-- Written to help Modemers learn to --
-- write PSE ads/Animations..... --
-----
-- Proterm Special Emulation --
-- ..... --
-- How to Guide --
-- --
-- Written By Ace Mccoy --
-- Nov 30,1990 --
-----

```

Proterm Special Emulation

First of all ill just explain what this is, for those who dont know...

PSE is a special 'Apple' emulation developed by the makers of Proterm (an apple Terminal program) they took the idea of DataMedia Emulation (the use of inverse blocks and characters over the modem for crude graphics further by adding the capability of also using the apple's built in 'Mousetext Characters'. This allowed for an interesting way to 'Liven' up Bbs', menu's were no longer just text, but now could be snazzy and eye-catching...

To use Proterm special in the begining you had to have Proterm version 1.9 or better, and you also needed a BBS that supported PSE. By setting the Emulation to 'Proterm Special' when calling a PSE Bbs, you would then see any PSE the board used... At first it was quite the trend, but like all things it died out eventually, and was seen here and there. But in the last few years it has come back into use for Bbs' and Advertisements for Bbs', along with some imagination, PSE was responsible for some of the best Bbs' seen...

'Emulation'

Quick reference for using the Emulation

- [1] Boot up Proterm 1.9 or Newer (current is 2.2)
- [2] Once at the Main Menu, you must goto your dial list (cmd 'D') and choose or add a PSE Bbs.
- [3] If Editing an old Bbs dial data, you must choose 'EDIT'.

Now press return untill the highlighter is on 'Status Bar: Yes No'  
When using a PSE Bbs, it is best to turn off yuor status bar so that any PSE they use wont be messed up by the missing screen area... now rtn, This gives you the 'Terminal Emulation' Prompt, use your left and right arrow keys to flip through the supported emualtions until you find 'Proterm Special'. Press return until you are back at the 'Dial' prompt (Proterm will save the newly edited Spec's to Disk)

- [4] Now.. whenever you dial that BBS, you can view whatever PSE they have!

Proterm Special Charcters (Control & Moustext)

When using PSE, you have the ability to Turn on & off the different functions such as 'Mousetext', 'Inverse', and Ascii. You do this by using the Control characters given in chart [--A.1--] & [--A.1b--], These Control Chars have various functions, from screen movement to Insert/Deletion. Depending upon how you are typing up a PSE file, you might not have access to most or all of these options. When using the Proterm Editor you may use all of these options by pressing :Open Apple 'P': then you type the actual

Control Characters:: Complicated

Control 'R'::::[Repeat]::::::::::

This Control function is used when repeating one Character 3 or more times in a horizontal line (ie: Top of a box) it is used like so:

----- AB -----

'A' stands for the Actual Character you wish to repeat  
'B' stands for the ascii equivalent of the number of times you want it repeated

(ie: Line of 64 equal signs would be --> =@)

Control 'T'::::[Tone]::::::::::

This is the PSE sound generator command, with some skill you can use this to play simple songs... it is used in this format:

----- T1T2D -----

'T1' stands for Sound Tone 1  
'T2' stands for Sound Tone 2  
'D' stands for Duration

For a single tone use the same value for T1 and T2, dual tone use Diff values for both...

Control 'E'::::[PSE Detect]::::::::::

This is sent out by a BBS to detect wether PSE is allowed by the User. If the user does have PSE active, a control-] is sent back (Ascii 29) It gives an easy way to detect PSE users for ASCII/PSE BBS's

Control '^'::::[Position]::::::::::

This is an easy way to Position the Cursor anywhere on the screen. It is used like this:

----- -AB -----

'A' stands for the Ascii equivalent of the Horizontal position +32  
'B' stands for the Ascii Equivalent of the Vertical position +32

(ie::Positioning the cursor at 'horizontal=5 and Vertical=5' would look like this: 5+32= 37 / Ascii(37) = % ----->> -% real easy!!)

Chart [--A.2--]  
Characters to Mousetext Covernion table

| Character | Description                                              |
|-----------|----------------------------------------------------------|
| A         | Hollow Apple shape (apple //) Hollow triangle (Laser128) |
| B         | Pointer, solid upside down check                         |
| C         | Hour Glass shape                                         |
| D         | Check mark                                               |
| E         | Inverse Check mark                                       |
| F         | Left half of a running man                               |
| G         | Right half of a running man                              |

|   |                                                         |
|---|---------------------------------------------------------|
| H | Left arrow shape                                        |
| I | Grey Underscore (cursor)                                |
| J | Down arrow shape                                        |
| K | Up arrow shape                                          |
| L | Line at top of cursor                                   |
| M | Carriage Return (Bent Arrow)                            |
| N | Inverse Block                                           |
| O | Inverse Left arrow                                      |
| P | Inverse Right Arrow                                     |
| Q | Inverse Down Arrow                                      |
| R | Inverse Up Arrow                                        |
| S | Line in middle of cursor (dash, but longer)             |
| T | An 'L' shape                                            |
| U | Right Arrow Shape                                       |
| V | Left half of Grey Block                                 |
| W | Right Half og Grey Block                                |
| X | Left half of a File Folder shape                        |
| Y | Right Half of a file folder shape                       |
| Z | Line at far right of cursor                             |
| [ | Solid Diamond Shape                                     |
| ] | Converging Line Plus Sign                               |
| ^ | Line at far left of cursor                              |
| ~ | Box with Dot in center (minus left 'side')              |
| 2 | Solid Apple shape (Apple //) Solid Triangle (Laser128)  |
| \ | Double line, One at top and bottom of cursor (parallel) |
| ? | Line at bottom of cursor                                |

The end.....

Well, this is just file one, the next files will discuss techniques of making Fast/small PSE files, as well and hints on animation

Also, there will be specific files or parts of files discussing the different PSE editors out (Thier good & Bad points!!)

Thank you all, Ace Mccoy

-----  
Call these Bbs's                      708/312 area code!  
-----

|                         |              |                                      |
|-------------------------|--------------|--------------------------------------|
| Black Dragon Society // | 708-510-0404 | Running DDBBS/Awsome Game & Msg area |
| Martial Art Academy     | 708-967-7503 | Running modified Tac+ -- Cool BBS    |
| The Gallery             | 708-656-5355 | Running Modified GBBS/Awsm Gms/Msgs  |
| Gates of Delerium       | 708-881-1811 | Running modified Infinity Gs--Cool-- |

-----  
End.....

last position and then assemble the string after it. Like so....

```
=====
DOCUMENT how.to.pse.pt2
=====
```

An Ace Mccoy / Wetware Inc. Production...

```
-----
-- This is part of a series of files --
-- Written to help Modemers learn to --
-- write PSE ads/Animations..... --
-----
-- Proterm Special Emulation --
-- :::::::::::::::::::::::::::: --
-- How to Guide --
-- :::Part 2::: --
-- --
-- Written By Ace Mccoy --
-- Jan 23,1991 --
-----
```

Hello, yes, finally i have been talked into writing part 2 and soon part 3 of this series... maybe more?? Dunno, but i am thinking of writing my very own Pse editor which will incorporate some of the best editors into a single easy to use program... well on to the file.

Proterm Special Emulation::: Speed and Size!

Speed in Pse is a very touchy subject, alot of the best heavy pse games and Boards out are slow and clunky... people still refuse to do the extra work required to make Pse go like lightening. Size, with the use of message bases to distribute Pse ads and animations, people started to worry about size. The normal Msg base has a 4k limit on messages entered or uploaded, although this is plenty for a nice ad, some ads are chopped off, many dont work at all! This is why you are going to learn about giving speed and size to Pse ads and animations!

Speedy Pse...

In using Pse you can do a number of things that will speed up those ads, most will be covered, those that arent will be at a later date once you've become Pse affluent...

```
-----
<Control>-^ This Ctrl-^ function is used to position the cursor. If they
are used to reposition the cursor space by space (like Street
Scenes) the extra commands tend to slow the pse. So in order to
speed up Pse, you should remove all extra ctrl-^'s used...
```

Extra Ctrl-^'s are used when you are positioning the cursor constantly space after space to print a horizontal sentence or string like so:

```
-abH-bbE-cbL-dbL-ebO-fb!-gb!-hb! (output line:66 columns:65-72 )
```

(this prints the string 'HELLO!!!')

Not all pse printing is done Horizontally, so it is best to first get the useable code. First make sure all of the parameter #2's are the same, this means they are printed on the same line. Now use the Ascii table to figure if the parameter #1's are in ascending order, (pse may be printed right to left, change for speed, but leave it if it is for effect) that is if it starts at a low column position and increases by one for each space.

Once you have the code you wish to use, printing in left to right order (if parm #2's are in decending order, just flip it, use the

```
-abHELLO!!! (output same as above)
```

(Still prints 'HELLO!!!')

This also works for repedative strings like 'xxxxxxxxxxxxxxxxxxxx' But there is an even faster way to do those...

```
-----
<Control>-R This function is used when repeatedly printing characters
horizontally (example 'xxxxxxxxxxxx'), if you print the
char in a line of 3 or more, you will save alot of wasted
time...
```

A line printed like this::

```
-ab<-bb<-cb<-db<-eb<-fb<-gb<
```

Will give an output of '<<<<<<<' at line:66 columns:65-71 this may be speeded up using the Control-^ idea like so:

```
-ab<<<<<<<
```

but this is made even faster by using the repeat char function, this function was explained in file 1 but will be repeated here in the appendix. Anyways, by using the Ctrl-R you will gain alot of speed... like so:

```
-ab<
```

This does the same thing, just alot faster... remeber, look to file #1 for Ctrl-R info... some is also given at the end of this file...

```
-----
Size... it really does matter!!
-----
```

Size in Pse ads is usually not a problem, seeing as you have a whole 4k to use that is... But in some really good ads where room is used in large amounts, it is best to try and shorten the file by removing unneeded characters...

Here are some of the most common space wasters in pse ad's::

- [1] Excess use of Ctrl-^'s... this was covered earlier in the file... it will make the pse faster and smaller.
- [2] Repeated characters without using ctrl-R. Use Ctrl-R whenever possible... it save alot of room and speed. It was also covered earlier.
- [3] Printing over 4 Spaces in a string when not needed. If you print a string like:

```
-abABCDEFGHGIJKL MNOPQRSTUVWXYZ
```

You can save time and space by either replacing the spaces with a Ctrl-R of the equivalent number of spaces, or remove them and just use a Ctrl-^ to reposition the cursor to print the rest of the string that many spaces away... these are used like so:

```
Ctrl-R: -abABCDEFGHGIJKL MNOPQRSTUVWXYZ
```

```
Ctrl-^: -abABCDEFGHGIJKL-zbMNOPQRSTUVWXYZ
```

Both are the same size... but the Ctrl-R wastes a little time by printing the spaces, either will work though.

===== DOCUMENT iconed =====

Well... this isnt as comprehensive as i had hoped... but it is fairly easy to understand for a person who read and understood the first part of this series. Look for updates to the series giving more detail and information, possibly, if i follow through, you will see a fully featured Editor combineing the abilities of all of the best editors... it will even do speed and size editing (fudgepacking) on its files...

Dont get your hopes up though, you might just see improved or rewritten Street Scenes or Fudgepackers before then...

>>>>>> Appendix <<<<<<<<

Control 'R':::[Repeat]::~::~:

This Control function is used when repeating one Character 3 or more times in a horizontal line (ie: Top of a box) it is used like so:

----- AB -----

'A' stands for the Actual Character you wish to repeat  
'B' stands for the ascii equivalent of the number of times you want it repeated

(ie: Line of 64 equal signs would be --> =@)

----- Control '^':::[Position]::~::~: -----

This is an easy way to Position the Cursor anywhere on the screen. It is used like this:

----- -AB -----

'A' stands for the Ascii equivalent of the Horizontal position +32  
'B' stands for the Ascii Equivalent of the Vertical position +32

(ie::Positioning the cursor at 'horizontal=5 and Vertical=5' would look like this: 5+32= 37 / Ascii(37) = % -----> -% real easy!!)

(Look to How.to.pse.ptl for more indepth info on PSE)

----- Call these Bbs's 708/312 area code! -----

|                         |              |                                      |
|-------------------------|--------------|--------------------------------------|
| Black Dragon Society // | 708-510-0404 | Running DDBBS/Awsome Game & Msg area |
| Martial Art Academy     | 708-967-7503 | Running modified Tac+ -- Cool BBS    |
| The Gallery             | 708-656-5355 | Running Modified GBBS/Awsm Gms/Msgs  |
| Gates of Delerium       | 708-881-1811 | Running modified Infinity Gs--Cool-- |

----- End..... -----

IconEd 1.3

Copyright (c) 1988, Paul Elseth  
Documentation version 11/23/88 (4th draft)

IconEd is a shareware program for creating and editing Apple IIGS icons. With IconEd, you can change the appearance of icons, change the names of their files, and tell the Finder where to find the application that created a particular document file. You can also add icons to and remove icons from existing icon files, as well as copy icons between files. In short, IconEd is a complete icon maintenance utility.

Please note that IconEd is \_shareware\_, not public domain. You are welcome and encouraged to give copies away to anyone and everyone. If after using IconEd for a trial period you find is useful, you should send in the shareware fee of \$15 (see below). If you do not want to pay the shareware fee, you should stop using IconEd.

-- Any commercial distribution of IconEd is expressly forbidden without -- prior written permission from the author.

I plan frequent and substantial improvements (and bug fixes), so registering would definately be to your advantage.

Here is the shareware deal:

When you send your \$15, I will send you back a 3.5" disk with the latest version of IconEd, plus the next update free. After you register your copy of IconEd with me, you may use any future updates free. Updates ordered directly from me will cost five dollars or three dollars plus a blank disk.

Send your \$15 to:  
Paul Elseth  
2739 Fairview Ct SE  
Rochester, MN 55901

CompuServe: 73457,226  
BIX: pelseth  
ALPE: PELseth

NOTE: Apple IIGS, GS/OS and Finder are trademarks of Apple Computer, Inc.

----- MENU REFERENCE -----

APPLE Menu

About IconEd...  
gives the version number and brief shareware information about this copy if IconEd.

FILE Menu

New  
Use New to create a new file of icons. A new icon window will appear, titled "Untitled.On", without any icons in it. You may copy icons from other icon windows, or create new icons from scratch.

Open

Use Open to load an existing icon file from disk. Icon files are usually stored in the folder called ICONS in the main directory of a disk. There must be a file called FINDER.ICONs in the ICONS folder on the boot disk. In addition, any disk can contain a folder called ICONS containing additional icons (see ICONS AND THE FINDER below). IconEd can handle any number of icon files open simultaneously.

## Close

Close closes the front window. If the front window is an icon file window and changes have been made to that file, you will be asked if you want to save the changes (just like selecting Save from the FILE menu).

## Save

Saves the front icon file using it's current name. If you originally loaded this file from disk, it will be saved in the file it was loaded from. If this is a new icon file, you will be given a chance to indicate where you want the file save (just like using Save as... from the FILE menu). If you've moved the icons in the window, the new positions are not saved with the file, however, the current order of the icons \_is\_ saved.

## Save as...

Similar to Save, but allows you to change the files name, and select where to save the file. If you want to Finder to use the icons in the current file, save it in the ICONS folder on the boot disk (or in the ICONS folder on another disk).

## Save as source...

Saves the front icon file as an APW ASM65816 source file. This option can be used to generate source code for icons to be included in a program.

## Quit

Use quit to leave IconEd. If you have any changed icon windows open on the desktop, you will be asked if you want to save them before quitting.

## EDIT Menu

### Undo

Undo will cancel the last change editing change made in the Fat Pixels window.

### Cut

Cut will copy the first selected icon in the front window to the clipboard and remove the icon from the window. Cut will allow icon images to be "exported" into any program that supports the graphic clipboard.

### Copy

Copy copies the first selected icon in the front window to the clipboard without removing it from the window. Copy will allow icon images to be "exported" into any program that supports the graphic clipboard.

### Paste

Paste will copy a previously cut or copied icon from the clipboard to the front icon window. Paste also allows graphics to be "imported" from any program that properly supports the graphical clipboard, such as Deluxe Paint II. Note that icons in IconEd use 640 mode (with dithered colors). If you copy an icon from a program in 320 mode, you may end up with an icon of only the left have of what you intended. If this happens, either convert the original to 640 mode, or cut a section twice as wide as the intended icon. I am looking into this, and will hopefully come up with a better solution soon.

### Clear

Clear removes the first selected icon without copying it to the clipboard.

### Revert

Similar to Undo, but more extreme. Revert changes the icon being editing

in Fat Pixels back to it's original form.

## SPECIAL Menu

### Cleanup

Cleanup repositions the icons in the front window in the current order (which can be changed by dragging the icons in the window - see REORDERING ICONS below).

### Select all

Select all selects all of the icons in the front icon window.

### Add new icon

Use Add new icon to create a new icon in the front icon window. Add new icon creates a generic document icon which can be edited to your liking.

### Fat pixels

Use Fat Pixels to edit the first selected icon in the front icon window. This option will bring up the Fat Pixels window which allows you to change the appearance of the icon.

### Edit attributes...

Edit attributes allows you to change the filename, file type, aux type, and application pathname associated with the currently selected icon.

### Colored mask

The colored mask option allows color in the icon mask. This provides for "special effects" when the icon is selected. Experiment.

### Copy icon to mask

Copies all the pixels in the icon image to the icon mask in the Fat Pixels window. All colors except white are copied as black.

### Copy mask to icon

Copies all the pixels in the icon mask to the icon image in the Fat Pixels window.

### Fill image

Fills the icon image in the Fat Pixels window with the currently selected color.

### Fill mask

Sets the icon mask in the Fat Pixels window to all black pixels. (If Colored mask option is selected, Fill mask will set the icon mask to the current color.)

### Clear mask

Clears the icon mask in the Fat Pixels window to all white pixels. (If Colored mask option is selected, Clear mask will clear the icon mask to all black pixels.)

## VIEW Menu

### by icon

Displays all of the icons in the front icon window in their large icon form. If the Fat Pixels window is currently in front, displays the large icon for editing.

### by small icon

Displays all of the icons in the front icon window in their small icon form. If the Fat Pixels window is currently in front, displays the small icon for editing.

### by name

Displays the filename associated with each icon beneath the icons in the icon windows.



by application

Displays the application pathname associated with each icon beneath the icons in the icon windows.

## COLORS Menu

The colors menu allows you to select the current color for editing icons in the Fat Pixels window. This menu is only active when the Fat Pixels window is in front.

For convenience in selecting colors, the Colors menu can be "torn-off", and placed anywhere on the screen. To tear off the Colors menu, pull it down, and hold the mouse button down while dragging the mouse off the menu proper. An outline of the menu will follow the cursor around the screen - just like moving a window. When the mouse button is released, the Colors menu will be placed at the current point on the screen. The torn-off Colors menu can be moved or closed just like a window. The torn-off menu is only active when the Fat Pixels window is current (the menu's title bar will be gray, instead of white).

## ICON FILE WINDOW REFERENCE

Icons may be selected by clicking on them with the mouse. Icons turn black to show that they are currently selected. A group of icons may also be selected together. To select a group of icons, press the mouse button and drag. A gray rectangle outline will stretch out with the mouse. Any icons within the rectangle will be selected.

Icons may be reordered by dragging them in the window. Although the new order will be maintained, the exact new location is `_not_` saved with the icon file.

If an icon or group of icons is dragged into another icon window, those icons are copied to that file.

Double-clicking on an icon allows you to edit that icon in the Fat Pixels window.

## FAT PIXELS REFERENCE

The Fat Pixels window is used to change the appearance of an icon. Each pixel in the icon is "blown-up" to four times its normal size in the Fat Pixels window.

An icon is made up of two parts: the icon image, and the icon mask. The icon's image defines the colors of the icon, while the mask generally defines its shape. When the Finder draws an icon on the screen, the image is "masked" against the icon mask. Every black pixel in the mask allows the corresponding image pixel to be displayed, while the white pixels in the mask allow the background to show through. The icon image may be edited using all sixteen colors, while the mask normally may only be black and white.

If the Colored mask option is selected, masks may also consist of all sixteen colors. With colored masks, white pixels allow the corresponding image pixel to be displayed, while black mask pixels allow the background to show through. This is the reverse of when Colored mask is off. The purpose of colored masks is to allow a selected or "open" icon to be colored also. Experiment with colored masks, and watch the sample icons to see what happens. Note that to prevent confusion, you should generally not switch Colored mask mode between on and off repeatedly during an edit session.

To the right of the icon mask is the actual icon as it would appear in the Finder, shown normal, selected, and open - on both on white and colored backgrounds.

Beneath the icon image is shown the current height and width of the icon.

On the lower-right corner of the icon image is a small square - the icon "grow box". Dragging the grow box will change the size of the icon, similar to the grow box on a regular window. If an icon is intended to be used with the Finder, the large icon should be around 16x16 pixels. The small icon cannot be resized - it is always 8x8 pixels.

Colors for editing the icon image can be selected from the Colors menu. For convenience, the colors menu can be "torn-off" and placed near the Fat Pixels window. A color can also be "picked-up" from a color in the image by holding the "apple" key while clicking on a pixel. If you change a pixel by mistake, clicking on it a second time will change the pixel color back.

Clicking on a pixel in the icon mask simply toggles the color of the clicked-on pixel. You cannot "pick" colors from the icon mask unless Colored mask is on. If Colored mask is ON, the mask pixels work just like the image pixels.

At the top of the Fat Pixels window (in the "Infobar"), IconEd displays the location (offset) of the pixel under the cursor in either the image or the mask. This will make it easier to align parts of the mask to the corresponding parts of the image.

The icon being edited can also be "shifted". Holding down the shift key while the cursor is in the image area changes the cursor to the "shift cursor" which appears as arrows pointing in all four directions. Clicking on the image with the shift key down and dragging allows you to move the icon image around. When you release the mouse button, the image and mask will be shifted to the new location (the image and mask can only be shifted together).

## ICON ATTRIBUTES REFERENCE

Every icon dealt with by the Finder has associated with it four attributes: file name, file type, auxiliary type, and application pathname. These four attributes help the Finder to match files with their icons.

Document icons will generally use only the file type, aux type, and application pathname. Application icons will generally use the file name and type.

### Name to match:

The file name of the icon matches the name of the file the icon belongs to. The "\*" character can be used as a wildcard character to match "don't-care" sequences of characters. For example:

|         |                                                    |
|---------|----------------------------------------------------|
| ICONED  | will match only a file called ICONED               |
| *.ICONS | will match any file with a name ending in ".ICONS" |
| *       | will match any filename                            |

### File type to match:

The file type matches the type of the file the icon belongs to. A file type of \$0000 matches any file type. The file type can either be selected from the list provided or entered, if it does not appear in the type list. The filetype can also match hardware devices. Appendix B contains a list of file types and devices currently included in the IconEd list.

### Aux type to match:

The aux type matches the auxiliary filetype of the file the icon belongs to. An aux type of \$0000 matches any aux type.

### Application pathname:

This field is used by document icons only. When a document is opened from the Finder, the Finder attempts to run the application that created the document. The application pathname associated with the icon tells the Finder what program to launch. This field must contain the `_full_` pathname of the application.

The pathname cannot include a wildcard character. If the first character of the application pathname is a "\*", it is taken to symbolize the boot disk. You should always indicate the boot disk with "\*" rather than its literal name.

ICONS AND THE FINDER

The Apple IIGS Finder gets it's icons from the files in the ICONS subdirectory on any disk. The icons can be in any file with a type of \$CA (ICN) in the ICONS subdirectory. The only required icon file is the file called FINDER.ICONS in the ICONS subdirectory on the boot disk. This file contains the generic icons and icons for disks and disk devices. When the finder searches for an icon to match a particular file, it searches through all the icon files found, searching FINDER.ICONS last, so the icons in FINDER.ICONS are used only if another match is not found. You should normally not add any new icons to FINDER.ICONS. When you create new icons for files and documents, it is best to put them in another file, leaving FINDER.ICONS uncluttered, and used only for generic icons.

Any time a new disk is inserted into a drive, the FINDER checks for an ICONS subdirectory on that disk, and loads any icon files it finds there. Most application disks will have an ICONS subdirectory containing a file with the icons that are specific for that application.

When a document is opened from the Finder, it tries to run the document's application from the application pathname associated with the document's icon. This means that if you move or rename an application, it's document icon must be changed to reflect the new pathname.

REORDERING ICONS

New in version 1.3 of IconEd, the icons in an individual icon file can be reordered. When an icon is dragged to a different position within it's window IconEd reorders the icons internally to reflect the new order. The first icon in the file is always in the upper-left corner, while the last icon is always in the lower-right corner. If things become somewhat muddled, selecting Cleanup from the Special menu will redisplay all the icons in the current order.

Reordering icons can be useful since when the Finder is searching for an icon for a particular file, it searches only until the first matching icon is found. Therefore, the most general icons (such as the generic file icon) must appear last in each icon file. For example, the icon for IconEd (name = "ICONED\*") must appear before the generic GS/OS application icon (name = "\*\*") otherwise when the FINDER is looking for an icon for ICONED, it will stop when it finds the generic GS/OS application icon, and use it.

Note that since the FINDER.ICONS file is always last in the list, generic type icons should generally be in FINDER.ICONS.

Appendix A: ICON FILE STRUCTURE

This is a brief description of the format of an icon file on the disk. Fields used by the Finder internally are filled with zeroes in the disk file.

ICONBLK (icon file):

|           |             |                                      |
|-----------|-------------|--------------------------------------|
| IBlkNext  | LONG        | ;used internally by the Finder       |
| IBlkID    | WORD        | ;ID number for this ICONBLK (\$0001) |
| IBlkPath  | LONG        | ;used internally by the Finder       |
| IBlkName  | BYTE[16]    | ;used internally by the Finder       |
| IBlkIcons | ICONDATA[n] | ;list of icon records                |

ICONDATA (icon record):

|           |          |                                           |
|-----------|----------|-------------------------------------------|
| iDataLen  | WORD     | ;length of the record (0 terminates list) |
| iDataPath | BYTE[64] | ;application pathname                     |
| iDataName | BYTE[16] | ;file name associated with this icon      |
| iDataType | WORD     | ;file type associated with this icon      |
| iDataAux  | WORD     | ;aux type associated with this icon       |
| iDataBig  | ICON     | ;icon image data                          |

iDataSmall    ICON                   ;small icon image data

ICON (icon record - see QDAux chapter in ToolBox Ref II for more info):

|         |              |                                               |
|---------|--------------|-----------------------------------------------|
| imType  | WORD         | ;flags                                        |
| imSize  | WORD         | ;size (bytes) of icon image                   |
| imHite  | WORD         | ;hite (pixels) of icon image                  |
| imWidth | WORD         | ;width (pixels) of icon image, (4 bits/pixel) |
| imImage | BYTE[imSize] | ;icon image                                   |
| imMask  | BYTE[imSize] | ;icon mask                                    |

Appendix B: FILE AND DEVICE TYPES

This appendix lists the filetypes and device types currently known by IconEd, and has been newly updated for GS/OS.

| Files  |                    |       | Devices |                   |
|--------|--------------------|-------|---------|-------------------|
| Type   | Name               |       | Type    | Name              |
| \$0001 | Bad Blocks         | (BAD) | \$FFF1  | SCSI partition    |
| \$0004 | ASCII Text         | (TXT) | \$FFF2  | CD-ROM partition  |
| \$0006 | Binary Data        | (BIN) | \$FFF3  | HD partition      |
| \$0008 | Double Hi-Res      | (FOT) | \$FFF4  | Network (generic) |
| \$000B | Word Proc file     | (WPF) | \$FFF5  | File Server       |
| \$000F | Folder             | (DIR) | \$FFF6  | SCSI (generic)    |
| \$0019 | AppleWorks DB      | (ADB) | \$FFF7  | Tape Drive        |
| \$001A | AppleWorks WP      | (AWP) | \$FFF8  | CD-ROM disk       |
| \$001B | AppleWorks SS      | (ASP) | \$FFF9  | 5.25" drive       |
| \$0050 | Word Processor     |       | \$FFFA  | RAM disk          |
| \$0051 | Spreadsheet        |       | \$FFFB  | 3.5" disk         |
| \$0052 | Data Base          |       | \$FFFC  | 5.25" disk        |
| \$0053 | Object Graphics    |       | \$FFFD  | Hard Drive        |
| \$0054 | Desktop Publishing |       | \$FFFE  | Full Trash        |
| \$0055 | Hypermedia         |       | \$FFFF  | Empty Trash       |
| \$0056 | Educational data   |       |         |                   |
| \$0057 | Stationery         |       |         |                   |
| \$0058 | Help file          |       |         |                   |
| \$0059 | Communications     |       |         |                   |
| \$005A | Configuration      |       |         |                   |
| \$00AB | GS BASIC Program   |       |         |                   |
| \$00AC | GS BASIC Tools     |       |         |                   |
| \$00AD | GS BASIC Data      |       |         |                   |
| \$00B0 | APW Source         | (SRC) |         |                   |
| \$00B1 | APW Object         | (OBJ) |         |                   |
| \$00B2 | APW Library        | (LIB) |         |                   |
| \$00B3 | GS Application     | (S16) |         |                   |
| \$00B4 | Run-time Library   | (RTL) |         |                   |
| \$00B5 | Shell Application  | (EXE) |         |                   |
| \$00B6 | Permanent Init     | (STR) |         |                   |
| \$00B7 | Temporary Init     | (TIF) |         |                   |
| \$00B8 | New Desk Accessory | (NDA) |         |                   |
| \$00B9 | Classic Desk Acc   | (CDA) |         |                   |
| \$00BA | Toolset            | (TOL) |         |                   |
| \$00BB | Device Driver      | (DVR) |         |                   |
| \$00BC | Generic load file  |       |         |                   |
| \$00BD | File System Trans  | (FST) |         |                   |
| \$00BF | Sound file         |       |         |                   |
| \$00C0 | SHR Screen         | (PNT) |         |                   |
| \$00C1 | SHR Picture        | (PIC) |         |                   |
| \$00C8 | Font               | (FNT) |         |                   |
| \$00C9 | Finder Data        |       |         |                   |
| \$00CA | Icons              | (ICN) |         |                   |
| \$00D5 | Music Sequence     |       |         |                   |
| \$00D6 | Instrument         |       |         |                   |
| \$00D7 | MIDI file          |       |         |                   |
| \$00E0 | Telecom data       | (TEL) |         |                   |
| \$00E2 | AppleTalk File     |       |         |                   |
| \$00EF | Pascal partition   |       |         |                   |

## Apple II Computer Info

\$00F0 Basic command (CMD)  
\$00F8 Merlin Link (LNK)  
\$00F9 System file  
\$00FA Integer Basic Program  
\$00FB Integer Basic Vars  
\$00FC Applesoft Program (BAS)  
\$00FD Applesoft Vars (VAR)  
\$00FE Relocatable Obj (REL)  
\$00FF ProDOS 8 Application (SYS)

=====  
DOCUMENT immortal  
=====

-- THE IMMORTAL GS by Will Harvey/Electronic Arts --

Cracked by ECC

docs typed by Xentraedi

thanks to Joe Hack, The Mercenary, Star Gazer, and the rest of the ECC Staff  
-----

NOTE: Do not attempt to enter the Control Panel once the game has booted. It will crash.  
-----

"The morning sun heats the jagged peaks as you follow the forgotten road down to the valley floor. The bleached ruins of great columned temples and towering citadels rise from the grassy plain like the bones of some colossal beast. This was the ancient city or Erinoch, destroyed by dragon's fire over 1000 years ago. Mordamir spoke often of this city... and the labyrinth below...

"Mordamir. You think back to the days when you were young and eager to learn the spells of sorcery. The old wizard Mordamir took you in and patiently taught you the arts of magic. He taught you how to read the runes and unleash their power. The power of charms and fire. He showed you the strength of steel and taught you to use your wizard's cunning. Mordamir was your master, your mentor. He was your guide down the treacherous path of wizardry. He was your friend.

"Many years have passed since you last saw the old man. You assumed he was dead - that is, until a few nights ago, when he called to you in a dream. You woke with the uneasy feeling that Mordamir still lived - trapped in a bottomless cavern. And so you set out to unravel the secrets of the Immortal."

### KEY COMMANDS:

Music On/Off:

To toggle the music on and off, press Ctrl-S.

Restart:

To restart a game/level, press Ctrl-R.

Quitting:

To quit, turn off computer. (simple, huh?)

### GAME CONTROLS:

Your view is similar to Last Ninja (although much much, better!). However, you are not limited to only four directions... You may move the wizard in all 8 directions by means of the joystick (no keypad equivalents available).

### COMBAT:

Attacking:

When a monster attacks, you cannot break away until your opponent is dead. Push the joystick forward to jab. To slash, pull joystick back first, and then forward.

Parrying:

To parry, move the joystick left and right. If the wizard is facing you, then the movements are reversed. Just remember that you must move the joystick in the direction you want him to lean, not "his right" or "his left". Remember, when an opponent pulls back, lean away from his weapon.

USING ITEMS IN PACK:

Once you take an object, it is in your pack. Hit button A to enter your pack. To use an object, highlight the object and hit the button to use. In some cases, the object is "used" by placing it on the ground, such as a gem. If you still want it later on, remember to pick it back up. To see other items in your pack, highlight "other" (another simple one!) and hit a button. To exit, highlight an empty space, or an object you don't "use" (such as gold) and hit a button.

Most items are activated by simply selecting them - others require further commands.

Blink Spell/Fireball - once selected, use button B to cast.

Carpet/Protean Ring - select to use object. select again to stop.

NOTE: Each kind of item has a specific use - Spores can only be planted in the dirt, while the Troll Ritual Knife can only be thrown. You can't control HOW an item is used, just when and where.

ALSO: Some items only function on a particular level. Before you descend to the next level, the magic of the labyrinth will remove any items you don't need from your Pack.

### RESTING:

Occasionally, you will come across a pile of hay. If you stand on it long enough, you will sleep on it. PAY ATTENTION TO YOUR DREAMS!

### COMPLETING/RESTARTING A LEVEL:

Whenever you complete a level, you get a certificate number. You will be asked for a certificate if you wish to continue on that level later on.

To restart on the level you're currently on, when asked for a new game hit "NO", and when the certificate prompt comes up, hit a joystick button.

For a previously completed level, enter your certificate number after hitting "NO" for a new game.

To start again at level one, hit "YES" at the NEW GAME? prompt.

## THE CODEX OF THE SERPENT

-----

I, Mordamir, Wizard of the Crimson Keep, wrote these notes for you, my loyal apprentices and students, to explain the mysteries of this dark labyrinth.

Today, I go forth to explore the dragon's lair. I hope my wits are keen enough to escape her cunning again! Thus I leave these words for those who may have to come after me. May they keep you from an untimely end in this forsaken place!

### LEVEL 1:

Dunric - my faithful student in the art of wizardry - will be the first to come looking for me. He's often accompanied by Ereka, a fighter.

Ulindor - my servant and bodyguard.

Upper levels - a tribe of primitive creatures known as goblins. Hostile to strangers, but seem to possess reason, intelligence, some ingenuity with tools.

The tribe goes by the name of Drull. Their king is Gresh the Wise. The goblins are currently at war with a more hostile and powerful tribe of creatures known as trolls. Both sides desperately seek control over the upper levels of the dungeon. Perhaps a show of force would convince one of them that wizards make better friends than foes...

A safe path for the arrow room - along the right wall. I got midway before I set off the trap.

Danger! Pit traps in the next room... If you happen to fall into one of these deathly traps, and manage to hold yourself up by your staff, remember to try and swing out (move joystick back and forth at an even rate) before it breaks! Walk along the left wall to avoid them.

In the dark room that follows are dark and deadly creatures, invisible to the eye. Only their shadows can be seen in the light. Keep a torch lit and watch their moments carefully. They move quickly! There are pit traps in this room as well.

Riddle of the Sun-  
Deep in immortal Dragon's Lair,  
Once in one Millenium,  
The Portal opens to the Stair,  
When a single Gem greets the Sun.  
Mechanism tripped every thousand years by light.  
Something shiny...

### LEVEL 2:

From a text I found on the history of this evil place:

"...After two days of bitter combat, Arinar the Elven Lord escaped the enemy, but through his veins ran a fatal poison, drawn from the keen edge of the Shadowlord's blade. Arinar fled over the high mountains to the ruined city of Erinoch, where he entered the labyrinth in search of the fabled Water, said by many to heal even the deepest wounds.

"Deep in the chilly caverns of the forgotten labyrinth, the Elven Lord searched desperately for the Fountain, slaying the evil minions that dwell in that dark place with Solondul, a sword of great might. But on the second day, foul slime creatures caught him off guard and stripped the flesh from his body. To this day his bones and his sword lay there still..."

Legends have told of wayfarers being attacked by Will O' The Wisps. I reckoned such stories as the products of childish imaginations, but now I have seen these hateful creatures with my very eyes. I know little of their nature... Are they intelligent? Perhaps they are disembodied spirits of some sorts, or maybe creatures of the elements. In any case, they are EXTREMELY dangerous - they despise the living and eagerly attack mortal flesh.  
Maybe I can devise a spell to bring them under my control...

Spores - the goblins sometimes use them as a kind of weapon. When planted in spft dirt, these spores produce mushrooms that grow to waist height in a matter of seconds. The full grown mushrooms immediantly fire more spores in a radius of 30'. The spores, it must be added, are deadly to humans, goblins, and trolls. The goblins typically carry them in sacks to protect themselves. They can be recognized by their strong, sickening smell.

Years ago, when sorcerer's towers stretched toward the heavens and the Halls of Wizardry protected the knowledge of the spheres, the city of Erinoch had need of locksmiths. The most cunning locksmith, I recall, was a dwarf by the name of Lindli. His locks never involved anything as boring as a simple lock and key. Lindli's mechanisms required the unusual - finely crafted gems, beams of light, paces around an object...  
Lindli prospered while serving the wizards of Erinoch. But when the dragon came over 1000 years ago, his house was destroyed and his family perished in the flames. Lindli went quite mad after seeing the beast devastate his dreams, and he cursed the wizards who unleashed the dragon's wrath. He vowed to seal off the labyrinth forever so that men would no longer seek the Water...

The magic dust can be thrown to make an irritable old fool your friend.

The gems must be dropped in the holes in the circles. Gresh the Wise knows the combination. One must defeat him before he'll speak.

### LEVEL 3:

Only the fierce might of an angry dragon could split the earth and form this deep chasm. The crack cannot be crossed by rope - the brisk winds rising from the dragon's lair make it too dangerous! The only way across is a magic gate - a teleport

mechanism - hidden in one of the rooms below. The shaft of light on the other side is where the magic gate leads.

Trolls - The Shindrak, as they call themselves, rule much of the lower levels. For the most part, they are stupid and quick-tempered - something to take advantage of.

A troll will only throw his ritual knife when he wants to challenge another troll to combat.

Proteus, a god of the sea, was a master shapechanger. This ring was forged by Him when the earth was still young. It allows the wearer to take the form of a goblin. Beware! Some are too wise to believe it's charms!

Troll bombs - one whiff of these devices and trolls are paralyzed.

Red gems look best in purple light.

LEVEL 4:

When Dunric interfered with the trolls' battle against the goblins, they kidnapped his daughter, Ana, and dragged her into the labyrinth. As she possesses some of her father's skills in sorcery, she had no trouble escaping the trolls. But on her way out, she lost a special ring given to her by her father.

Some rings are never worn on the body.

LEVEL 5:

The potion transforms and poisons you at the same time. You will benefit from its power to shrink you, but you must find Water and drink it soon afterward or you'll never live past the hour.

Many mice but fewer men can pass through to the next level. The crack in the wall is the only way down.

Worm sensor - The faster it chimes, the greater your danger.

The weight of one will open the way. Set down food and a flying lizard could hold the door.

LEVEL 6:

When the giant spider rears up, she's ready to web. Move back! She's most vulnerable when all four legs are on the grounds. Now is not the time to imbibe spirits.

LEVEL 7:

The goblins crave the Water as much as men, but a horrid water creature guards the way! If the water monster were distracted long enough, the goblins could open the gate and the creature would be washed away into the deepest underground sea. Only a wizard, adept at sailing, stands a chance of distracting the monster and making his escape.

This is the final step before entering the dragon's lair... do whatever you must to help the goblins open the way. Your journey is almost complete - if fortune finds us, we will stand together against the dragon!

end of codex.

-> File From The Outer Limits - [718] 492-3054 - 04:07:55 AM - 10/06/90

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DOCUMENT incredible.jack
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INCREDIBLE JACK DOCS
<><><><><><><><><><><><><><><><><><><><><><><><><><><><>

- CTRL-A \*ALTERNATE SCREEN
CTRL-Z \*SCROLLING
-> <- MOVE SIDEWAYS
CTRL-T MOVE UP
CTRL-B MOVE DOWN
CTRL-I TAB INDENT
CTRL-E \*LOWER CASE MODE
CTRL-W \*WORD SHIFT (1 LETTER)
ESC MENU

\*=80 COLUMN CARD KEYS HAVE NO EFFECT YOU NEED 64K AND 2 TO 4 DRIVES
AND A PRINTER IN PORT 1. COPIES WITH NIBBLES AWAY ][ STRAIGHT. THIS
IS A PARTIAL LIST OF COMMANDS ONLY

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that was common on pretty much every Microcomputer platform), it became
necessary for users to share the documentation from the original package so
that the disks were useable.

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DOCUMENT infiltrator
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Typed up using Applewriter IIe

+-----+
A First Class Presentation
Of
Infiltrator
Complete Docs: The Hitman
Thanx to: The Hood
Special Thanx: The Thug
+-----+

Cracked by: The Talisman
Special Thanx: Dragonlady
Thanx: The Hitman
Also Thanx: The Wombat

"THE STORY SO FAR"

The strange little man in the trench coat and Porsche sunglasses seemed a little out of place. After all, the unveiling of the new McGibbits Wing of the Library of Congress(in honor of your 47-volume treatise on the Dewey decimal system) was a strictly formal affair. You paid little notice to him at the time, however as you moved gracefully to the piano in your McGibbits Trim-Fit bulletproof jeans. As you started into the third movement of your piano Concerto No.2 in E, you heard a whisper in your ear: "We need you Jimbo baby! The whole world is in danger and only a super-soldier, ace helicopter pilot, ballistics expert, engineer, neurosurgeon, politician, movie actor, rock star, world-class motorcyclist, explorer, karate expert, and devil-may-care all around nice guy like you can save the day!")

"Not again!" you thought to yourself as you finished up the concerto, christened the library, and leapt onto your Super Gizmo 8 motorcycle with cruise control, AM/FM, auto seat warmer, and heat-seeking missiles) all in one fluid move. "Its; getting so I barely have any time to myself what with that Mad Leader running around!"

Back at your modest country estate/training grounds/experimental aircraft test facility, you quickly solve the prime-key encrypted note the agent left with you(lucky thing one of your doctorates is in combinatorial mathematics and cryptography!)

"TOP SECRET"

Message to: Captain Johnny "Jimbo-Baby" McGibbits/AKA Infiltrator

Captain,

We need you! The world is on the brink of destruction only you save us. The Whizbang Enterprises Gizmo DHX-1 Attack Helicopter is on the pad. The mad leader must be stopped only you can stop him. Stop him at all costs. Enclosed is a Gizmo Flight Manual, secret communication code names, and other mission info, weapons, film(with pre-paid processing mailer), and the McGibbits Guide to Ground Installation Infiltration(Pocket Edition).

Good luck Jimbo-Baby!- The fate of the world is in your hands!

Brigidier General Bunson "Old Blood -n- Guts"

O'Shaughnessy"

"So what else is new?" you say as you gather your gear and head out to the waiting Gizmo. "I guess this afternoon's open-heart surgery will have to wait. I hope the patient can." And whistling the theme from your new TV series, you head out to save the world....

You will begin all of your missions from you Home Base, just beyond the border of the country. At the base, you will be briefed about your mission goal just before takeoff. You must successfully pilot your chopper from Home Base through enemy airspace and reach one of the Mad Leader's installations to complete the ground mission assigned during the briefing. There are a total of 3 missions, each progressively more difficult, in keeping with your growing skill, stature, and worldwide acclaim. Good Luck!

## "OWNER'S FLIGHT MANUAL"

Welcome to the Whizbang Family

you should be feeling pretty good right now. You've just purchased a Whizbang Enterprises

Gizmo DHX-1 Attack chopper

Which is known affectionately around here at Whizbang as "The Snuffmaster" Welcome once again to our family.

"WE THINK YOU'LL LIKE IT"

Your new Whizbang Gizmo DXH-1 Attack Chopper is loaded with the following Whizbang goodies:

- \* Turbine-Thrust Dual Propulsion Whizbang Whirler engine, capable of a top speed in excess of 450 knots
- \* Four Whizbang Waster air-to-air heat seeking missiles
- \* Two rapid-fire Whizbang Whizzer 20 mm cannons
- \* Anti-heat seeking missile magnesium flares
- \* Anti-radar guided missile chaff disperser
- \* Whizbang Whomper turbo booster
- \* Ultra-sophisticated communications systems
- \* State-of-the-art computer guidance, control, and surveillance systems
- \* Whizbang Whisper silent travel capabilities

## "TAKEOFF PROCEDURES"

Upon entering the cockpit of your Gizmo, you will find yourself facing an ultra sophisticated array of controls. Through the windshield you can see the Home Base. At the bottom of the screen, note your hands holding the control sticks which control the movement of the chopper. You might wish to take off after you finish admiring your manicure, so here are the instructions.

1. Turn the battery on by pressing the "B" key.
2. Initialize the computer and communication systems by pressing the "S" key. The computer screens will light up and the warning lights will initialize at the top of the display.
3. Turn on the engine ignition by pressing the "I" key. The engine will not provide enough power for movement until it exceeds 2300 rpm's.
4. Pull back on the joystick until you have cleared your base and are looking at a green landscape with mountains in the distance.
5. Press the FIRE BUTTON (note that your right and on the display registers this) and push forward to accelerate.

## "THE CONTROLS"

(joystick) The joystick controls all of the movement of the helicopter.

To CLIMB, pull back on the joystick  
To DIVE, push forward on the joystick

To ACCELERATE, hold the button down and push forward  
To DECELERATE, hold the button and pull back  
To BANK LEFT, push to the left  
To BANK RIGHT, push to the right  
To SPIN CLOCKWISE, hold the button and push to the right  
To SPIN COUNTER CLOCKWISE, hold the button and push to the left

(keyboard) The keyboard is used to control all other functions in the helicopter.

B turns on the battery  
S initializes the computer and communication systems  
I turns on the ignition  
G arms the cannon (guns)  
R arms the heat seeking missiles (rockets)  
F sets the flares for use  
C sets the chaff for use  
H toggles the Heads Up Display (hud)  
W toggles whisper mode  
\* changes the view to the communications system  
T switches the view to the computer terminal  
+ turns the turbo booster ON  
- turns the turbo booster OFF  
The SPACE BAR has the following functions:

- \* Deselects weapons on the cockpit screen
- \* Returns to cockpit view from communications screen
- \* Returns to computer terminal from status display or tactical map screens

## "COCKPIT DISPLAY"

ARTIFICIAL HORIZON (lower-middle gauge on main panel)  
The artificial horizon indicates your present altitude (degree of tilt or bank) and indicates whether you are climbing or diving by the location of the horizon is level and centered in the gauge, you are flying straight and level.

DIRECTIONAL COMPASS (lower-right gauge on main panel)  
The compass displays the directional heading of the Gizmo in degrees, shown in both analog and digital format. The dial is accurate within 23 degree increments; the digital readout is accurate to smaller values.

FUEL GAUGE (far right of side panel)  
This horizontal bar displays remaining fuel. The tank is empty when the red bar disappears.

OIL AND BATTERY TEMP (on vary top of chopper)  
These two bar graphs at the top of the screen display the temperatures of your battery and oil. When the bar reaches the red zone, heat is critical and the temperature warning lights will flash and beep until you reduce the heat (by slowing your speed to reduced strain on the battery or by turning off the turbo to conserve oil).

WARNING LIGHTS (on vary top of middle of chopper)  
The six warning lights at the top of the cockpit, when flashing red while a buzzer sounds, indicate:

E ngine damaged  
B attery overheated  
O il overheated  
F uel low  
A ltitude level below 200 ft.  
R pm deficiency in engine or rotors

The warning lights will alert you to any noteworthy status conditions that require immediate attention. You have some direct control over the B, O, and A warning lights. The E, F, and R lights refer to problems that cannot be corrected mid-flight. In these cases, you might want to reach your destination as quickly as possible and avoid a further damage from air combat.



deceived by dropping strips of metal into the sky, creating a fake radar image of Gizmo. Pressing the C key sets chaff for dropping.

### "OTHER FEATURES"

**HEADS UP DISPLAY**-Pressing H displays the Head-Up Display(HUD). Using the latest technology available, a computer image of your cannons' aiming cross hairs is superimposed on your windshield. Use the to aim at a target for firing. With your cannon armed, any object that passes through the crosshairs should be hit. Missiles do not use visible tracking methods, so you may turn off the HUD if you wish by pressing H again.

**TURBO BOOSTER**-Press the + key to turn on the Whizbang Whomper turbo booster. Press the - key to turn it off. The turbo booster will double your present speed (to a maximum of 900 knots). It also causes the oil to heat up at a very fast rate, so it must be used sparingly. When the turbo booster is on, the turbo indicator to the right of the instrument display will light up. The turbo can be made inoperable if hit by enemy fire.

**WHISPER MODE**-Pressing the W key engages the Whisbang Whisper. This effectively silences the Gizmo. Whisper mode must be activated whenever attempting to make a secret landing, or else the noise from the helicopter may alert enemy ground personnel. When the whisper mode is on, the Whisper Indicator to the right of the instrument display will light up.

**PAUSE**-Suppose you want to suspend the game and take a break from all this excitement. Switch to either the computer terminal(press the T key) or the communications screen(press the \* key). Press any unassigned key to get back into the thick of it.

### THE COMPUTER TERMINAL

The computer terminal, the small screen located on the right of the cockpit, is activated by pressing the T key. You will then be presented with a weapons inventory and two optional categories for status update. Pressing any unassigned key returns you to the cockpit view. If your computer system has been destroyed by enemy fire, the cockpit terminal will be blackened and you will not be able to access it.

The Weapons store is displayed in LED bar graphs indicating remaining Missiles, Flares, and Chaff. Press the 1 or 2 keys to review chopper status information or your tactical map, respectively.

1. Status Display- This represents your Gizmo's present status. If any damage has been sustained, the picture of your Gizmo at the top of the screen will be highlighted by visual damage circle indicators where the damage has occurred, accompanied by flashing text descriptors. Below this are displays for remaining missiles, flares, and chaff. Cannon rounds are unlimited. Pressing the SPACE BAR returns you to the main terminal screen.

2. Tactical Map- The Top of this screen houses a small computer screen with a digital readout. The numerical value is you calculated ADF frequency. See COMMUNICATIONS for more details. The large gridded map below is a tactical map of the country. Your position within the country is displayed by a flashing sphere with a shadow underneath. The distance between the sphere and the shadow represents your altitude. If you have programmed the ADF, a small flag will appear on the map as well. This is your destination. This display can be used to determine your relative position to your destination at any time during your mission. Press SPACE BAR to return to the main terminal.

### COMMUNICATIONS

The Whizbang Gizmo DHX-1 is equipped with the kind of highly sophisticated communications equipment that is often necessary for the successful completion of missions for which this machine has been expressly designed. Pressing the \*

### AIRSPPEED INDICATOR (top-left on main panel)

This dial shows the Gizmo's present airspeed, in knots. The digital readout under the dial displays the same information. Maximum speed is 450 knots (without the turbo engaged)

### ADF(top-middle of main panel)

The Automatic Direction Finder (ADF) will aid you in arriving at the proper destination. Therefore, you may want to program it immediately after takeoff. Once programmed, the ADF always points towards your destination. If you are moving forward and the ADF points straight up, you will eventually reach your target, regardless of the compass heading. Moving off course will cause the ADF to spin, adjusting itself to the Gizmo's orientation. The ADF will move only when you spin the helicopter or when you bank. To correct the orientation of your helicopter so it is heading toward the destination, you can either spin the chopper (for minor heading changes) or bank (for more drastic changes in direction).

Note that if the adf is blinking on and off, it has not been properly programmed at the communications terminal. (see communications.) If the ADF is flashing black and white and moving around radically!!! then your directly over your destination. You should slow down and proceed to land immediately. (see Landing Procedures.)

### ALTIMETER (top-right of main panel)

The altimeter displays your present altitude in feet. The hand on the dial is accurate only within jumps of 60 feet or more, so use the digital reading for greater accuracy. Each time the dial sweeps past 12:00, it registers 1000 ft. Maximum altitude is limited to 8000 ft. If your altitude is below 200 ft., the low altitude warning light and buzzer will sound.

### RPM INDICATOR (bottom-left of main panel)

The RPM indicator displays the rate at which the blades are spinning. Helicopter blades do not speed up or slow down to maintain a constant rate since it is the angle tilt of the blades that causes the movement. The onboard computer systems monitor and maintain steady rpm's. Optimum RPM's is 2300. No flying can take place until RPM's are at or above optimum. At this time the takeoff alert will sound until the Gizmo is airborne

### MISSILE WARNING LIGHTS (far-left of main panel)

The missile warning lights, to the left of your instrument panel, flash to indicate that a missile is heading toward your chopper. A warning siren will sound as well. If the R light is on, then a Radar guided missile is heading towards the chopper, and chaff must then be used to decoy it. If then H light is on, then a Heat seeking missile is headed towards the Gizmo, and flares must be used to decoy it.

### "ARMAMENTS"

The next four items are represented by buttons that flash when set to active and are found on the lower left and lower right bottom of the cockpit. Once armed, they can be activated by pressing and releasing the FIRE BUTTon on the joystick. Any or all of these may be damaged or rendered inoperable by enemy fire.

**CANNONS**-The Whizbang Whizzer 20mm cannons are armed by pressing C(gun) key. An enemy in the HUD(heads up display) cross hairs may be damaged or destroyed if you fire upon it. You have unlimited ammunition.

**MISSILES**-Pressing the R(rocket) key arms the Whizbang Waster air-to-air heat seeking missiles. An enemy must be visible to be hit, but it doesn't have to be in the cross hairs. You are limited to four(4) missiles per mission.

**FLARES**-Pressing the F key sets the flares. These are used to decoy enemy heat seeking missiles. The flares, made of Magnesium, will fool the missile into thinking that the flare is actually your exhaust.

**CHAFF**-Unlike heat-seeking missiles, radar guided enemy missiles must be

key on the keyboard takes you from the cockpit display to the communications terminal (which is located on the left of the cockpit screen). Be careful, this system can be destroyed by enemy fire. The system is used as follows:

\*Press "A" to program the Automatic Direction Finder (ADF). Type in the three numbers from the tactical display, ignoring the decimal point. Your ADF is now programmed. You do not have to program it again unless the numbers were entered incorrectly. Your ADF will not function properly if the values are incorrect.

\*Press "S" to go into send mode. Send mode allows you to send messages to other aircraft or to ground controllers. Once you are in send mode, you may type messages at the top of the screen on the Comm-bar. No punctuation is allowed. Use the DEL(etc) key to backspace. Pressing RETURN sends the message to either another aircraft or to a ground controller (as appropriate). The flashing S or R represents the current Send or Receive status. Press the space bar to return to the cockpit view.

## OTHER AIRCRAFT

As you begin a mission by flying the chopper to your destination, you will encounter other aircraft along the way. Some may be other infiltrators also trying to upset the Mad Leader's plans, while others may be staunchly loyal to the Mad Leader and his evil goals. There are three types of other aircraft: the friend, the enemy, and the maniac.

Upon encountering another aircraft, you must determine whether it is a friend or an enemy. Since there are no distinguishing markings on your ship, and because helicopters are not an unusual sight over the Country, other pilots will also try to determine your loyalties and intentions by talking to you via the communications system (sending and receiving messages). You should always try to communicate with an unidentified aircraft first. As soon as you see an aircraft for the first time, press the \* key. Once on the communications screen, press the S key to send a message. The only phrases the comm systems of other aircraft will understand are:

REQUEST ID  
INFILTRATOR (TYPE THAT TO A FRIEND)  
OVERLORD (TYPE THAT TO A ENEMY)

After requesting the identification of another aircraft, examine the response for a code name. With experience, you should be able to distinguish friendly code names from those of enemies. This will provide you with the information necessary to respond properly to their request for identification. Giving the correct ID to an aircraft will allow you to continue on your mission unhindered. Giving the wrong ID to an aircraft will result in a battle that will last until one of you is destroyed!

oh, by the way, we weren't kidding about the maniacs out there. A few of the other infiltrator pilots have snapped from the strain, and it really doesn't matter what code name you use in a response. They will always attack, and you're going to have to fight against a former friend, turned deadly foe!

## SAMPLE FRIENDLY NAMES:

WHIPPLE AND HAYMISH  
SAMPLE ENEMY NAMES

BOOMER AND SCUM

(The rest your on your own!)

## LANDING PROCEDURES

Once you have arrived at your assigned destination, you will have to land to continue your mission. To land safely you must make sure of the following:

1. your speed is between 20 knots and 0 knots
2. the artificial horizon is level and you are not banking

3. your rate of descent is at minimum

Once you have descended below 200 feet, you will hear the low altitude warning buzzer sound. Set your rate of descent to a minimum. Wait until your altitude is reduced to 0 and the Gizmo shakes and thumps loudly as it hits the ground. If you have landed at the proper destination, as programmed into the ADF, the ADF gauge pointer will be flashing black and white and spinning madly.

Remember, you must have the Whizbang Whisper silent travel mode engaged to land without warning an enemy.

To take off once again, simply increase your altitude by pulling back on the joystick and increase your airspeed.

While on the ground, do not back, accelerate, or spin, or you may crash!!

## UPON LANDING

Once you have landed, your view will change. You will now be looking down at yourself standing next to your trusty chopper. You must pretend that you are an enemy guard, much as you may have had to pretend to be an enemy in the sky. Avoiding the enemy is the key to ground missions.

## OBJECTIVE

To complete the mission displayed in the briefing without being captured, blown up, or running out of time. if you fail five times, your dead! There are three missions that become increasingly more difficult. Once you finish one mission you will be assigned your next task.

## MISSION COMPLETED AND LEAVING

If you successfully complete your ground mission, make your way back to the helicopter. Moving into the cockpit section onscreen will take you inside so that you can return home.

If you haven't completed your mission, you won't be allowed to enter the helicopter. You can check to verify that your mission has been completed by going to the inventory screen. A message will be displayed when you have completed the assignment, just to let you know it is time to get the "HELL OUT OF THERE!"

## RESUMING PLAY

If you stop playing once you have successfully completed a mission, you will be given the option to either start from scratch or to start at the beginning of a new uncompleted mission when you load the game again. You cannot, how ever, embark on a new mission before completing the previous one.

## GROUND CONTROL AND INVENTORY ITEMS

When you see the screen with a grey figure standing next to a helicopter, move the joystick in any direction to start the next phase of the mission.

YOU are the small dark grey figure on the screen. You have a limited amount of time and the use of several helpful devices (your inventory) to help you complete your mission. Pushing the joystick will cause you to move in that directions, unless you are busy with an item that is currently active. An active item is an object from your inventory that has been selected to be used. Note that at the beginning of the ground mission your papers are present as the active item.

## FIRE BUTTON

Press the FIRE BUTTON to activate the active item. The current active item is always indicated at the bottom of the main screen. Depending on the item activated, you may not be able to move until you are finished.

## PAUSE

To take a break, press the SPACE BAR to go to the inventory screen. Your game will pause until you are ready to continue. Press any unassigned key to return to the main screen, and your mission.

The inventory screen allows you to change the active item and displays important inventory information. You may select an item by moving the cursor with your joystick. Press the SPACE BAR again (or any unassigned key), and you

will return to the main screen. The newly selected item will be active, and is so indicated at the bottom of the screen. Once you have returned from the inventory screen, pressing the FIRE BUTTON on the joystick activates the item you have selected.

In addition, important items found during your search will appear in a text line at the bottom of the inventory screen. Activation of these items will occur without having to select them as active when and where appropriate. (more details see: mission interference and enemy installation structures)

**SLEEPING GAS**-You have a hidden canister strapped inside your jacket which contains a colorless, odorless sleeping gas. Anyone sprayed will fall asleep for several seconds and forget what has happened. Pressing the FIRE BUTTON on the joystick sprays the gas. You have specially treated nose plugs which allows you to breathe the gas harmlessly.

**PAPERS**-These are your fake ID papers. You should activate your papers when a guard asks to see them. When that happens, move directly over and stand next to the guard. If the papers are not already active, move quickly to the inventory screen and select them. Return to the main screen, press the FIRE BUTTON on the joystick. Upon showing them, the guard will decide whether or not they are "in order" and valid. If they are in order, you can go about your business, undetected as an infiltrator. If they are out of order, you have a short tie to gas the guard or run away before he tries to take you in for questioning. But be forewarned, running away will cause the guard to sound an alert throughout the compound. (See Mission Interference)

**GAS GRENADE**-This grenade has the same effect as the sleeping gas canister, except that it has a greater range. When used inside, all guards in the room in which it is dropped will fall asleep.

**MINE DETECTOR**-This is used to detect mines. Selecting the mine detector on the inventory screen enables it to be used whenever you press and hold the FIRE BUTTON on the joystick as you move through enemy territory. You will hear the detector working. Stepping on a mine with the detector activated is harmless and exposes that mine. Stepping on a mine without the detector activated is fatal-and stupid.

**EXPLOSIVES**-Explosives are planted by selecting the explosives icon on the inventory screen as the active item, and then pushing the joystick up under the main control panel in the control room or under the desk in the lab. Only one bomb per room is permitted. Upon setting your last remaining bomb, an automatic countdown timer will go off. You then have about 20 seconds to leave the building before all the bombs detonate. If you don't make it out of there in time, you will be trapped inside during the explosion, and it's bye! bye! (Jimbo-baby that is!)

**CAMERA**-Use the camera to photograph any vital documents. To use it properly, face the papers you want to photograph and press the FIRE BUTTON on the joystick. Only one picture per room is permitted.

**INFORMATION UPDATES**-At the bottom of the inventory screen are four graphs which update the following:

Spray-How much sleeping gas you have left.  
Grenades-The number of sleeping-gas grenades you have.  
Explosives-How many charges you have left.  
Film-How many more pictures you can take with the camera.

**KEYBOARD**-Pressing the following keys while on the main screen is the same as using the cursor on the inventory screen to select an item:

|                |                    |
|----------------|--------------------|
| S-Sleeping gas | M-Mine Detector    |
| P=Papers       | E-Explosive charge |
| G-Gas Grenade  | C-Camera           |

"MISSION INTERFERENCE"

## GUARDS

Enemy guards within the compound are fanatically loyal to the Mad Leader. They are assigned to patrol certain areas of the compound, and they will carry out their orders unflinchingly. If one of the guards spots you, he may ask to see your papers. If you do not comply, an alert will be set off and guards throughout the compound will chase after you. Within the compound buildings, an electronic key will turn off the alarms temporarily, but it will only work once during a mission. Find the electronic key, and a line of text on the bottom of the inventory screen will note that you have it. Make your way to the alarm control center. Stand directly in front of the card slot in the wall and press up on the joystick. This will cause the electronic card in your possession to be inserted into the slot, without having to select it. (you cannot select this particular item to be active. If you have it, activation will occur automatically when you push up on the joystick.) The alarms will be silenced.

Outside the compound buildings, a talking guard will turn red (from dark grey). You must follow the guard's directions or risk being discovered. Running away from a guard who is talking to you will prompt him to sound the alarm. If you gas a guard while he is talking to you, he will fall asleep and forget ever having seen you. (but you had best get out of the area before he comes around.) The guard's speech appears at the bottom of the screen.

## MINES

Mines are usually scattered in the forest and in restricted areas to prevent exactly what you doing-infiltrating. Mines can be exposed with the mine detector. Stepping on a mine (without the mine detector activated) is a dumb thing to do; besides, it will kill you!

## TIMER

A mission timer is visible on the screen at all times during the ground phases of a mission. If time runs out, you've blown it; your mission will end, and you will have to start over again. Tough luck dude! (you have about 20 minutes of real time for each mission once you have landed within the confines of the compound.) Time is of the essence when saving the world, you know what i mean!

## ENEMY INSTALLATION STRUCTURES

Inside a building you can search through chests and cabinets for gas grenades, security cards, and other useful and not so useful items. Travel to different levels within the same building is accomplished through elevators. Clothing disguises may be of some help. If you want to swap clothing, stand directly in front of a until you have finished changing. An audible tone and accompanying text will indicate when you have finished.

## MAPPING UNIT

While inside any of the compound's buildings, your mini-mapping unit will appear at the bottom of the screen. The room you are in is represented by a flashing box within the mapper screen. All rooms are shown as boxes with highlighted doors. Moving into a new room maps it into the unit's screen.

## ROOMS ARE COLOR CODED AS FOLLOWS:

RED: designates a room of great importance (prison, control room, etc.)  
GREEN: designates the building entrance or an elevator  
BLUE: represents a room of no special importance

## SEARCHING CHESTS

You may search any of the chests (on the top far wall only-chests on the side walls seem to be empty...) in any room by moving in front of it and pushing up with the joystick until you find whatever it contains.

## DOORS AND THE SECURITY ROOM

Locked doors must be de-activated before you can enter these rooms. To unlock all the doors in the enemy compound, you must first find the security card

(search for it!). With it in your possession, you can unlock the doors. Once you have found it, a line of text will appear on the bottom of the inventory screen to indicate that it is in your possession. Now, find the security room. It is the room with the lock status indicator light on the wall and a passcard slot directly below it. To unlock the doors, stand directly in front of the security card slot and press the joystick up. This will cause the security card in your possession to be inserted into the slot, without having to select it. (You cannot select this particular item to be active. If you have it, activation will occur automatically when you push up on the joystick.) The lock status indicator light is red when the doors are open.

THE END

```
=====
DOCUMENT inspecto.app
=====
```

```
 /
<-----INSPECTOR DOCUMENTATION-----> \
```

THE INSPECTOR IS A UTILITY WHICH ENABLES ONE TO INSPECT EITHER MEMORY IN THE APPLE OR ON A DISK. THE DISK BEING EXAMINED CAN BE EITHER NORMAL OR ABNORMAL DOS. IT COMES IN 2 FORMS: AND EPROM WHICH IS PLUGGED INTO AN INTEGER CARD, OR AS A PROGRAM WHICH IS LOADED INTO THE LANGUAGE CARD.

INSTALLATION OF EPROM:

I AM NO GOING TO GET INTO THE EXACT DETAILS OF PLUGGING IN A CHIP BUT BASICALLY, ON THE APPLE II (NOT +!) THE INSPECTOR REPLACES THE D8 ROM ON THE MOTHERBOARD. ON THE II+ WITH INTEGER CARD, THE CHIP REPLACES THE D8 ON THE INTEGER CARD. MAKE SURE THAT THE CHIP IS ORIENTED CORRECTLY, WITH THE NOTCH FORWARD (OR UP, AS ON THE INTEGER CARD)

WITH THE DISK VERSION, BOOT A MASTER. INSERT INSPECTOR DISK AND TYPE "RUN INSPECTOR" THEN YOU WILL BE PROMPTED WITH:

- ```
DO YOU WISH TO MODIFY

1) DOS 3.3 BASICS
   OR
2) DOS 3.3 SYSTEM MASTER
```

DEPENDING ON WHAT DISK YOU ARE MODIFYING, INSERT IT AND HIT <RETURN> THAT'S ALL THERE IS TO IT.

ACCESSING THE INSPECTOR:

STANDARD APPLE II:

```
FROM      TO      TYPE
-----
INTEGER   INSPEC. CALL -10240
MONITOR   INSPEC. C081 N D800G
APPLESOFT INSPEC. CALL-151 C081 N D800G
APPLE II+ WITH INT CARD OR LANG CARD
```

```
FROM      TO      TYPE
-----
INTEGER   INSPEC. CALL -10240
MONITOR   INSPEC. C080 N D800G
APPLESOFT INSPEC. CALL-151 C080 N D800G
```

ONCE THE INSPECTOR IS INITIALIZED, YOU CAN GO IT WITH THE FOLLOWING:

```
FROM      TO      TYPE
-----
INTEGER   INSPEC. CALL -10240
APPLESOFT INSPEC. &
MONITOR   INSPEC. <CTRL-Y>
```

THE DISPLAY:

WHEN THE INSPECTOR IS ACCESSED, THE FOLLOWING WILL BE DISPLAYED:

```
TRACK 00  SECTOR 0  SLOT 6  DRIVE 1
```

=====
   
BUFFER 0800 DOS 16      VER ???
   
=====
   
AND THEN A BLACK SCREEN...

ALONG THE TOP OF THE SCREEN, HEX DIGITS 0-F ARE DISPLAYED ALONG WITH THE SAME DIGITS ON THE LEFT SIDE OF THE SCREEN. TO FIND A SPECIFIC BYTE, JUST ADD THE DIGITS TOGETHER. FOR INSTANCE, TO FIND BYTE 7D, LOOK IN ROW 7 AND COLUMN D.

DISK COMMANDS:
   
-----

V: DOS VERSION
   
SWITCHES BETWEEN 13 AND 16 SECTOR DOS

P: PERIPHERAL SLOT
   
SELECTS THE SLOT OF THE DISK CONTROLLER CARD

D: DRIVE NUMBER
   
TOGGLES THE DRIVE TO BE ACCESSED

T: SELECTS THE TRACK THAT YOU WANT
   
TO READ OR WRITE

S: SELECTS THE SECTOR THAT YOU WANT TO
   
READ OR WRITE

NOTE: TRACK, SECTOR, AND BUFFER
   
INFORMATION ARE IN HEX

R: READ
   
CAUSES THE TRACK/SECTOR WHICH YOU HAVE DESIGNATED TO BE READ (ERRORS ENCOUNTERED WILL BE DISPLAYED IN THE UPPER RIGHT HAND PORTION OF THE SCREEN)

;: SCAN FORWARD
   
CAUSES THE NEXT SECTOR TO BE READ INTO THE PRESENT BUFFER LOCATION

--: SCAN BACKWARD
   
CAUSES THE INSPECTOR TO SCAN BACK ONE SECTOR AND READ INTO THE SAME BUFFER LOCATION

A: ASCII/HEX
   
TOGGLES BETWEEN ASCII AND HEXADECIMAL DISPLAY

X: EXCHANGE
   
EXCHANGES FLASHING AND INVERSE CHARACTERS WITH NORMAL ASCII CHARACTERS.

E: EDIT
   
HEX EDITING:
   
1) TYPE HEX NUMBER OF BYTE TO EDIT
   
2) HIT <SPACE> TO DISPLAY CURRENT VALUE
   
3) TYPE IN NEW VALUE
   
4) HIT <RETURN> TO ENTER VALUE
   
5) IF YOU WANT TO CONTINUE EDITING, HIT <SPACE> INSTEAD OF <RETURN>
   
ASCII EDITING:
   
1) ENTER BYTE TO CHANGE
   
2) TYPE:
   
L FOR LOWERCASE
   
N NEGATIVE ASCII
   
<SPACE> NORMAL
   
NEGATIVE ASCII DATA IS ASCII WITH THE MOST SIGNIFICANT BYTE OFF (IT WILL BE FLASHING)

3) ENTER VALUE TO REPLACE THE BYTE
   
4) HIT <RETURN> TO ENTER IT AND EXIT
   
FROM EDITING MODE

CTRL-W: WRITE
   
CAUSES THE CURRENT VALUES IN THE BUFFER TO BE WRITTEN TO THE TRACK/ SECTOR

SPECIFIED

B: BUFFER LOCATION
   
ALLOWS USER TO SELECT BUFFER LOCATION WHICH IF USED. ONLY THE FIRST 2 DIGITS OF THE BUFFER CAN BE CHANGED. (NOTE: DO NOT USE PAGE ZERO FOR THE BUFFER!)

CTRL-I: INCREMENTS BUFFER AND SECTOR
   
AFTER YOU HAVE READ A TRACK/SECTOR INTO THE BUFFER, HITTING <CTRL:I> WILL INCREMENT BOTH BUFFER AND SECTOR SO THAT SEQUENTIAL SECTORS CAN BE VIEWED WITHOUT CONSTANT READING OF THE DISK

M: MAP
   
DISPLAYS A MAP OF USED/UN-USED SECTORS OF A DISK. "#" MEANS USED AND "-" MEAN BLANK

N: NIBBLE READ
   
1) SELECT TRACK TO READ WITH "T" COMMAND
   
2) PRESS "N" TO NIBBLE READ
   
3) THE TRACK WILL BE READ AND THEN A HI-RES IMAGE WILL BE DISPLAYED. THE USE OF THIS DISPLAY CAN IMPLY HOW MUCH DATA IS ON THE TRACK. FF BYTES (SELF-SYNC NIBBLES) APPEAR AS WHITE LINES
   
4) HIT ANY KEY TO ENTER NIBBLE DISPLAY MODE
   
5) NIBBLE DISPLAY MODE IS A DISPLAY OF ALL THE BYTES ON THE TRACK.
   
-<- SCROLL BACK
   
-> SCROLL FORWARD
   
^ READ NEXT TRACK

MEMORY COMMANDS:
   
-----

H: HEX/ASCII DUMP
   
1) ENTER BUFFER TO START AT
   
2) HIT "H"
   
3) THE HEX AND ASCII VALUES WILL START SCROLLING DOWN
   
Q: TOGGLES FAST/SLOW DISPLAY
   
-<- BACKS UP ONE PAGE
   
<RETURN> EXITS FROM THIS MODE

F: FIND
   
THIS ALLOWS A SEARCH OF ALL MEMORY LOCATIONS FOR A STRING.
   
1) SELECT BUFFER TO PAGE ZERO (\$0000)
   
NOTE: THIS IS THE ONLY TIME WHEN YOU WILL DO THIS
   
2) PRESS A TO SELECT ASCII/HEX
   
3) TYPE "E" FOR EDIT MODE
   
4) IN BYTE \$00, ENTER LENGTH OF STRING
   
5) IN BYTES \$01 AND ON, ENTER THE APPROPRIATE BYTES FOR THE STRING WHICH YOU ARE SEARCHING FOR
   
6) HIT "F" TO START ROUTINE

NOTE: MAXIMUM LENGTH FOR STRINGS IS
   
ASCII: 9 BYTES
   
HEX: \$0F BYTES (15)

L: LOCATE
   
FINDS HEX AND ASCII STRINGS ON A DISK
   
1) PRESS "B" AND SET TO PAGE ZERO (\$0000)
   
2) SELECT HEX/ASCII
   
3) ENTER "E" FOR EDIT MORE
   
4) ENTER LENGTH OF STRING IN BYTE \$00
   
5) ENTER STRING IN BYTE(S) \$01 AND ON

- 6) PRESS "L" TO SEARCH DISK
- 7) WHEN A SECTOR IS FOUND, A BEEP WILL BE SOUNDED

OTHER COMMANDS:

CTRL-Z: USER COMMAND  
WHEN <CTRL-Z> IS PRESSED, A JUMP TO LOCATION \$0300 IS EXECUTED

CTRL-C: RETURN TO BASIC  
THIS IS FAIRLY SELF EXPLANATORY

TIPS AND OTHER STUFF:

- FINDING RWTS ON A FOREIGN DOS DISK  
(THIS CAN BE USEFUL!)
- 1) SET BUFFER TO \$0000
  - 2) CHANGE BYTES \$00-\$04 TO 04 84 48 85 49 (THIS IS THE START LOCATION OF ALMOST ALL RWTS'S)
  - 3) PRESS "F" TO FIND THIS STRING
  - 4) IF FOUND IN A DIFFERENT THAN USUAL PLACE, THE INSPECTOR CAN BE MADE TO THINK IT IS NORMAL BY CHANGING ADDRESS #3D9 TO POINT TO DOS
  - 5) CHANGE BUFFER TO \$0300
  - 6) CHANGE BYTE \$3D9 TO INDICATE WHERE DOS IS

THIS FEATURE IS MAINLY USABLE BE THOSE OF YOU WHO HAVE THE ROM VERSION OF THE INSPECTOR. IF YOU HAVE THE DISK VERSION, THE IS A GOOD CHANCE THAT IT WILL BE ERASED FROM THE LANGUAGE CARD IN THE EVEN OF A BOOT.

USING A PRINTER:  
ENTER THE FOLLOWING AT LOCATION \$300

```
300:A9 01 20 95 FE 20 8E FD A9 FF 20 A8 FC A2 00 8A
310:20 C1 FB A5 28 85 10 A5 29 85 11 A0 00 B1 10 C9
320:A0 B0 04 69 40 D0 F8 20 3A 03 C8 C0 28 D0 EE 20
330:8E FD E8 E0 18 D0 D8 4C 93 FE 48 A9 00 85 24 A9
340:01 20 5B FB 68 4C ED FD
```

BYTE \$301 IS SLOT OF PRINTER  
THIS FUNCTION CAN BE USED WITH THE CTRL-Z COMMAND TO GIVE A HARD COPY OF DATA

SAVING THE ROUTINE TO DISK: THIS CAN BE DONE WITH ANY ROUTINE WHICH IS LOCATED IN ONE PAGE ONLY. IT TAKES ADVANTAGE OF THE FACT THAT DOS DOES NOT USE TRACK 2 SECTOR F. IF YOU ARE USING THAT SECTOR, DO NOT USE THIS ROUTINE!

- 1) SET BUFFER TO \$0300 (OR WHATEVER YO WANT)
- 2) SET TRACK TO 2 AND SECTOR TO F
- 3) HIT <CTRL-W>

TO LOAD, JUST DO THE SAME THING BUT HIT "R" INSTEAD OF <CTRL-W>

TURNING PRINTER ON:  
(OR USING PRINTER WITH NIBBLE EDITOR)

- 1) SET BUFFER TO \$0300
- 2) ENTER THE FOLLOWING IN BYTES

```
$00-$05
A9 01 20 95 FE 60
  ^ ^
```

BYTE \$01 IS SLOT OF PRINTER

NOW, HITTING <CTRL-Z> WILL TURN PRINTER ON UNTIL <RESET> IS PRESSED

READING HALF TRACKS:  
UNDER NORMAL DOS, THE STEPPER MOTOR ON THE DRIVE IS PULSED TWICE FOR EVERY TRACK IT WANTS TO MOVE. HOWEVER, IF YOU FORCE THE MOTOR TO PULSE >ONCE< YOU WILL BE AT THE HALF TRACK. WHEN READING HALF TRACKS WITH THE INSPECTOR, ONLY THE NIBBLE EDITOR CAN BE USED. THIS IS BECAUSE RWTS DOES SOME CHECKS TO SEE IF IT IS READING THE CORRECT TRACK. IMPORTANT: THE INSPECTOR WILL NOT REALIZE THAT IT IS DOING HALF TRACKS! THEREFORE, TO READ TRACK \$4, YOU MUST SET THE INSPECTOR TO READ TRACK \$8. TO READ TRACK \$10.5, YOU MUST READ TRACK \$21.

- HOW TO SET UP
- 1) USING THE B COMMAND, SET THE BUFFER TO \$0200
  - 2) ENTER EDIT MODE WITH E
  - 3) CHANGE BYTE \$D4 FROM \$01 TO \$00

YOU CAN NOW READ HALF TRACKS

AVOID RELOADING LANGUAGE CARD:  
THIS IS NOT UNIQUE TO THE INSPECTOR, BUT I FELT THAT THERE WAS JUSTIFICATION TO INCLUDE IT.

ALL YOU HAVE TO DO IS CHANGE BYTE \$CC ON TRACK \$0, SECTOR \$9 TO \$10.

NIBBLE INFO

THIS IS JUST SOME BASIC INFO ON USING THE NIBBLE FEATURE ON THE INSPECTOR

ON DOS 3.3, 342 NIBBLES REPRESENT THE 256 BYTES. EACH TRACK ON A DISK IS MADE UP OF 2 FIELDS:

- 1) ADDRESS FIELD [VOLUME, TRACK, SECTOR]
- 2) DATA FIELD [ACTUAL DATA]

EACH FIELD HAS A PREFIX AND SUFFIX WHICH ARE UNIQUE TO THE DISK. THEY ARE AS FOLLOWS:

ADDRESS FIELD MARKER:  
D5 AA B5 (13) D5 AA 96 (16)  
VOLUME NUMBER: 2 NIBBLES  
TRACK NUMBER: 2 NIBBLES  
SECTOR NUMBER: 2 NIBBLES  
ADDRESS FIELD CHECKSUM: 2 NIBBLES  
ADDRESS FIELD TRAILER: DE AA

DATA FIELD MARKER: D5 AA AD  
DATA NIBBLES: .....  
DATA FIELD CHECKSUM: 1 NIBBLE  
DATA FIELD TRAILER: DE AA

THE 2 NIBBLE COMBINATIONS ARE ENCODED WITH THE FOLLOWING TABLE:

| NIBBLES | VALUE |
|---------|-------|
| AA AA   | 00    |

AA AB 01  
 AA AA 02  
 AB AB 03  
 AA AE 04  
 AA AE 05  
 AB AE 06  
 AB AF 07  
 AE AA 08  
 AE AB 09  
 AF AA 0A  
 AF AB 0B  
 AE AE 0C  
 AE AF 0D  
 AF AE 0E  
 AF AF 0F

And so it goes.....

=====

DOCUMENT instant

=====

\*\*\*\* Instant Icon \*\*\*\*

By

Mike Nuzzi

\*\*\*\*\*

Ever wish you could whip up a super looking Icon?  
 Ever see a graphic on your SHR screen that you would like to have as an Icon?  
 What!, you say you can't draw worth a darn.....  
 Well, there's hope yet..... Instant Icon NDA will allow you to mark off  
 part of the SHR screen and save it as an Icon. Just open the NDA, hold the  
 mouse down to start marking off, and release the mouse when done.  
 Fill out the attribute box, pick a filename, and that's it. Instant Icon.  
 The Icons you save will load into an Icon Editor, or can be used right away.

Tips:

Icon pathnames can be up to 64 characters long. You will only be able to view  
 about 40 characters in the Instant Icon attribute box. You can keep typing, but  
 you will only be able to view the first 40 or so characters.

You can "Capture" images from a 320 mode screen. Instant Icon will convert the  
 colors to 640 mode.

Icons are displayed in the standard palette. If you create an Icon from a  
 screen that is not in the default palette, it will usually look pretty sad...

Instant Icon will allow you to mark off approx a 70x70 square, although, you  
 could make a rectangular Icon. Square Icons usually look the best, and not too  
 large. Large Icons tend to clutter up the desktop.

This is version 1.2 of Instant Icon, the first release. If you have any  
 suggestions, or find bugs, you can contact me at:

America OnLine -- Nuzz  
 Genie -- M.Nuzzi

Phone -- Triad Venture Inc (516) 732-3771

If you haven't seen it already, please look for a demo of our  
 Graphic Disk Labeler program (GDL).

Happy Icons

Mike Nuzzi  
 President Triad Venture Inc.

=====
DOCUMENT intellihacker
=====

IntelliHacker Dox - Page 1

IntelliHacker  
and  
Dox  
Written By  
Czar Peter  
of  
Anarchy Unlimited  
(c) 1985  
  
7 Oct 1985

## ABOUT INTELLIHACKER?

About a year ago I got my Apple //e. It was a great system, and a fantastic upgrade from my cassette based TRS-80 model I. I had my first experiences with the TRS-80 and, since most of them were bad, the Apple was an enormous improvement.

I realized shortly after that, however, that programs are really expensive and some aren't even so great. That's why I was drawn to pirating.

A high school friend of mine introduced me to Apple pirating. Before I even had a modem, I had several thousand dollars worth of reasonably good pirated programs. I learned a hell of a lot by disassembling the boots of those programs, and finally, after investing about \$750 in a 1200 baud modem, a Super Serial Card, and a modem program (Ascii Express, what else?), I started to pirate on my own. My first booty: Spy vs. Spy.

But, fuck, AT&T was making a god damn fortune off of me. I had built a blue box before, but had been caught Bbing and didn't want to go through that shit again.

Another friend on a now defunct AE line told me how to use my first extender. It was an 800 extender used by GM and he warned me not to get caught. "After about a week," he said, "hack out a new code. Use MM//e." I didn't have the slightest idea what mm//e was but I took his advice and tried to hack out some codes. Without a program to do it, it's nearly fucking impossible. And, after getting MM//e, I found out it was only for the Micromodem. Well, I had spent a hell of a lot of money on an Applemodem 1200, and I had every intention of putting it to use.

I saw Smart Hacker on an AE line a few weeks later! Great, A phreaking tool for the Hayes Smartmodem, and mine is a compatible! After downloading this, I found that you had to adjust a DIP switch on the back of the modem, the DCD switch. Well, Apple didn't think to put this switch on the Applemodem, and I heard from a friend everytime he wanted to use AE, he had to put the switch in its original position again.

With no solution in sight, I made a decision to write a program that should be compatible with every Apple computer system, and be able to detect a carrier with no modifications.

The result is IntelliHacker.

IntelliHacker Dox - Page 2

## WHAT DOES INTELLIHACKER DO?

IntelliHacker is a multi-purpose hacking and phreaking tool. Hacking is using your resources to illegally break into someone else's computer via modem and access their data. Successful hackers are usually very dedicated and really don't care too much about much else. When you see a 19 year old buying VAX assembly language manuals and walking around a major company looking at license plates, you can be pretty sure that he is either nuts, or is a hacker looking for some obscure bit of information that will get him past the security of the system he has his sights on.

Phreaking, on the other hand, is making phone calls for free. People used to do this with various colored boxes, but now, since the phone companies have wised up and look for people using these boxes, they are somewhat rare. In addition, it's harder to box a free call than it is to use an extender.

An extender is a number that you dial, get a beep, dial an authorization code, and dial the phone number that you want to reach. If you're not using your own authorization code, some other sucker gets billed for the call. These are dangerous, but since it's impossible for a long distance company to detect you from a valid user, they are usually only dangerous after extended periods of time. They also can't be used to make calls outside of the continental U.S.

IntelliHacker aids you in both hacking and phreaking. In addition, as you'll see later, it can even help you out if you just want to harass the shit out of someone. If you've got the hardware, the guts, and if you aren't asleep yet, read on, and learn how....

## HOW INTELLIHACKER WORKS

Intellihacker is made up of several modules:

1. Terminator
2. Code Breaker
3. Scan Man

I will deal with each one separately. It is a good idea to read about them all in order, since I may refer to each of them from within the description of the other.

## TERMINATOR

In the movie, The Terminator, the terminator is a hunting machine. He hunts until he finds his prey. And if you're his prey, it's terminal. Well, IntelliHacker's Terminator works the same way.

The terminator program looks for carriers. If you saw that dreadful movie, WarGames, you saw that the kid had a program that just looked for terminals. Well, that's what terminator does.

If you're a hacker looking for new prey, this is your program. It is based on suffixes and prefixes. The prefix is a number that you set one time and it stays the same. It is the first part of number that you want to dial. An example might be 212-637-. This is the first part of 212-637-2938, 212-637-4949, and about 9998 other numbers. The suffix, as you might have guessed, is a four

IntelliHacker Dox - Page 3

digit number that is tacked on the end. The suffix is the part of



number that changes. You might try a range of suffixes, like 2112 to 9999. If your prefix is 212-637- this will try out every number between 212-637-2112 and 212-637-9999. That's as complex as suffixes get!

Prefixes can be more complex, though. If you use an 800 extender to call the number, the prefix might be:

1-800-738-3849,,,,,828392 212-637-

The 1-800-738-3849 is the number of your extender number. The,,,,, is to delay until the extender number is ready for you to dial your code. Since the Smartmodem recognizes each comma as two seconds, this will delay 10 seconds. The 828392 is your authorization code, and the 212-637- is your area code and exchange. That's about as complex as prefixes get.

When the program asks you for starting and ending suffixes, put in any range of numbers that you want. They must be four digits long though. If the starting suffix is higher than the ending suffix, the computer will know to count backwards.

You can have the carrier numbers that it finds sent out to disk, and/or you can have them printed out. If you prefer to watch, you can do that too. You can have the speaker either on or off.

If you want to change the speaker status, just press joystick button 0 or open-apple. Hold it down until it finishes calling the number it is trying. Let it go when you see on the status board that the speaker is off (or on, if it was already off).

If you want to pause the program, perhaps to make a phone call or build a bomb, press joystick button 1, or solid-apple. When you here the bell the computer is in pause mode. Let go and go about your business. Just press the same button to start it up again.

If you want to abort the procedure all together, just hold both buttons down at once. When you hear the bells, the program is calling it quits. You will be taken back to the main menu.

#### CODE BREAKER

Boy, these dox are long! But, shit, it took me a few weeks to write the programs and I'm no bum. There's a lot to them! But, I realize that everyone wants to run the program, so I'll condense the rest of the dox.

Code Breaker looks for authorization codes for a long distance number that you supply. The number for Sprint here in NY is 950-0777. This is the number that you would put in as the long distance company's number.

You then put in a range of codes to try. They must be of the same length.

There are more features to Code breaker, like increments. If you've used MM//e Hacker, you now that it counts in sequence. So does Code Breaker, but you define the sequence. Even though Code Breaker will count backwards, you must put in a positive number for the increment. To make it count backwards just make the starting code larger than the ending code.

You can also have randomness with Code Breaker. Just say yes to the randomness feature and the program will stay within your bounds, playing tricks with the increment.

If this is an inconvenience, let me know.

#### SCAN MAN

If you call a lot of AE's you know what it's like to get a busy signal all night. And redialing with the modem is no fun.

What this program does is scans a few BBS or AE or Whatever numbers until one picks up and you get a carrier. It then either switches you to Terminal Mode or boots the AE disk.

You have a directory with Scan Man. It contains your computer numbers. You can delete or add numbers as you please, keeping up to fifty numbers at a time. You will also be asked for a key by which to identify the number. An example key might be the password or the name of the BBS. It's up to you, but there is a 34 character length limit on the key. You will also be asked if you use an extender for this number. If you reply yes, the computer will automatically dial whatever extender number you are using at the time. This way, when you change extenders (do it frequently) you don't have to revise the entire directory.

When asked for the extender number, put in the long distance phone company's number, the time delay commas, and the authorization code. Scan Man will automatically dial it before the numbers that you ordinarily use with extenders, and won't dial it for numbers that you don't ordinarily use with extenders.

You can, of course, delete numbers from the directory, but by no means should you delete every number! This will cause an error and Scan Man will not work!!!!

Again, the joystick/apple keys control abort, pause, and speaker status.

#### CALL ME

If you have any problems, comments, suggestions, or just want to gab, call the Protestor's AE/BBS at 512-396-0780. It's not my AE but I am in charge of the Anarchy Board. It's got all the latest wares and one of the coolest sysops around. Give it a ring.

And Keep your eyes peeled for IntelliHacker V2.0. It will be a result of the feedback I get through the Protester's AE/BBS and a few other that I belong to.

Now, Scan, man.

#### BY THE WAY

If you want to really harass the shit out of someone, put their name and number in the Scan Man Directory. Then leave it on, calling their house every 30 seconds. Also, Put their name on the directory and pass the program around with their name on and a note to bother the shit out of them. Before you know it, they're getting calls from all kinds of pervs and who knows what the fuck else!!!! Great, huh??? Try it on your teacher some time.

Czar Peter  
Anarchy Unlimited  
New York City  
7 Oct 1985

#### IntelliHacker Dox - Page 4

Again, the joystick/apple keys control the speaker, pause, and abort.

Unlike Terminator and most other modem hacking programs, Code breaker also write and saves the bad codes to disk. The reason is simply this: with the randomness feature on, you have no other way of telling what numbers, bad or good, you've tried.

=====
   
DOCUMENT intropt.1.3
   
=====

Intercept v1.3 documentation
   
by
   
The Voice Over

Okay...This is the latest version of Intercept. I wrote it because I learned that Intercept 1.2 wouldn't work properly with the Apple //c, and also, one of the instructions in the driver routine wasn't truly slot-independent, as I had hoped. Anyhow, it's done, so have fun...

Section 1: How it works:
   
-----

1.0: The process of booting:
   
-----

When a disk that has been modified with Intercept is booted, the following is what takes place:

- 1) The disk controller ROM reads Intercept's BOOT1 routine from track 0, sector 0 into page 8 of RAM.
- 2) Intercept clears the screen to either spaces or inverted @'s and prints 'Intercept 1.3' in the upper left corner, and the user defined message in the center of the screen.
- 3) Intercept reads in the track/sector list from the sector stored at track in \$8FE, sector in \$8FF.
- 4) Intercept reads in the Intercept driver, the old BOOT1 routine, and the code to be run as an interception from the sectors listed in the track sector list.
- 5) Intercept jumps to the driver routine at \$A00.
- 6) The driver routine calls the intercepted code, and when the intercepted code returns to the driver, it moves the old BOOT1 routine to page 8 from page B, sets up memory as if a disk had just been booted, and jumps into the controller ROM's routine that sets up the registers and jumps to \$801.
- 7) The boot continues as if nothing had ever happened.

1.1: Intercept's structure:
   
-----

Note: In the docs for Intercept 1.2, I kindly included a breakdown of the technical workings of Intercept, T/S list format, etc. Unfortunately, certain people (The Sector Smasher, Mad Rat, The Nudge, 6-Golds, and Knight Writer of The Star League) decided to be ASSHOLES and remove the small bit of credit I try to reap by putting Intercept 1.2 in the corner of the screen by changing the message to all spaces on their crack of Planetary Construction Set. These guys are so lame, they couldn't even figure out how to NOP out the print routine...they went and changed all of the data that made up 'Intercept 1.2' into data that would produce spaces. Well, guys, the whole reason I put in the user-defined message was so that people wouldn't take out the title and replace it with something of their own. Thanks to these morons who were not only too damn stupid to write their OWN boot routine, but also stupid enough to get caught stealing someone else's, there is no longer any technical information concerning Intercept available. I'd suggest you call them up and thank them if you wanted the data. The boards that they frequent are on the title page for Planetary Construction Set. Now I know how you felt about Bun E. Boot, Tyrone.

Section 2: How to use Intercept:
   
-----

- 1) Crack a ware

- 2) Make a title page program for it.
- 3) Boot the Intercept 1.3 disk.
- 4) SCANNING FOR BLANK SECTORS: Place the disk you plan to intercept in drive one or two and press the appropriate key. Intercept will begin to scan your disk for blank sectors that contain all \$00s. If you already know where enough free sectors are to hold your title page program, plus 3 sectors for overhead, press the <ESC> key. Once you think Intercept has located enough free sectors to hold your title page, hit <ESC>. Note: You can let Intercept scan the whole disk for free sectors, as it will continue merrily along until it locates 255 blank sectors, but why spend the extra time?
- 5) DEFINING THE BOOT PARAMETERS: There are four parameters you will have to set for Intercept to continue. They are:
  - CLEAR SCREEN TO: This option allows you to clear the screen either to spaces or to inverse @ signs. Choose whichever you like best.
  - BOOT MESSAGE: This option allows you to enter a 20 character long message that will be displayed in the center of the screen as Intercept loads your title program. If you do not wish to have a boot message displayed, just hit <ESC> at the prompt.
  - TITLE FILENAME: This is where you enter the name of the file you wish to use for your title program. Hit ESC to catalog the drive you booted Intercept from.
  - FILE TYPE: This option allows you to select the type of file you wish to use for your title program. Use P if you simply have a standard hi-res picture, or F if your title program is a BRUNable file. If you choose the P option, Intercept will load the picture and ask you if it's the correct one. If so, the picture will be packed and an unpacker will be included as part of the title page.
- 6) DEFINING THE TRACK/SECTOR LIST: This section is where you work with the list of tracks and sectors on which you want your title page to be written. If you want to use the blank sectors found with the scan function, use option 1 at this menu.
  - OPTION 1: USE BLANK SECTORS FOUND WITH SCAN: This option will allow you to use any blank sectors you found with the scan function as the track/sector list. You will be notified if not enough sectors were found to accommodate Intercept's requirements.
  - OPTION 2: DEFINE TRACK/SECTOR LIST MANUALLY: This option will allow you to manually enter a track/sector list. Intercept will automatically stop asking for track/sector pairs once you have entered enough to hold your title program plus 3 sectors for overhead.
  - OPTION 3: VIEW CURRENT TRACK/SECTOR LIST: This option will allow you to view your current track/sector list to verify that it's correct.
  - OPTION 4: EDIT LIST: This option will allow you to edit the current track/sector list. Use the arrow keys to select the pair that you wish to edit, and hit the spacebar to edit it, or D to delete it from the list. Note that if you delete a track/sector pair from the list, you may have to add a pair using option 5 in order for there to be enough room for Intercept to function properly.
  - OPTION 5: ADD TO LIST: This option is similar to option 2, except it does not initialize the track/sector list to 0 entries when you select it.

Once you are finished editing/defining the track/sector list, hit <ESC> to intercept the disk.

7) INTERCEPTING THE DISK: Once you have completed the necessary preliminary steps, you will be prompted to place the disk to be intercepted in drive one, and to press <RETURN>. Make sure the disk to be intercepted is in drive one and not write protected. Intercept will attempt to place your title program on the disk. If an error occurs, you will be informed, otherwise, the message, "Intercept 1.3 has been successfully written to the disk" along with the ']' prompt will be displayed. I suggest that after you intercept a disk, you boot it and verify that it functions as it did before the Intercept process.

8) NOTES: If you make a BRUNable title page program, it MUST NOT BEGIN at an address lower than \$2400. If it does, it will interfere with Intercept. If it DOES begin at a location lower than \$2400, but greater than \$BFF, you may still use it, but you'll have to move it to a location higher than \$2400 and write a memory move routine to move it to where it should go. Under NO circumstances may a title program begin at a location lower than \$C00, as the area from \$0000-\$07FF is used by the Apple internally, and the area from \$800-\$BFF is used by the Intercept 1.3 loader program.

NOTE: If you're a GnU WaReZ KiD, you can use Intercept to add a title page to cracks that are already out, but let's face it...how much lower can you get than to steal credit for someone else's crack?

Well, that's about it. If you've got any questions about Intercept, feel free to leave me mail on any of the following boards:

Club Zero.....(213) 395-0221 Transfers ][(.....(514) 738-1247  
RAPS ][(.....(907) 753-RAPS Halifax.....(301) 445-5897

-The Voice Over

Documentation completed 19, December, 1986, 11:19 PM, MDT.

===== DOCUMENT intrigue =====

```

+++++
+           The Bunnymen Present:         +
+                                         +
+                   Intrigue!           +
+                                         +
+   Docs. written by The Marauder       +
+                                         +
+                   5/14/86 11:30 E.S.T. +
+++++

```

Lowdown of the Game

The whole deal is based around this bomb and if you don't deactivate it the city will be blown to shit. You also have to find the guilty guy and convict him. You should be as nice to people as possible because they have alot of information you need to know also you should try to date people and get info that way. You are not going to solve the mystery unless you take good notes. You also will have to go to the safe to play the rest of the game, and open the bitch up with those piss ass codes I had to type in.

Commands

ctrl-O - sound on/off  
ctrl-S - save a game

Spanish Glossary

|                                         |                           |
|-----------------------------------------|---------------------------|
| amante-lover                            | le-him                    |
| amigo-friend                            | llaves-keys               |
| assistirte-to help you                  | lo siento-I'm sorry       |
| asi'-thus                               | mejor=better              |
| astuto-cunning                          | mi-my                     |
| beseme-kiss me                          | muy-very                  |
| bien-well                               | necesitar-to need         |
| chica-girl, slut whore                  | oficina-office            |
| como estas'?-how are you?               | pais'-country             |
| compadre-buddy, pal                     | pecadillos-sins           |
| con-with                                | periodista-journalist     |
| conoces-you know                        | pero-but                  |
| cosa-thing                              | por que'-why              |
| creo-i believe                          | por supuesto-of course    |
| cuidado-care                            | preguntas-you ask         |
| de-of                                   | que-what                  |
| de cierto-of course                     | que' tal?-how are things? |
| debes-you ought                         | querida-dearest           |
| decirte-to tell you                     | quizas'-perhaps           |
| delira-make delirious                   | razon'-reason             |
| dijo-told                               | rechoncho-chubby          |
| eran-they were                          | slaes-you leave           |
| es-is                                   | se'-I know                |
| eso-that                                | senorita-miss             |
| especialidad-specialty                  | si'-yes                   |
| excusame-excuse me                      | sin duda-without a doubt  |
| fue-was                                 | soy-I am                  |
| gran-great                              | tienes-you have           |
| has hallado-you have found              | toque-touch               |
| hasta la vista-see ya later             | translacion'-translation  |
| importa-has import                      | tu-your                   |
| impotante-important                     | un-one                    |
| insulta-ha, we just stole your hub caps | vayate-get lost, go away  |

Phone Numbers

# Apple II Computer Info

Bell Atlantic . . . . . 253-4000  
 Bull & Bear . . . . . 638-3445  
 Embassy . . . . . 555-1000  
 FBI . . . . . 324-3000  
 Floyd Firelli's Flower Kingdom 555-0700  
 George Washington University 676-6000  
 Joe the Shoe Deactive Agency 555-4761  
 Livwright, Dr. Myron L. 555-9989  
 Washington Post . . . . . 334-6100

**Codes to the safe**

These are all of the safe codes and it sucked typing all one thousand in! If the computer says # 15 you look down and the code is 96504....simple! It just sucks looking for it.

Let's say the code is 310 you look down the first column until you find 310....the code is 36980...If you need 311, you just go over one column to the right...the code for 311 is 41976...etc...etc...

|     |       |       |       |       |       |       |       |       |       |       |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|     | 0     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |
| 000 | 91263 | 36247 | 62139 | 05469 | 05469 | 05793 | 02349 | 28346 | 39027 | 51396 |
| 010 | 67581 | 26840 | 47362 | 40175 | 41260 | 96504 | 41572 | 24689 | 07965 | 40789 |
| 020 | 72485 | 62971 | 93506 | 18094 | 47985 | 52186 | 56748 | 30764 | 26348 | 32469 |
| 030 | 59083 | 85296 | 52670 | 94651 | 14256 | 30415 | 63784 | 52679 | 19087 | 65240 |
| 040 | 65039 | 86534 | 52849 | 39746 | 85730 | 83472 | 19378 | 27356 | 78025 | 27051 |
| 050 | 62745 | 64320 | 69583 | 89603 | 17356 | 15098 | 78213 | 34810 | 59218 | 35842 |
| 060 | 92716 | 85190 | 47053 | 48617 | 73208 | 12735 | 46071 | 69784 | 43502 | 79610 |
| 070 | 62471 | 03724 | 36718 | 59670 | 82670 | 30412 | 16435 | 85307 | 45912 | 98054 |
| 080 | 80765 | 31980 | 68794 | 56078 | 82753 | 72651 | 73485 | 09216 | 54301 | 65418 |
| 090 | 48761 | 06581 | 54670 | 20946 | 01862 | 49180 | 19482 | 57368 | 68524 | 02791 |
| 100 | 31246 | 87610 | 79256 | 43650 | 90162 | 02487 | 09415 | 54763 | 87146 | 69170 |
| 110 | 12794 | 70681 | 18693 | 43108 | 34598 | 18459 | 63072 | 20749 | 16083 | 81379 |
| 120 | 21349 | 26531 | 69807 | 29506 | 10698 | 39027 | 06937 | 84052 | 67985 | 02387 |
| 130 | 30529 | 73240 | 32198 | 63871 | 57409 | 73654 | 35761 | 10942 | 54713 | 71963 |
| 140 | 03781 | 31790 | 18052 | 85943 | 42865 | 63104 | 01487 | 23486 | 58046 | 06245 |
| 150 | 10365 | 18962 | 78421 | 46173 | 07524 | 02581 | 96143 | 36058 | 04267 | 68521 |
| 160 | 20691 | 64957 | 97301 | 69781 | 05461 | 26350 | 25976 | 39485 | 95128 | 76802 |
| 170 | 30124 | 41592 | 50192 | 73491 | 87613 | 47196 | 24691 | 47260 | 26403 | 98124 |
| 180 | 81260 | 58106 | 37518 | 71490 | 28364 | 78436 | 74209 | 37892 | 02365 | 91578 |
| 190 | 96457 | 23895 | 53794 | 72341 | 53129 | 16725 | 13890 | 17563 | 97615 | 45327 |

|     |       |       |       |       |       |       |       |       |       |       |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|     | 0     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |
| 200 | 16729 | 52983 | 72380 | 96435 | 12389 | 34678 | 28601 | 78094 | 94651 | 29587 |
| 210 | 56907 | 43917 | 96753 | 63084 | 59038 | 16854 | 42319 | 64327 | 37018 | 39247 |
| 220 | 93167 | 58473 | 15067 | 26903 | 42561 | 15674 | 58432 | 53814 | 14370 | 06284 |
| 230 | 46790 | 98150 | 01753 | 67049 | 09473 | 69304 | 71624 | 21063 | 82317 | 84756 |
| 240 | 24809 | 03798 | 75136 | 10295 | 21974 | 26019 | 26735 | 26598 | 91273 | 21038 |
| 250 | 19460 | 65180 | 48105 | 27081 | 35402 | 83725 | 08521 | 01469 | 43807 | 17036 |
| 260 | 78230 | 96731 | 61952 | 86092 | 79284 | 38175 | 93078 | 40561 | 85423 | 36251 |
| 270 | 03879 | 14692 | 93860 | 38064 | 12360 | 58904 | 97385 | 82514 | 36274 | 64253 |
| 280 | 14586 | 67153 | 46129 | 68247 | 34825 | 51486 | 16439 | 98547 | 04523 | 13684 |
| 290 | 81340 | 36021 | 69027 | 94162 | 40752 | 52708 | 97825 | 03948 | 90518 | 69417 |
| 300 | 31840 | 17854 | 40831 | 27314 | 49716 | 69178 | 01675 | 59624 | 60348 | 37246 |
| 310 | 36980 | 41976 | 57961 | 82630 | 67593 | 97428 | 49526 | 74051 | 08291 | 74650 |
| 320 | 06723 | 16573 | 90738 | 82401 | 67109 | 60283 | 02815 | 70136 | 25378 | 36480 |
| 330 | 38042 | 30261 | 97435 | 96037 | 75213 | 20716 | 82153 | 49817 | 79051 | 86491 |
| 340 | 70549 | 23547 | 45179 | 29640 | 95708 | 87463 | 29768 | 02157 | 48025 | 40761 |
| 350 | 40915 | 42016 | 40923 | 94016 | 69048 | 16270 | 30816 | 76239 | 87630 | 79236 |
| 360 | 20839 | 47638 | 96053 | 61027 | 52014 | 46892 | 36084 | 48702 | 89702 | 19734 |
| 370 | 79845 | 12789 | 21734 | 94061 | 62435 | 87641 | 71324 | 87295 | 38714 | 92631 |
| 380 | 37284 | 69273 | 93570 | 81940 | 23610 | 30458 | 13576 | 23076 | 43895 | 46908 |
| 390 | 80361 | 96273 | 52670 | 17230 | 41526 | 30459 | 73849 | 67293 | 52364 | 89365 |

|     |       |       |       |       |       |       |       |       |       |       |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|     | 0     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |
| 400 | 74019 | 57691 | 69128 | 24385 | 97245 | 52078 | 65489 | 23854 | 51826 | 07196 |
| 410 | 12756 | 19725 | 98765 | 15472 | 45207 | 46739 | 26895 | 38971 | 29548 | 67523 |
| 420 | 31264 | 87302 | 56082 | 50831 | 47092 | 04865 | 90485 | 46053 | 41602 | 46957 |
| 430 | 25391 | 29538 | 08914 | 17396 | 95143 | 24759 | 96840 | 12489 | 05132 | 86571 |

|     |       |       |       |       |       |       |       |       |       |       |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 440 | 58736 | 50347 | 62140 | 96804 | 75481 | 09185 | 51270 | 23841 | 84839 | 19763 |
| 450 | 41856 | 41690 | 64073 | 64890 | 43872 | 85690 | 61395 | 18390 | 34601 | 70549 |
| 460 | 86273 | 69825 | 25470 | 39471 | 97145 | 89650 | 02941 | 39817 | 40753 | 46708 |
| 470 | 06287 | 15439 | 05189 | 89614 | 38420 | 93165 | 38279 | 89746 | 48761 | 51293 |
| 480 | 57214 | 03921 | 59104 | 49206 | 24981 | 78143 | 18570 | 37528 | 71223 | 06912 |
| 490 | 39286 | 35670 | 72809 | 61347 | 08916 | 98742 | 12937 | 81746 | 60135 | 84916 |
| 500 | 05682 | 53189 | 34057 | 90643 | 91784 | 70234 | 30587 | 97815 | 03426 | 49750 |
| 510 | 39257 | 38625 | 63897 | 78156 | 19864 | 81067 | 32854 | 41520 | 71950 | 10452 |
| 520 | 52714 | 73129 | 15904 | 29063 | 14098 | 81436 | 73924 | 72548 | 91762 | 10452 |
| 530 | 45329 | 49350 | 47208 | 16347 | 04789 | 98742 | 18239 | 98174 | 87096 | 02584 |
| 540 | 70651 | 10829 | 17602 | 04216 | 01264 | 19870 | 28479 | 13270 | 14720 | 45107 |
| 550 | 78943 | 30528 | 83905 | 89367 | 63019 | 41825 | 34687 | 80526 | 12856 | 80154 |
| 560 | 85394 | 69783 | 78602 | 08529 | 19487 | 10674 | 76195 | 81036 | 57390 | 13879 |
| 570 | 56089 | 95876 | 58491 | 57902 | 24815 | 05641 | 24638 | 72083 | 59318 | 30568 |
| 580 | 63178 | 74310 | 69170 | 37048 | 52618 | 17643 | 32796 | 41960 | 98065 | 54397 |
| 590 | 08153 | 17402 | 53986 | 32516 | 53826 | 52781 | 12453 | 73958 | 40827 | 92087 |

|     |       |       |       |       |       |       |       |       |       |       |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|     | 0     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |
| 600 | 80467 | 07415 | 35472 | 98257 | 49531 | 52071 | 18273 | 23147 | 06315 | 12376 |
| 610 | 17509 | 73684 | 97012 | 67902 | 89420 | 85174 | 36814 | 79213 | 50897 | 15370 |
| 620 | 17240 | 68520 | 06237 | 39142 | 49012 | 16574 | 23794 | 28173 | 10936 | 53061 |
| 630 | 62397 | 28497 | 40962 | 59106 | 46180 | 20714 | 81290 | 86952 | 16258 | 87152 |
| 640 | 68213 | 04218 | 49631 | 95617 | 78513 | 73856 | 79803 | 70564 | 13724 | 84593 |
| 650 | 69521 | 12564 | 97380 | 40175 | 16870 | 17340 | 75094 | 57136 | 41067 | 67405 |
| 660 | 54381 | 37462 | 63271 | 35407 | 63804 | 10875 | 19738 | 95834 | 45890 | 45102 |
| 670 | 74380 | 25471 | 41680 | 90862 | 02931 | 87153 | 46509 | 05984 | 18420 | 08421 |
| 680 | 45690 | 52476 | 56428 | 61280 | 48573 | 20157 | 48342 | 48231 | 85972 | 09276 |
| 690 | 83762 | 45960 | 05786 | 09286 | 17283 | 07463 | 53019 | 13640 | 35804 | 79021 |
| 700 | 21946 | 79481 | 58042 | 79162 | 08367 | 46317 | 75810 | 41528 | 17856 | 01283 |
| 710 | 01963 | 63470 | 31759 | 07512 | 32496 | 28169 | 54029 | 46310 | 87954 | 50296 |
| 720 | 18456 | 95241 | 75642 | 93162 | 45813 | 83469 | 53842 | 74283 | 10364 | 64508 |
| 730 | 12769 | 12374 | 86134 | 41307 | 94561 | 23658 | 67280 | 82791 | 41629 | 09126 |
| 740 | 03642 | 61372 | 34158 | 45387 | 52130 | 08916 | 97054 | 10739 | 59138 | 38497 |
| 750 | 21746 | 10693 | 01249 | 38170 | 12068 | 62915 | 42917 | 80653 | 19603 | 82613 |
| 760 | 30517 | 02419 | 85721 | 04627 | 07948 | 08654 | 59834 | 89106 | 10395 | 43576 |
| 770 | 76142 | 49235 | 42817 | 42915 | 32649 | 79324 | 68973 | 08732 | 37159 | 04856 |
| 780 | 58031 | 54168 | 73586 | 79583 | 52168 | 52371 | 62721 | 83917 | 35461 | 30814 |
| 790 | 05923 | 47092 | 38091 | 07913 | 27068 | 36014 | 27198 | 07412 | 50316 | 75314 |

|     |       |       |       |       |       |       |       |       |       |       |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|     | 0     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |
| 800 | 86340 | 60923 | 19534 | 47182 | 17236 | 65123 | 86947 | 18206 | 17049 | 63987 |
| 810 | 56492 | 18357 | 81069 | 12859 | 26385 | 37980 | 24150 | 65497 | 37921 | 58620 |
| 820 | 95436 | 81769 | 03871 | 96045 | 76082 | 40182 | 58497 | 82931 | 38164 | 89014 |
| 830 | 03548 | 45109 | 27461 | 67905 | 07536 | 47051 | 42309 | 85627 | 87310 | 09124 |
| 840 | 73146 | 92840 | 83902 | 40572 | 07164 | 92543 | 28163 | 97168 | 06184 | 18059 |
| 850 | 39452 | 60425 | 48273 | 47836 | 58729 | 35017 | 46028 | 63825 | 49058 | 74285 |
| 860 | 76341 | 46927 | 32915 | 84371 | 89145 | 37420 | 14308 | 12795 | 85247 | 72301 |
| 870 | 06578 | 58297 | 83172 | 71942 | 71259 | 50926 | 38925 | 65730 | 98250 | 01578 |
| 880 | 59021 | 14850 | 58071 | 94560 | 12789 | 27160 | 27451 | 23167 | 42507 | 87203 |
| 890 | 43701 | 71350 | 24785 | 74928 | 86052 | 83147 | 62497 | 46058 | 87541 | 76950 |
| 900 | 54186 | 67405 | 52309 | 39275 | 86517 | 46591 | 76182 | 69152 | 14659 | 08276 |
| 910 | 31769 | 24085 | 71680 | 76431 | 81372 | 43921 | 98451 | 29358 | 62479 | 04735 |
| 920 | 50219 | 14580 | 50871 | 87495 | 27809 | 17065 | 74518 | 13674 | 94250 | 14965 |
| 930 | 56928 | 28946 | 92478 | 54729 | 79860 | 52918 | 52641 | 21387 | 96307 | 31248 |
| 940 | 36407 | 23749 | 21658 | 39584 | 19087 | 91736 | 50261 | 57049 | 98730 | 69025 |
| 950 | 17564 | 16509 | 30647 | 06813 | 51023 | 89506 | 74682 | 14078 | 19567 | 58043 |
| 960 | 09361 | 79823 | 05738 | 42598 | 43209 | 78310 | 31704 | 79648 | 60435 | 16935 |
| 970 | 70139 | 13645 | 92435 | 36192 | 02579 | 83105 | 72904 | 50962 | 61935 | 53761 |
| 980 | 46318 | 73948 | 72064 | 70415 | 71526 | 84291 | 64289 | 64958 | 51927 | 86435 |
| 990 | 74518 | 85796 | 02139 | 10427 | 85079 | 54923 | 72089 | 29475 | 08974 | 50394 |

## Apple II Computer Info

===== DOCUMENT intromusic =====

About: NOISE TRACKER v1.0  
(VAMPS) DEMO DISKS  
INTROMUSIC & INTROMUSIC.W

The INTROMUSIC files and INTROMUSIC.W wave files, found on all VAMPS DEMO DISK, are a complex (VAMPS) version of both new and earlier Noise Tracker and/or SoundSmith music files. It took several days of work to create each of these files using my Apple IIgs, porting the data to a Macintosh and/or IBM with customized DSP (Digital Signal Processor) cards for editing, processing and encoding, then porting them back to the IIgs for final editing and composition.

They were then converted, along with their selected individual sound samples to the Macintosh II format, after being digitally remastered as VAMPS they were saved and converted to files that could be processed with a special VAMPS designed super-computer system. After the final VAMPS full digital encoding was mixed, recorded and mastered, they were saved for use with Noise Tracker (VAMPS) v1.0. Some of the original samples/sounds; (voice samples, musical riff instrument combinations and single music instruments) were selected from a vast collection of digital samples from both the IIgs and Macintosh II/Quadra. In some of the VAMPS intromusic - wave files, some VAMP sound/samples and wave files include characters like; ( Wolfman Jack, Bart Simpson and family, StarTrek digital voice clips, Amiga, Atari, NeXT and CRAY II sound samples, plus an original (RARE) digital voice clip of Marilyn Monroe. Oh yes!, let's not forget the Church Lady from Sat. Night Live, with her famous, " Isn't That Extra Special " classic ).

The VAMPS samples list in the OSRL library collection is so complex and gigantic, (with over 6000 sound/samples), I might have left something out. If I did, you can view and listen to the individual VAMPS sounds that will be loaded from the INTROMUSIC.W VAMPS wave files, associated with each VAMPS INTROMUSIC file, via the NoiseTracker v1.0 program.

To the best of my knowledge, no other music and wave file combinations (available for the Apple IIgs), can even come close to the special VAMPS digital encoded effects and complexity of these on these disks. Featuring tracks in the GS-RamBased sounds, with VAMPS sound/samples and tracks in the Ensoniq RAM with VAMPS sound/samples, all playing together, some having separate speed-time rates and play-track maps set to loop or play for infinity. These and the other ( 2 file/2 disk VAMPS sets) are the most complex yet devised for use with the Apple IIgs, using Noise Tracker v1.0 !

Many of the VAMPS - INTROMUSIC (music files) & INTROMUSIC.W (wave files) audio aspects, that have been released for use with: - Noise Tracker VAMPS v1.0, (according to many experts in this field of ' Audio Directional Localization '), have virtually the same VAMPS and Psychoacoustic effects as can be found on the " ROLAND SOUND LOCALIZATION SYSTEM " , which cost around \$45,000 !

So, Apple IIgs users and owners rejoice ! With the VAMPS system, using Noise Tracker v1.0 and your Apple IIgs; with a Stereo card, a good high quality, high-velocity set of full sized headphones and the unique built-in IIgs Ensoniq chip, you can experience the same quality of Vortex Audio Mastered Psychoacoustic Sounds (VAMPS), that might cost upwards of \$45,000, using other computer systems and add-on hardware/cards.

I hope you will enjoy the revolutionary new ( VAMPS) sound experience you have available with this DEMO disks set. (AGAIN I WISH TO POINT OUT), you can only experience VAMPS, via your IIgs, with a Stereo card, a good quality - high velocity full-sized headphone set, a good stereo system & Noise Tracker (VAMPS) v1.0. I also hope you find some humor and laughter in listening to the various INTROMUSIC files presented during the start of this and the other VAMPS DEMO disks that are released. Be prepared to wait a bit for the music and wave file to load and play for you. PLEASE NOTE: Some INTROMUSIC files are set to play in a loop (for infinity). When you grow tired of it, press any key or click the mouse, to enter the program or press the Apple key during the boot to by-pass it and go directly into the NoiseTracker program.

NoiseTracker v1.0 is FREWARE. It is supplied as a free program on all VAMPS DEMO disk sets. In my opinion this program is the most advanced music program yet made available for the Apple IIgs and its users, who number over 1 million, world wide. The author/programmer, Olivier Goguel deserves praise and support for his efforts in developing and making such a supreme freeware IIgs music program, from all those that use it. Be sure to use your OPTION KEY to view the FREWARE INFO within, NoiseTracker v1.0. Send your comments and suggestions to him at the address noted:

\* -- \* ( Olivier Goguel, 34 Rue Des Rotondes, 21000 Dijon, France ) \*--\*

He deserves all the support you can give him ! He is one of the few programmers that develops software for the IIgs, that really shows the full potentials the Apple IIgs can present. Many of his software products; Photonix II, Fontrix GS, NoiseTracker, the SSS Sound Editors, etc., have made my computer music, art work and related efforts so easy and enjoyable.

Dr. Tom - (THE VAMPSMAN)  
OmniSoft Sound Research Lab  
25 Wayland  
S.F., CA. 94134  
USA  
Voice phone - (415) 467-0179

end of file

no message of type \$0011.

## IR's Preferences

IR's preferences dialog has three radio buttons, four checkboxes and three simple buttons to dismiss it. You might want to look at the dialog while reading these descriptions to make it clearer.

"Open exsting NDAs' windows," if checked, instructs IR to just open the window of an NDA that's already installed instead of installing a duplicate copy. This allows you to double-click on something like the Control Panel NDA icon and get the window open instead of getting a second Control Panel in your Apple menu.

"Open new NDAs' windows," if checked, instructs IR to open NDAs after they're installed if possible. This is only possible if the Desk Manager is active.

"Install Finder extensions permanently," if checked, tells IR to install Finder extensions (file type \$BC, auxiliary type \$0001) and forget about them; they'll be in the system until you reboot. If this checkbox is not checked, IR keeps track of each Finder extension it installs and shuts them down when the Finder quits or when IR is told to go away.

"Let applications try first," if checked, lets the Finder look for an application to launch first. Only if the Finder finds no application for the file will IR install it. In technical terms, checking the box makes IR respond to finderSaysOpenFailed instead of finderSaysBeforeOpen. You can reverse this preference on the fly by holding down the Control key as you open a file IR would normally install.

"Tell me about problems" tells IR to show alerts (if possible) in certain situations where you might want more information and a chance to change your mind. If you leave this box unchecked, IR won't display any such alerts.

The three radio buttons determine how IR responds to duplicates -- files the System Loader already knows about with the same pathname. "Install a new copy" does what IR 1.0 did -- it blindly and always installs a new copy of the file. This creates duplicate entires in your DA menus and can cause problems with some inits.

"Try to remove the old one" sends the srgGoAway code to the existing copy in the system, but installs a new one whether or not the old one goes away. This is what I usually use.

"Always remove the old one" takes no action if the existing copy won't accept the srgGoAway code. This is the most conservative but least useful approach. If you also check the "Tell me about problems" checkbox, IR will tell you when a duplicate can't be removed and give you one more chance to change your mind and install a new copy. If you hold down the option key while clicking "Install another copy" (actually, IR doesn't check until immediately after the window closes), the old one will be killed without mercy. You should only do this if you know exactly what you're doing. It's necessary for Finder Extensions that accept the Finder's "goodbye" message but won't accept an srgGoAway code -- otherwise weird things could happen. Most Finder Extensions won't have this problem, but EasyMount does.

"Cancel" dismisses the dialog with no changes to your preferences. "Accept" dismisses the dialog, saving your changes in memory until you reboot. If you click "Save," IR writes your preferences to disk (in the same folder where the IR init file is located). IR will attempt to load such preferences when it's initialized, and the file is less than one block long so you might as well use it. (Actually, the logical length is only two bytes.)

Most of the controls have semi-logical key equivalents, too.

Programming with IR 2.0

DOCUMENT ir.v2.0

\*\*\*\*\*

IR version 2.0

The all-purpose doohickey installer

By Matt Deatherage, Developer Technical Support

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\*\*\*\*\*

What is IR 2.0?

IR 2.0 is a lot like IR 1.0, but better. IR originally stood for "Init Restarter" and was written to get the GSBug Init installed after booting because it didn't work with my terminal program. It was quickly expanded to also load CDAs, NDAs and GS/OS Drivers, and made it onto the Developer CD. There it stood for a long time.

The new features in System Software 6.0, specifically inter-process communication (IPC), make it possible to go IR 1.0 one better -- IR 2.0 installs a Finder Extension so that CDAs, NDAs, inits and GS/OS drivers and even Finder Extensions are installed without ever leaving the Finder. It has preferences, presented through an "Extras" menu item and does a lot more than 1.0.

How do I use it?

To install IR 2.0, put it in the System.Setup folder of your boot volume's system folder, or double-click on it if IR 1.0 is installed. It's a permanent init.

Once it's installed, you'll see the "IR Preferences..." item in the Finder's "Extras" menu. The preferences available are discussed later in this document. More importantly, you can double-click on any of the document types listed above and they will be installed instantly. Usually you'll get extra copies of anything that was already installed when you double-clicked on it, but you can ask IR to try to kill old versions first, or instruct it not to do anything if an old version is around. NDAs appear in the Apple menu instantly and open their windows. Finder extensions' "Extras" menu items show up instantly. New GS/OS volumes appear on the desktop instantly. Everything's very whizzy and snappy.

Also included in this seed is a Nifty List 3.4p module called "IR.Module." This module will eventually include all kinds of IR things to do, but currently only has one command, "\killir". \killir takes no parameters and does what it says -- it kills IR. It displays error messages or tells you what user ID IR had before it was brutally murdered.

What is \*not\* yet included?

The following capabilities are coming someday, but aren't included in the 2.0 release of IR:

- \* Some inits don't want to be launched in the Finder, where all the tools are started. IR has an option to let applications have first shot at IR documents. The final package will include a C application that accepts Finder long path messages (message type #11, word-length strings and fully-expanded pathnames) to install these files. The source won't be too impressive; it will call the IR init to do all the work. The application will allow you to change IR preferences if you launch it with

IR 2.0 is a permanent init because it sits around and accepts requests to do things. In addition to accepting requests the Finder says, IR defines several requests you may send to it at the string "Apple-IR~". The file E16.IR, included with this seed, gives the definitions of all the symbolic constants outlined here.

The preferences are bits in a one-word field, and the bits of the field are defined in the E16.IR file also. Assemble whichever bits you want and pass them to the routines that take "preferences" or "flags." If you pass flags to the askIRToInstall routine, be sure to set the low-order bit (irSpecialPrefs) or IR will use the existing preferences instead. If you want IR to write preferences to disk, also set the low-order bit, otherwise the preferences will stay in memory only.

Here are brief descriptions of the IR requests. They are all made to the string "Apple-IR~" with the Tool Locator call SendRequest. See the System Software 6.0 Toolbox Delta ERS for details on SendRequest.

## askIRStartUp

Starts IR. You shouldn't have to send this; the Init portion of the IR file sends this request as soon as the request procedure is installed. This is where IR calls ShowBootInfo to display the icon or text string. It also reads the IR preferences from disk if it can find them, and uses the default preferences if it can't.

dataIn: Pointer to IR's user ID.  
 dataOut: Reserved  
 Results: None.

## askIRAreYouThere

A simple request; IR accepts it if it's present. An easy way to see if IR is around so you can send it other requests.

dataIn: Reserved  
 dataOut: Pointer to the following structure:  
           +000 Word rcvCount (filled in by Tool Locator)  
                   +002 Word userID -- IR's user ID for your convenience  
 Results: None.

## askIRToInstall

The workhorse. Here you give IR what it needs to install a file, and it does it if it can and if the preferences permit it.

dataIn: Pointer to the following structure:  
           +000 Word Flags/Preferences  
                   +002 Long Pointer to class one pathname of file to install  
                   +006 Word File type of file to install  
                   +008 Long Auxiliary type of file to install  
 dataOut: Pointer to the following structure:  
           +000 Word rcvCount (filled in by Tool Locator)  
                   +002 Word irError -- a result code about what happened  
                   +004 Word user ID of file just installed  
 Results: irDuplicateWontDie -- you told IR not to permit duplicates,  
                                           and it found one it couldn't kill.

irNoFinder -- Finder wasn't active when you installed  
                   a Finder Extension.

irGSOSNotAvail -- GS/OS isn't available so the file can't  
                   be read from disk and installed.

irNotIRFile -- not a file IR can install

irBusy -- IR was already busy doing something non-reentrant

Toolbox or OS errors returned unchanged.

## askIRGetPrefs

Returns IR's preferences. If the low bit of dataIn is set, the preferences are (re-)read from disk instead of returned from memory.

dataIn: Low bit set ==> read from disk  
 dataOut: Pointer to following structure:  
           +000 Word rcvCount (filled in by Tool Locator)  
                   +002 Word irError -- result code  
                   +004 Word flags (defined in E16.IR)  
 Results: irBusy -- IR was busy at the time  
 Toolbox or OS errors returned unchanged  
 (However, "file not found" makes IR create a new preferences file.)

## askIRSetPrefs

Sets IR's preferences. The new preferences are in the low word of dataIn and are written to disk as well if the low-order bit is set. The preferences are always saved to memory even if disk errors occur.

dataIn: Preferences in low word, low bit set ==> write to disk  
 dataOut: Reserved  
 Results: irBusy -- IR was busy at the time  
 Toolbox or OS errors returned unchanged (except file not found)

## askIRDoPrefs

Asks IR to present the preferences dialog, interact with the user and record the user's changes to memory and/or disk. The preferences dialog works in either 320 or 640 mode, and it is initialized with the current preferences; if you want to present the dialog with different preferences, you need to call askIRSetPrefs before calling askIRDoPrefs.

The dialog should only be presented if the Desk Manager (and NDA capability) is active, but right now it just assumes these things are there, so it will probably blow up big-time if you call it without the desktop tools active.

dataIn: Reserved  
 dataOut: Reserved  
 Results: None.

## ----- A word about installing things like IR does yourself:

If you have any doubts that installing DAs and inits and stuff on the fly and making it do what the user expects is easy, check the voluminous release notes at the beginning of each source code file, especially RequestProc.a11. The entire process is pretty delicate to begin with, and trying to move it to your own application is still risky.

So now you have source code to IR and you know all of its secrets. Now you can go off and do these things in your own programs, right?

Wrong. Please don't, for several reasons.

First, the code is still kind of delicate. It has several interdependencies and I very seriously considered moving all the delicate stuff into a separate source file and not releasing it -- just releasing the object code to that part. I decided against it so you can see what's going on, not so you could duplicate it in your own programs.

Second, if you want your desk accessory or application or other code to duplicate IR functionality, there's no reason to require the user to take the memory to duplicate these functions. IR can do the same work and not require nearly as much space in your code.

It's by far easier and better to provide the same functionality by licensing IR and including it with your program, and using SendRequest to call it. Or, you can just use askIRAreYouThere to implement IR-like features if IR is already installed, avoiding any licensing paperwork.

This stuff is tricky and it can change without warning. I'd feel a lot better if you let IR take the risks and you just ask it to do the dirty work. That way, any number of desk accessories, applications or utilities of any kind can have useful IR-like features without taking up lots of memory and without taking undue risks.

You can either license IR (it will be, in the immediate future, part of the GSBug distribution package, which costs less to license than most programmers spend on fast food in a week) and ship it with your product, or (if, for example, you're a shareware author) you can just use the askIRAreYouThere request to see if IR is installed and enable IR-like features if it is. This allows virtually any application to provide IR's capabilities when not in the Finder for very little memory.

You can contact Tim Swihart (AppleLink: TIM.SWIHART, address: 20525 Mariani Ave., MS: 70-PM, Cupertino, CA, 95014) for more information about licensing IR as part of the GSBug package. Once everything's settled, Tim will undoubtedly point you to Software Licensing, so if you know things are settled you should feel free to contact Software Licensing directly.

-----  
Please AppleLink comments/bugs/suggestions to me at DEATHERAGE1, or AIIDTS. If you like the sample, you can tell my management that it was a good use of my time by writing to DTS.FEEDBACK.

(Oh, by the way, IR 2.0 doesn't work reliably on any system earlier than 6.0D59, but it only checks for 6.0 generically.)

Package release notes are not included here, but there are voluminous change histories at the beginning of each source file.

Matt Deatherage  
Developer Technical Support  
Apple Computer, Inc.

===== DOCUMENT jack.n.golf =====

Club 96 Presents

Jack Nicklaus Golf IIGS and Jack Nicklaus Golf Complete Documentation

Program : Cracked By Static Vengeance Docs: Typed By The Mechanic!

Select Skins or Stroke Play

1. Use the mouse to point the pointer at the box beside the number of players you want to play. Notice that you can choose in either the Skins or Stroke Play formats. (Player description will follow).

2. Click the mouse button.

Skins

A game made popular in recent years by a special tournament that has pitted head-to-head: Jack Nicklaus, Gary Player, Arnold Palmer, Lee Trevino, and Fuzzy Zoeller. The rules are similar to Match Play -- you have to win a hole outright (no ties) -- but the betting system completely changed the objective. Instead of the most holes, you try to win the most money.

A dollar amount is assigned to each hole. Typically, the first six holes are worth one amount, the next six are worth twice that much, and the last six are triple the original prize. The best ball (lowest score on the hole) takes the prize.

If the hole is halved (two or more players tie for best ball) the money for the hole carries over to the next one. The means the money -- and the tension -- can add up fast. In one memorable Skins games, Gary Player had to roll in a 4-foot birdie to walk away with \$170,000.

Stroke Play

In stroke play, most great players consider the golf course to be their opposition much more than their fellow competitors. That's because the goal is not to win holes (Match Play), or take the big money holes (Skins), but to shoot the lowest score over 18 holes. As Jack puts it: "Stroke play is an 18-hole game, but you can play it only one shot at a time."

Select You Players

You make five decisions about each player you choose for you much. For each decision:

- o Point the mouse at the box beside you decision and click the mouse button.
- o As you complete each player, point to the box OK to go to next player, and click the mouse button.
- o After your final selection, point and click on the Done box to go to the next section.

Select Your Players (continued)

1. Player 1 Male Female
  - o The average male player hits clubs longer than the average female player -- but, of course, anyone can make extraordinary shots.
2. Computer player Yes No
  - o Choose from nine different computer players -- five men and four women



-- with varied skills. (Check the next section for complete descriptions)

- o Point and click on the left and right arrow keys which appear next to the Name Window to cycle through the players' names.
  - o Choose a name, point to the next OK to go to the next player, click on the mouse button, and the player's skill level, tee position, and gender are automatically set.
3. Name
- o To create a new player, type the desired name (up to eight letters) and press Enter
4. Skill
- o Beginner : Wind conditions don't affect your shots as much, and your slices and hooks are less extreme. On each shot, your club is automatically selected for you.
  - o Expert : Wind really comes into play, and hooks and slices are most extreme. In addition, you must select your club for each shot.
5. Tee : Pro       Farthest from the hole  
          Men's     Far away, but not as far  
          Ladies' Closet to the hole

Note: Some holes are designed with less than three tees, in which case some players share a tee.

Who Are These Computer Players?

Jack N

The Golden Bear himself. Naturally, the Player of the Century plays at the expert level and hits from the pro tees. Hits shots are carefully planned, well executed and he hits the ball further than the posted distance for each club. Nicklaus is one of those rare golfers who almost always does exactly what he set out to do.

Nancy D

Though enthusiastic, Nancy's just beginning. She often suffers a wicked slice on her drivers. And long putts give her lots of trouble.

Lars X

Calls himself Mr. X and likes to think of himself as an expert -- which is why he drives from the pro tees. has a tendency to hook drives and pull putts to the left.

Babs R

A true competitor, Babs considers herself an expert. She usually hits the ball straight -- with an occasional slice. When it comes to putting, she's overly cautious, and frequently leaves her putts short.

Art M

Art's a weekend golfer who could use a little practice. His shots tend to be short but straight. And his putts to be long and off-line.

Natasha

Natasha's a big hitter. She drives from the men's tees, and has played

at the expert level for years. If she doesn't slice, her tee shots are beautiful. But she often lags her putts.

Eddie C

He's no Jack Nicklaus, but this guy's Good. So good, in fact, he makes a living suckering players into a "friendly" game of skins. Naturally he plays at the expert level and drives from the pro tees.

Sally C

Though she's been playing for years, Sally is still a beginner. She just can't seem to get the swing of it. She hits from the ladies' tees. Her drives could go either way -- hook or slice. And she leaves her putts short.

Curly O

Curly just took up golfing this year and loves it. Problem is, he doesn't really play that well. He shoots from the men's tees, and plays at the beginner's level. His slices could end up just about anywhere. So could his putts.

Select Prizes for Your Skins Game

You can choose to play Championship Skins -- a \$36,000 match with single hole prizes of \$100, \$2000, and \$3000 for each set of 6 holes -- or change the entire prize structure.

1. To play the existing game, point to the box beside Championship Skins and click the mouse button.
2. To alter the total wager, point to the box beside Change Total Prize, then click the mouse button.
  - o Type in the new total beside the \$ symbol (not to exceed \$9,999,999), and press the Enter key. New wagers are automatically assigned for each hole.
3. To alter the prize for any hole, point to the box beside Change Hole Prized, then click the mouse button.
  - o Point to the hole you want to change, and click the mouse button.
  - o Type in the desired prize amount from the keyboard and press Enter, the computer automatically recalculates the prize total for the entire course.
4. Point and click on the Done box to continue to the next screen.

Pick A Game Option -- Practice or Play

Choose one of the following activities by entering its number.

1. Play a round
  - o 18 holes: 9 out and 9 in
2. Practice a hole
  - o Enter the number of the hole (1-18) you want to practice, and press Enter.
  - o After you hole out, you automatically view the Scorecard and Statistics Sheet for that hole.
  - o Continue to press the mouse button to return to the Practice or Play menu.

## 3. Driving range

- o Hit as many balls as you want with any club (except the putter)
- o Keep your eye on the wind indicator; it may change after each shot (see Wind).
- o Press Q to quit the driving range and return to the Practice or Play menu.

## 4. Practice green

- o Hone your stroke. Get the feel of lining up your putts, playing the break, and controlling the speed (see Putting). Press Q to return to the Practice or Play Menu.

Note: Computer players don't go to the driving range or practice green -- they fell they're good enough already.

## 5. Quit

- o Answer the prompts (yea or no) to return to the Course Selection screen or to exit the game.

### Gameplay -- Tee to Green

### Overhead Views of Each Hole

An overhead view of each hole appears before you tee off. It gives you basic data -- course name, hole number, par, distance, from each tee -- as well as a detailed look at the layout.

#### 1. Study the hole. Jack excels at this; so can you.

- o Pay attention to the pin placement. It's random which changes the length and character of the hole every time you play it
- o Analyze the potential hazards -- doglegs, trees, water, traps, out of bounds, cart paths -- then identify the optimum target areas for your shots.
- o Jack puts it this way: "There is an ideal route for playing every golf hole ever built, and the more precisely you can identify it, the greater your chances for success"

#### 2. Click the mouse button when you're prepared to tee off.

#### 3. Press the Letter O anytime during the hole to return to this Overhead view.

### A Tip From Jack...

The Overhead View can help you be a smarter Skins player because it shows you the relative locations of every ball that's played. Use it to compare your next shot to what your opponents must face. The information will tell you whether to play safe, or go for it.

"A definite time to be conservative in a Skins game is when your opponent, hitting first, finds serious trouble such as out-of-bounds," says Jack. "Swallow your pride and play it cozy. Conversely, if you're in trouble and he's obviously in A-1 shape, there's little to be lost by gambling."

### Choose Your Clubs

#### 1. Beginner

- o A club is automatically selected for you on each shot from tee to

green. It appears in the Club Selection box at the bottom right of your screen, along with the posted maximum distance for that club.

- o The computer calculated your yardage from the pin, then selects the club whose posted maximum distance (see the Club Distance chart on the back cover) is closest to that yardage.
- o Be careful: The computer only takes distance into consideration -- not wind, trees, rough or other conditions which can affect club selection.
- o You can override the computer's choice by pointing and clicking on the Up and Down arrows beside the selected club. Stop when the club of your choice appears:

|                    |           |
|--------------------|-----------|
| Eight irons        | (2-9)     |
| Two fairway woods  | (3-4)     |
| One pitching wedge | (P-Wedge) |
| One sand wedge     | (S-Wedge) |
| One Driver         |           |

### You Don't Have To Use A Mouse

You can also use the keyboard to control aiming and swinging, but for sake of brevity we omit those instructions throughout. Use the left and right arrow keys to aim the shot, the Up and Down arrow keys to make your club selection, and the space bar to replace the clicking of the mouse.

## 2. Expert

- o You must select your own clubs for each shot; the Club Selection box defaults to the last club you used until you select another stick
- o The computer automatically defaults to the sand wedge in the sand, the Putter on the green, and the Driver on the tee; but it won't default to the Driver off the tee.
- o Base your decision on the yardage to the pin -- as shown on the bottom center of the screen -- and other playing conditions such as wind, hazards and rough.
- o Check the Club Selection chart on the back cover to see the maximum distance each club can be hit without overswinging (no yardage appears in the Club Selection box)
- o If you don't select a club, the computer selects either the last club you used (except the Driver), or the sand wedge or putter if you're in the sand or on the green.

### A tip from Jack...

Club selection is wide open in this game except for three exceptions: Your driver can only be hit from the tee, your putter can only be hit from the green, and the sand wedge can only be hit from a sand trap.

But before you select any club, prepare for your shot mentally. "Before every shot, look hard at what confronts you and then decide on a club, and target," Jack says. "Identify the specific risks -- Out-of-bounds, water, bunker, heavy rough, wind, ground slope, pin placement -- and weigh them against your capabilities."

### Aiming Your Shots

Atop the Play screen, a small flagstick always indicates where the pin is located in relation to your position. (This is especially helpful on blind shots where hills or trees obstruct your view of the real flag.)

1. Point and click on the arrow keys beside Aim Shot to adjust the "Aiming Ball" to the left and right of the small flag. (or, you can point to

the Aiming Ball, click and hold the mouse button, and "drag" the ball to your desired location.)

2. Place the Aiming Ball directly over the flag if you want to aim your shot directly at the pin.
3. Place the ball to the left or right of the flag to compensate for wind conditions, obstructing hazards, hooks and slices, and for the break on putts.

### Changing Your Perspective

If you don't like the direction you're aiming toward -- say a tree blocks your shot -- you can change it:

1. Point and click on the arrow keys beside Aim Shot to slide the Aiming Ball past either of the two vertical pegs that bookend the top of the screen. (Or, you can point to the Aiming Ball, click and hold the mouse button, and "Drag" the ball past the pegs.)
2. Slide it past the left peg: The screen automatically redraws and you now see what you would see if you had physically shifted your vision to the left.
3. Slide it past the right peg: It causes the same shift of perspective, but to the right.
4. If you want, you can continue to scroll right or left and see a 360 degree view of the hole from where you're standing.

A tip from Jack...

This feature can be used anytime, but it's especially helpful between the tee and green where you're deciding whether to gamble or not gamble. It's often better to shirt trouble than to always aim for the pin on your approach shots.

It's usually higher handicappers who don't play away from obvious dangers -- bunkers, trees, waters, etc. "Unless you are forced by the competitive situation to gamble," Jack says. "I lean toward playing safe and moving on. It's paid off for me -- especially on the tough coursed used in major championships."

### Swinging

The movement of the Power Bar on the left of the screen corresponds directly with your players' swing on screen. To control the swing, you control the Power Bar. And to control the Power Bar, you use the mouse.

Every shot required three clicks of the mouse button to execute. (the mouse pointer must be inside the golf course portion of the screen to make it work.) The timing of the clicks determines how hard and how straight you can hit the ball.

1. Click the mouse button once to begin your backswing.
2. Click the mouse button a second time to control the distance of your shot (and start your downswing.)
3. Click the mouse button a final time to strike the ball -- and control how far left or right of straight you want to hit it.

### "Swinging" the Power Bar

The middle section of the Power Bar -- let's call it the Swing Zone -- is divided into ten segments, each of which represents 10% of your club's potential distance (as determined by the Club Distance chart, and as shown in the Club Selection Box.)

Thus, the bottom line of the Swing Zone represents 0% or 0 distance; the top line represents 100%, or the maximum distance for each club as set by the computer; and the Half Line represents 50% or half that maximum distance.

### A Sample Shot:

You're sanding on the tee of a 300-yard hole, so you take your driver and you want to hit it full. If you're a man, a full driver, means 250 yards in this game. You decide to hit it dead straight because that's the way the hole goes, and there's no offending wind of hazards.

1. Click the mouse button to start your backswing; a color rises like mercury from the bottom of the Swing Zone towards the 100% line.
2. Watch the rise carefully. Try to click the mouse button the moment it reaches the 100% line.
  - o A Triangular arrow to the left of the Power Bar indicates exactly where you make your click.
  - o After the click, the color descends, just like your backswing.
3. To Keep your shot straight on target (the flagstick), make yours third click on the '0' line.
  - o Another arrow appears to mark your click.
4. If each click is right on the button, your ball sails 250 yards straight down the fairway, and you're left with a 50-yard approach shot to the green.
  - o The computer automatically tells you how far you hit your last shot.

### Controlling Your Distance

Of course, you don't hit every club full if you want to stay in bounds. Let's continue the sample hole to see how to control the distance of your shots.

You're 50 yards from the pin, so you select your pitching wedge (P-Wedge) because the chart says the pitching wedge can whack it 100 yards if you hit it full. But you don't want to hit it full; you want to hit half a wedge 50 yards:

1. Click the mouse button to start your swing.
  - o Notice that the color rises much more slowly with a wedge than it does with any other club.
  - o The smaller the club, the slower the rise -- because the most humans smaller clubs (like the high irons) are easier to hit than big ones (Drivers and fairways woods)
2. Click the mouse button the moment the rising color reaches the Half Line -- that's 50% of the wedge's full distance (100 yards) or 50 yards.
  - o Remember that each line in the Swing Zone represents 10 percent of any club's posted maximum distance
3. As the color descends, make your final click right on the bottom line of the Swing Zone to hit the ball straightaway.

The ball should loop gently 50 yards into the air than nestle onto the green -- inches from the cup.

### Overswinging and Underswinging

What happens if you don't make your second, or distance, click directly on the 100% line of the Swing Zone?

1. If you make the second click late -- inside the Power Swing Zone -- you overswing.

- o That means your shot can carry longer than the posted maximum distance of your club
  - o It also means that if you misjudge your third, or accuracy, click, the resulting hook or slice is randomly exaggerated.
2. If you're early on the second click -- beneath the 100% line of the Swing Zone -- you underswing.
- o That means the distance of your shot will be some percentage less than the full posted distance of your club
  - o How much less depends on how early you make your click -- the earlier the click, the shorter your hit

A Tip From Jack...

Overswinging and underswinging are not necessarily bad. It depends on the situation. You have to underswing on some shots -- for example, when you have a 6-foot putt and you're holding a putter with an 80-foot range. And accuracy isn't sacrificed by underswinging, just distance.

Overswinging's another story. It can really hurt you if you're not careful. Its takes a perfect third click to avoid a major slice or hook in serious trouble. Says Jack: "You'll hit the ball straighter and more solidly when you don't mentally pressure yourself to produce absolute perfection and "press" every club for its maximum distance. Take one more club than you think you need for every approach shot and swing normally."

On the other hand, a big hit sometimes, offers the better golfer a find opportunity to gain a competitive edge. "A perfect example is the 15th at Augusta Nationals," says Jack. "Almost everyone cuts loose here because the reward can be a shot at the green with an iron for a two-putt birdie."

### Hooking and Slicing

If there's no wind and if you make your third, or accuracy, click right on the bottom line of the Swing Zone, the ball should fly straight. But just as you can't hit every club full, it's unlikely that you can hit every shot straight. And sometimes you don't want to hit it straight.

1. How to hit a hook, so that it "draws" the ball to the left (for a right-handed golfer):
  - o After your second, or distance, click, the color descends toward the bottom line of the Swing Zone.
  - o Click the mouse button before the color reaches the bottom line -- in other words, swing early -- and your shot hooks to the left.
  - o How far it hooks depends upon how early you swing (the earlier the swing, the bigger the hook), and how hard you swing (if you overswing into the Power Swing Zone, the hook is randomly exaggerated)
2. How to hit a slice that "fades" the ball to the right (for a right-handed golfer):
  - o After your second, or distance, click, the color descends toward the bottom line of the Swing Zone.
  - o Click the mouse button after the color reaches the bottom line -- in other words, swing late -- and your shot slices to the right.
  - o How far it slices depends upon how late you swing (the later the swing, the bigger the slice), and how hard you swing (if you overswing into the Power Swing Zone, the slice is randomly exaggerated)

A Tip From Jack...

The "ability" to hook and slice can destroy a hole or an entire round, but with a little strategy, technique and practice they can give you a major advantage over your opponent.

"Let's say I'm playing a 5-iron shot to a green 80 feet wide with the pin centrally located," says Jack. "if I aim at the pin and attempt to hit straight, I have only 40 feet of green to work with if I hook or slice the shot."

"But by aiming, says 20 feet to the left or right of the pin and trying to face or draw the ball in toward it, I give myself a much greater margin for error. Now I can "miss" the shot by 40 feet and still keep the ball within 20 feet of the hole."

"That is the tactical reason good golfers rarely try to hit the ball dead straight. The technical reason is that a straight shot is much harder to keep repeating than a fade or draw."

### Hazards and Course Conditions

Your swing isn't the only variable you have to consider (or overcome) when you're trying to hit the ball straight.

### Wind

Technically not a hazard itself, wind can certainly help you find the legitimate ones in a hurry. The amount and direction of the wind that affects each shot is registered on a circular Wind Gauge at the lower left of your screen.

### Wind Direction

- o Imagine that you are standing in the center of the circle, facing straight ahead at the flagstick
- o The line inside the circle is the wind
- o Now imagine there's an arrow on that line aiming away from you -- that's the direction the wind is blowing.

### Wind Speed

- o A bar gauge labeled WIND -- below the direction circle -- tells you how hard the wind is blowing.
- o The indicator is a red bar which slides from left to right on the gauge: 0 mph on the left, 10 mph in the center, 20 mph on the right.

A Tip From Jack...

"You need intelligence and patience to play well in wind," Jack says, "but most of all you need to strong sense of realism and sure emotional control. Par climbs for all golfers along with wind force."

### Tailwinds

A following wind makes it harder to stop the ball in the fairway or on the green, so club yourself accordingly. Jack: "I take one or two clubs less than the distance would normally require and hit hard. Don't ever "baby" a shot when you want height -- give it a good, solid whack."

### Headwinds

Obviously, you need a compensate for a strong headwind by swinging harder or using more club. "Your goal any time you're firing dead into a strong wind," says Jack, "should be a low, boring flight. To minimize soaring you must minimize backspin, and you'll do that most effectively by playing the ball from right to left, rather than straight or from left to right."

### Crosswinds

Jack: "You have two options whenever the wind is fully or partially across the line of a shot. One is to hook or slice against the direction of the wind, thus "holding" the ball more or less straight. The other option is simply to aim as much off the direct lines as you think the wind will move the ball and play your normal shot, allowing the ball to be blown back to the target."

### Rough

Use more club or more power to hit out of the longer, thicker grass that borders the manicured fairways.

### Sand Traps

Like the rough, you need more power or more club to get distance from a fairway bunker.

### Water and Out-of-Bounds

Hitting into the water costs you a one-stroke penalty, and the computer gives you the option of hitting the ball again from the same location or dropping the ball near the water (but no closer to the hole).

### Cart Path

It depends on the situation whether or not a cart path is hazardous or not. The ball bounces higher and farther off of it, which may be desirable on a trouble-free drive. But on some shots, the carom can carry you right Out-of-Bounds.

### Putting

You can only hit the putter on greens, and you use the same technique to aim and stroke a putt as you use to hit any club.

### Aiming and Stroking

1. Imagine an invisible straight line that connects your ball, the hole, and the Aiming Ball at the top of the screen.
2. Point and click on the Right and Left arrows beside Aim Shot to move the Aiming Ball onto the end of that imaginary line. (or, point to the Aiming Ball, click and hold the mouse button and "Drag" the ball there.)
3. Use the three-click procedure on the Power Bar to control the distance and direction of your stroke.
  - o Remember that the maximum distance on your putter is 80 feet, thus every segment on the Power Bar represents 8 feet.

### Reading the Break

Unfortunately, many greens aren't flat, so your putter won't always go straight. To find out how much a putt is going to break right or left, or if you're putting uphill or downhill, check the Break Indicator. It's in the same location as the Wind Gauge and operates, in a similar way.

### Right, Left, Uphill, Downhill?

1. Imagine that the line in the circle has an arrow on it pointing outwards -- that's the direction that the putt will break (right or left) if you're aiming directly at the hole.
  - o If there's no line, there's no break.
2. If the arrow points due south as on a compass, that means that the putt is uphill and has no break.

- o Uphill putts are slow' make a firm stroke.

3. If the arrow points due north, the putt is straight downhill.

- o Downhill putts are fast; ease up on the mallet.

4. If the line points, say, northeast, that means your putt is uphill and it breaks to the right. Compensate for both factors.

### How much does it break?

- o A bar gauge labeled BREAK -- below the direction circle -- tells you the intensity of a putt's break.
- o The Indicator is a red bar which slides from left to right on the gauge: If at the far left (no color), the break is virtually non-existent; if at the far right, you have a major break.

### A Tip From Jack...

"The amount any putt breaks depends on its speed," says Jack. "The harder you hit it, less the break will alter its course. This is good to remember, especially on short putts when you're under pressure. The greater the pressure you're under, the better off you are playing boldly rather than cutely on "must" short putts."

### The Scorecard, Statistics, Best Round Board

The Scorecard and Statistics screens appear consecutively after each hole. To view, the Scorecard in the middle of a round, press C. For the Statistics Screen, press S.

### The Scorecard changes for each format:

#### Stroke Play Scorecard

- o Shows the hole score and aggregate score for each player, as well as the par for each hole, each nine, and the course.

#### Skins Game Scorecard

- o Indicates the winner of each hole, how much money is won on each hole, and the total money earned for each player.

#### Statistics Screen (the same for both formats)

- o Longest drive (in yards) and the yardage of your last drive.
- o Closest ball to the pin (in feet, if you hit the green in regulation)
- o # of Fairways hit (only on Par 4 or 5 tee shots)
- o # of Greens hit (only on Par 3 tee shots)
- o Putts taken
- o Birdies and Eagles made

#### Best Round Sheet

- o At the end of each round, your final score is compared to the score of anyone who has ever played your disk.
- o It records the seven best rounds of all times of each course. (Make sure that your disks are "write enabled" which means that if you're using a 3.50" disk the sliding tab in the corner is closed.)
- o To view it from the game screen, Press B.

### Strategy

- o Be as accurate as you can on your second, or distance, clock on the Power Bar. If you go past your target, your shoot will be long.
- o Keep your eyes on the Power Bar (but watch other players when they're hitting -- the graphics are great!)
- o Use an iron, not a wood, when hitting from the sand or rough.
- o If you're shooting from heavy rough, take two more clubs than you normally use.
- o When in doubt, or you need a know your key commands, Press "H" for HELP!
- o It's not easy, but you can beat the computer Jack Nicklaus. One advantage you have over him is that you can hit the ball longer than he does (that's all we're going to tell you).
- o Putting: Remember that the break indicator only tells you the direction of the break when you aim directly at the hole. If you hit the ball too far, or to the right or left, the slope of the green -- and hence the break -- will change.

Club Selection Chart

| Club      | Distance  |           |
|-----------|-----------|-----------|
|           | Men's     | Ladies'   |
| Driver    | 250 yards | 225 yards |
| 3 Wood    | 235 yards | 211 yards |
| 4 Wood    | 220 yards | 198 yards |
| 2 Iron    | 207 yards | 186 yards |
| 3 Iron    | 195 yards | 175 yards |
| 4 Iron    | 185 yards | 166 yards |
| 5 Iron    | 173 yards | 155 yards |
| 6 Iron    | 155 yards | 139 yards |
| 7 Iron    | 143 yards | 128 yards |
| 8 Iron    | 130 yards | 117 yards |
| 9 Iron    | 112 yards | 100 yards |
| P P-Wedge | 100 yards | 090 yards |
| S S-Wedge | 080 yards | 072 yards |
| Putter    | 080 feet  | 080 feet  |

Note: These distances are calculated under near-perfect conditions. No wind, rough, slopes or hills. When you choose your clubs, be sure to compensate for all environmental factors.

Call Some Great Boards

|             |                  |                     |                  |
|-------------|------------------|---------------------|------------------|
| The LookOut | (403) 457 - 0114 | The HideOut         | (608) 873 - 6502 |
| Deathstar   | (313) 261 - 1968 | Apple Tree Mid-West | (816) 826 - 4158 |

End of File.

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DOCUMENT jai.alai
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Jai-Alai (pronounced Hi Li)  
By: Joe Heidcamp

Jai-Alai on a computer? Absolutely! There is nothing sports master, Joe Heidcamp can't program on the Apple. Right Joe?

Jai-Alai was designed both for entertainment and as a learning tool for those unfamiliar with the betting environment that surrounds the game. Jai-Alai uses a paramutual system of betting. That is to say the odds are determined by the amount of money placed on the players. So if the majority were to bet on #1 to win, #1 would be the favorite on the odds chart.

How Jai-Alai works:

Jai-Alai is a game similar to handball. The players wear a CESTA which is a hooked extension of the hand that catches the ball and throws it at incredible speeds. For our purposes we will use team play only, but Jai-Alai is played equally as well with just two players. Points in the game are scored by forcing the other team to make a mistake (and there are many mistakes to make as you will see in the program).

Teams are numbered 1 thru 8 and the play is in a single elimination format, but if you lose you don't "go home" you just go to the end of the line and wait your next time up. The rotation of teams is something best learned by example with the program. One note of interest, after the first round is over, (all teams have had a chance on the court) the points double! This makes for faster play in a live setting.

The game is over when the first team scores 9 points. This team occupies the WIN position. The second place team occupies the PLACE position and the third place team has the SHOW position. For betting purposes you may place a bet on a team to WIN, PLACE or SHOW as well as others described in the table below.

Betting terms:

WIN: First place

PLACE: Second place

SHOW: Third place

Win/place/show: Bet on a team to win, place or show.

Trifecta: Pick the first/second/third place teams in exact order. \*

Exacta: Pick the first/second place teams in exact order. \*

Quinela: First and second place in any order. \*

\* - These bets may be BOXED. When you box a bet the numbers you picked may come up in any order as is the case with the trifecta or you may place more than one bet on the same ticket. (IE: 123 Quinela box pays if either 1,2 or 3 end up in first or second place.)

EDITOR'S NOTE: Jai-Alai is an exciting game of skill that we at UpTime prefer to just watch for its entertainment value. Jai-Alai rules differ from state to state. Local Jai-Alai rules will be posted at the Jai-Alai Fronton.

Press [`]-[6] to run Jai-Alai.

Files needed:

JAI-ALAI  
J-A GAME  
~~~

=====
DOCUMENT jellyfish
=====

\$
\$ JELLYFISH \$
\$

JELLYFISH IS A SORT OF UNDERSEA DEFENDER.THE OBJECT IS TO DESTROY ALL OF THE CREATURES YOU SEA.(HA HA) BUT BEFORE YOU SHOOT ALL OF THEM YOU SHOULD GO DOWN TO THE VERY BOTTOM AND TRY TO PICK UP ALL 6 OF THE LITTLE THINGS THAT ARE EMBEDDED IN THE SAND. THE KEYBOARD IS THE EASIEST WAY TO CONTROL THE SHIP. THE CONTROLS ARE:

- S - LEFT
- D - RIGHT
- E - UP
- X - DOWN
- Q - FIRE (ALSO EXTEND ARM TO GET SALVAGE)

WHEN YOU GO TO THE BOTTOM YOU'LL NOTICE THAT DOORS ON THE BOTTOM OF YOUR SUBMARINE OPEN. THIS MEANS IF SOMETHING IS IN YOUR WAY, YOU CAN'T SHOOT IT.ALSO TO PICKUP THE STUFF YOU SHOULD BE DIRECTLY OVER IT, PRESS THE Q ONCE, IF YOU DONT EXPLODE OR YOU GOT IT OR MISSED ALL TOGETHER PRESS THE Q AGAIN, THIS WILL RAISE THE ARM BACK INTO THE SHIP. IF YOU RUN INTO ONE OF THOSE THINGS WITH THE ARM DOWN YOU WILL BLOW-UP. YOU GET 5 SHIPS IN TOTAL. YOU GET 1000 POINTS FOR EACH THING YOU PICK UP.ONCE YOU HAVE GOTTEN THEM ALL THE DOORS CLOSE AND YOU CAN SHOOT ANYTHING IN YOUR WAY AGAIN. BE CAREFUL, IF YOU DON'T HIT A CREATURE DEAD CENTER IT WILL BREAK UP INTO MANY CREATURES. HAVE FUN WITH THIS IT'S NOT TOO BAD.

- 3) Agm-65 Missile (Target Strike.)
- 4) Mk-82 Bomb (Target Strike.)
- 5) Exit Arming Menu

DOCUMENT jet.1

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|-----|
|         | C O M P L E T E  " J E T "  D O C S |         |
|         |-----|
|         | A Boardwalk Presentation |         |
|         |-----+-----|
|         | In League with The Mod Factory |         |
|         |-----|
|-----|
    
```

JET Operating Manual
 Courtesy of: The Dispatcher
 Written by: Lord de Winter
 September 17th, 1986.

Note: JET should work on any Apple system with or without a Joystick. If you've lee..er..downloaded a packed version of JET the correct file length should be <208>. There is a bogus ware in circulation right now in the Atlanta Area at least.

Introduction

At SubLOGIC we've been steadily developing a comprehensive system of real-time three-dimensional display and simulation technologies for microcomputers. Jet is an exciting application of these technologies in a realistic simulation of both the F-16 Fighting Falcon and F-18 Hornet jet fighters. These jets have tremendous power and agility, and each is very easy to fly. Jet includes a free flight mode for practicing aerobatics and precision maneuvering, and two different combat modes to test your skills. We hope Jet will provide you with some excitement of flying the real thing.

Menu #1: Display Type

- A) Color
- B) Black & White##

Menu #2: Select Mode

- #1) Dogfight
- #2) Target Strike
- #3) Free Flight
- #4) Demonstration
- #5) Load Scenery Disk

Menu #3: Skill Level

- 0) Practice (no crash)
- .
- .
- 9) Difficult (easy to crash)

Menu #4: Aircraft Type

- #1) F18 (Carrier)
- #2) F16 (Land Based)

Menu #5: Select Armament

- 1) Aim-9 Missile (Dogfighting. 1 to 6 of each.)
- 2) Aim-7 Missile (Dogfighting. 1 to 6 of each.)

Apple][e and][c Keyboard Controls

- | | |
|-----------------------------------|-------------------------------|
| [W] Radar ON/OFF | [Cntl-E] Ejects |
| [R] Range Circle ON/OFF | [S] Sound ON/OFF |
| [:] Selex Next Target | [Cr] Selex Active Weapon |
| [5] View Select (T,F,G,H,B) | [Esc] Exit to Menus |
| [Cntl-S] Reload Scenery Database | [A] Attitude Indicator ON/OFF |
| [C] Control Tower View | [Cntl-G] Gear UP/DOWN |
| [Cntl-B] Airbrakes | [Spacebar] Fire Active Weapon |
| [<-] Afterburner | [->] Throttle |
| [Cntl-J] DIS/ENABLE Cntr Joystick | [P] Pause with Message |
| [Cntl-P] Pause without Message | |

Apple][and][+ Keyboard Controls

[Same as][e and][c]

Next comes explanations of the commands.

Out the Window View

In flight mode the screen displays a view of the local scenery in front of the jet. If you select the F-16, your initial view will be of the hanger walls and ceiling that surround your aircraft. When flying the F-18 your initial view is off the bow of a Nimitz-class aircraft carrier, where your jet sits ready to be launched from the carrier deck. As you take off and start to fly, the out-the-window display rapidly updates the view bases on your position and attitude.

Heads-Up Display

A variety of instruments located around the sides of the screen allow for quick readings with minimum outside viewing interference. The vertical bar to the left of the outside view is your AIRSPEED INDICATOR. This indicates the jet's velocity in Mach number (times the speed of sound). Other instruments located around the outside-view display will now be described in detail.

A. Altimeter

This vertical bar indicates the jet's altitude above ground level (AGL) in feet. The altimeter's scale is nonlinear and highly accurate even at low altitudes (i.e., landing). The nonlinear scale also alerts you to near-ground approaches when the bar indicator begins to move very rapidly.

B. Heading Indicator

The heading indicator displays the jet's magnetic heading (0...359), where 0 degrees indicates north, 90 degrees is east, 180 degrees is south, and 270 degrees is west.

C. Frame Loading Indicator

Frame loading measures the force exerted on the aircraft perpendicular to the wing surface. This force is measured in G's, where one G equals the force of gravity. If frame loading shows a negative value, the force is applied upward with respect to the wing. This instrument is important because of the human body's limited tolerance to high acceleration. If frame loading exceeds 9 G's, the pilot will black out.

due to blood draining from the head. If frame loading drops below -3 G's, the pilot will red out as blood rushes to the head.

D. Gear Status Indicator

This indicator displays the aircraft's landing gear status. Press Cntl-G to toggle the landing gear up or down as required.

E. Brake Status Indicator

This indicator displays the status of the jet's airbrake. To toggle the airbrake on or off, press, Cntl-B.

F. Fuel Level Indicator

This indicator displays the amount of fuel remaining as a percentage of total internal fuel capacity. As the throttle is increased, fuel consumption rises proportionally. With afterburners on, fuel consumption is doubled. If your fuel supply is depleted, the engines will flame out and you will have to attempt a dead stick landing.

Selectable Instruments

Several other instruments may be enabled or disabled at any time. These instruments are optional because they can obscure the out-the-window view and because they slow down overall animation speed.

G. Radar Display

The radar display is superimposed over the outside view. It shows the location of enemy targets—missiles—and your home base with respect to your aircraft. Your own aircraft is displayed as a blue dot in the center of the display. Enemy aircraft or ground targets appear as red dots (your selected target flashes red) and enemy missiles appear white. Your home base will appear as a flashing red/white dot. If your home base is outside normal radar range, the red/white dot will be plotted at the edge of the radar screen in the direction home base is located. The radar display can be turned on and off by pressing the [W] key.

H. Attitude Indicator

The attitude indicator is toggled on and off with the [A] key. This instrument shows the orientation of your aircraft with respect to the ground. A scale of lines in 20-degree increments both above and below the horizon indicates the pitch of your aircraft. Single points at the top and bottom of the scale indicate a 90-degree pitch attitude. The aircraft's bank angle is displayed by rotation of the pitch scale. This instrument is very useful when the horizon is not visible outside window.

I. Range Indicator

The range indicator is toggled on and off with the [R] key. This instrument, which appears as a circle in the center of the screen indicates the distance to your selected target (see WEAPONS SYSTEMS). A white circle indicates that the target is out of range. When the target comes into range, the circle turns black and diminishes counterclockwise as you close in. In Target Strike mode range is computed by measuring the distance to the point on the ground that intersects your aircraft's flight path. This is the target point your guided ordnance will track when released. The range indicator can also be used in conjunction with the attitude indicator to determine precisely which way your aircraft is pointing.

View Control

Control Tower Mode: In normal flight mode, the out-the-window display is from the cockpit point of view. In control tower mode you can watch your aircraft from the control tower's point of view. You may zoom in or zoom out (see VIEW DIRECTION CONTROL) but the view direction is fixed towards your aircraft. If you eject from the aircraft the view will track you as your parachute opens and you float gently (?hmmm?) back to earth. Flying the aircraft in this mode is like flying a jet by remote control. Press [C] key to toggle between cockpit and control tower points of view.

View Direction Control

Keypresses: [5][F] - Left View [5][H] - Right View
[5][T] - Front View [5][B] - Rear View
[5][G] - Upward View

You can also zoom in and out, like a camera lens, to adjust your angle of view. 2x is the normal viewing angle, but you can zoom in to 8x or out to 1x as desired. The current zoom factor is displayed in the lower right corner of your Heads-Up Display:

[Y] - Zoom in by a factor of 2
[N] - Zoom out by a factor of 2

Flying the Jet

A. Flying by Wire

Fly by wire refers to a system of aircraft control in which the pilot sends steering commands to a computer which in turn generates actual elevator and aileron movement. All the pilot has to do is point the aircraft in the desired direction and the computer will keep it flying that way. Because the F-16 can generate more pounds of thrust than it weighs, it can accelerate vertically and is considered ballistic. This allows any angle of controlled flight.

B. Controls

The Jet has five controls for flight operations:

The THROTTLE controls engine thrust. To decrease thrust press the [-] key. To increase, hold down the [->] key for a few seconds & the thrust indicator will climb rapidly. When thrust percentage exceeds 99, the afterburners are activated and a red A.B. indicator is displayed. Press the [-] key once to disable the afterburners.

The ELEVATOR controls the aircraft's pitch attitude. Press [B] or pull back on the joystick to pitch up. If the aircraft has sufficient airspeed this will bring the nose of the jet up. To pitch the aircraft down, either press [T] or push forward on the joystick.

AILERONS control the jet's bank angle. To bank the aircraft left or spin counterclockwise, press [F] or move the joystick to the left. To bank right or spin clockwise, press [H] or push the joystick to the right.

NOTE: When using the keyboard for elevator/aileron control, note that the more times you press a control key the faster you rotate. Press [G] will stop rotation about both axes.

LANDING GEAR are used for all ground maneuvering. They are toggled up and down by pressing [Cntl-G]. You may not raise the landing gear while on the ground. When flying, the landing gear should be raised to reduce the drag on your aircraft. This will give you a higher top speed. If you attempt to land with the gear up you will, of course, crash.

The AIRBRAKE is used for landings and quick midair decelerations. Use [Cntl-B] to toggle it on and off.

Ejection -----

In extreme emergencies (imminent crash or missile hit) it may become necessary to bail out of the aircraft. Press [Cntl-E] to eject.

Sample Flight -----

To begin a sample flight, load the Jet and select the appropriate display device. Make your menu selections as follows:

Game Mode - [3] for Free Flight
Skill Level - [0] for Practice Mode
Aircraft Type - [2] for F-16

Now you should see the flight mode display, including the out-the-window view and instruments. Turn the attitude indicator on by pressing [A]. This overlays pitch markings on top of your window display. Turn on the range indicator by pressing [R]. This overlays a small white circle in the center of the screen which can be used to indicate direction the jet is flying in.

NOTE: You may pause the simulation at any time by pressing the P] key. Press any key to resume flying. Press [Cntl-P] to pause the simulation without displaying the pause message.

Joystick: Press [Cntl-J] to enable and center the Joystick. Once the joystick has been enabled, it may be disabled by pressing [Cntl-J] again.

Flight Simulation Continued Next File: Complete Jet Docs Part 2

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DOCUMENT jet.2

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COMPLETE JET DOCS PT2

Courtesy of: The Dispatcher
Written by: Lord de Winter

Sample Flight -----

- [1] Take off: Hold [->] to increase throttle.
Watch o Thrust Indicator
o Airspeed Bar
o Afterburner Indicator
 - [2] Rotate & Liftoff: Press [B] several times for up elevators
 - [3] Stop Pitching : Press [G] to enter steady climb.
[Cntl-G] to get Landing Gear up.
 - [4] Rear View : Look back at airport. Press [5][B].
 - [5] Front View : Press [5][T]
 - [6] Level Off : Press [T] when level, press [G] to stop pitching.
 - [7] Try views & zoom: o For left view [5][F]
o Zoom in using [Y] until 8x is reached
o Zoom out using [N] 3 times until 1x is reached.
 - [8] Front View : [5][T]
 - [9] Bank Left : Bank left press [F] until 45degrees is reached.
Stop banking by [G].
- Note: Now the stars in the sky should be spinning by quickly and heading display at the top of the screen counting down rapidly.
- [10] When heading 115degrees, bank right press [H] until level then [G] to Level out. Heading should be 80degrees.
 - [11] Approach Airport : o Lower nose, Press [T]
o Reduce power hold down [-<]
o Stop pitching by [G]
o Altimeter is dropping
o Runway in sight. Airbrakes press [Cntl-B]
o Landing gear down by [Cntl-G]
 - [12] Landing : o Turn off attitude indicator [A]
o Bank right/left to guide yourself to runway
o At 500 feet, raise nose, by [B]
 - [13] Keep jet from climbing by controlling pitch. Once on the ground, taxi around using [F] & [H] for steering. Congrats! You're alive!

Takeoff and Landing on the Carrier

If you choose to fly the F-18, you will start out on the deck of a Nimitz- class aircraft carrier. Superimposed over a forward view of the launch catapult is a flashing message:

PRESS [L] TO LAUNCH FROM THIS CARRIER

First increase throttle to full thrust with afterburners on. Then press [L] to launch the jet will be released and will accelerate rapidly down the deck. As airspeed increases, pull back on the elevator. When the F-18 clears the bow of the carrier the nose will come up and you will start gaining altitude

In order to re-arm or refuel the F-18 you must land back on the carrier. To this you should try to position yourself about 3 miles west and slightly south of the carrier on a heading of 80 degrees. As you approach the Nimitz the carrier's landing strip should be visible to the left of it's superstructure, angled slightly north with respect to the ship's hull. Lower your landing gear and engage the airbrake to reduce airspeed. Now you must try to keep the jet parallel to the landing strip by banking left or right, and aim your nose for the stern of the carrier by pitching up or down. Reduce the throttle to about 20% to cut airspeed even more. If you begin losing altitude too soon, increase the throttle. If approach speed is too high, decrease throttle. As you pass over the stern of the ship, begin to flare by raising the jet's nose and try to touch down just short of the trip wire. If you catch the tripwire the jet will stop abruptly & you will be returned to the launch catapult (in Free Flight mode) or to the re-arming menu page (for either combat mode).

Weapons Systems

A. Ordnance

In either combat mode, once you've selected a skill level the arming menu then appears as:

Select Armament

- [1] Aim-9 Missile 160 lbs x 0
- [2] Aim-7 Missile 500 lbs x 0
- [3] Agm-65 Missile 460 lbs x 0
- [4] Mk-82 Missile 500 lbs x 0
- [5] Exit Arming Menu

For the F-16 the following weight data appears below the menu:

F-16 Empty 14000 lbs
Internal Fuel 3700 lbs
Total Weight 17700 lbs

Corresponding figures are displayed for the F-18.

Choose your weapons by pressing the appropriate number key (of course). Each time you make a selection the number to the right of that weapon is incremented by one and your total weight is increased accordingly. If you select more than 6 of one weapon, that weapon's counter is reset to 0

Press [5] when you're done. Remember the combined weight of your weapons affect the performance and flight characteristics of your jet. As you burn fuel and fire weapons your weight decreases and the jet becomes more maneuverable. When flying the F-16 you can return to the arming menu at any time by landing and steering the jet into the hanger at your homebase. If you are flying the F-18 you can return to the arming menu by catching the trip wire on the carrier's deck landing strip. After re-arming the F-18 you will be placed on the launch catapult.

Dogfight Armament:

- [1] Aim-9 Side Winder : 5 mile range
Heat seeking, light weight
Accurate
Good for close combat
- [2] Aim-7 Sparrow : 25 mile range

Radar homing
Disadvantage - high weight

- [3] M 61 Machine Gun : 500 rounds loaded
Can be used against MiGs
20mm cannon

Target Strike Armament:

- [1] Mk-82 Smart Bomb : Bomb. No propulsion
Tracks a point on the ground
Limited accuracy
Large warhead - large hit radius
- [2] Agm-65 Maverick : Air to Ground
14 mile range
Optically guided
Accurate
Small warhead - small hit radius

The Dogfight Game

A. Object & Rules

Dogfight is an intense 3-dimensional combat scenario that pits you against Soviet MiG-21 and MiG-23 fighter aircraft. They are equipped with Atoll air-to-air missiles, while you can select from a variable arsenal of Aim-9 missiles and/or Aim-7 missiles along with your 20mm Vulcan cannon. Your mission is to engage and shoot down all enemy aircraft at the skill level you've selected (hint! Start off easy and work your way up. You don't want to fight their best, with your worst now do you ??). Then return home to refuel and re-arm. If your mission has been a success, a new wave of enemy aircraft will then appear at the next higher level. For each successful enemy hit that you score, a token marker appears on the fuselage of your jet. Your score can be viewed on the rear window as the number of tokens lining the right side of your jet. If your score exceeds 9, ten digit tokens are marked along the left side of the fuselage. Shoot down all enemy aircraft before returning to base and a two-point bonus will be added to your score. A warning beeper will sound if an enemy missile comes within the danger threshold of your aircraft. If you're hit by an Atoll missile the screen will flash red and orange and the jet will spin out of control. You have seconds to eject before your jet explodes and your body becomes no more bits and pieces. If you eject in time you'll float back to earth (provided the parachute opens) where you'll be recovered and given a new jet to fly in combat. Once you get shot down 3 times, you are grounded and the game is over.

Enemy Aircraft

At the start of each mission, the enemy aircraft will come at you from the south. You will encounter two different types of enemy jets: the MiG-21 and the MiG-23. These aircraft utilize the same flight equations as your jet, but since they weigh more and have less thrust they are less maneuverable. The skill level you select will determine the type & number of aircraft you must shoot down. During a dogfight the MiG's will track you and fire their Atoll air-to-air missiles. Missiles also track your jet, and will detonate their warheads if they get within a hit radius

To shoot down an enemy aircraft you must first select one as your target. The current targeted aircraft flashes out your window & on the radar display. Press the [;] key & your onboard tracking computer will automatically sequence to the next target. Since there can only be a maximum of 3 enemies in your airspace at any time, you can cycle to the desired target with a maximum of 2 keystrokes.

Once you've selected a target you can fire the active weapon. Press the [RET] or [CR] key to recycle through your available weapon systems and choose the one you'd like to use. Press the [Spacebar] to fire that weapon. Air-to-air missiles will automatically track the target and detonate if they get within the hit radius. A rising tone from your onboard computer will indicate that the MiG has been hit. The MiG will flash, spin out of control (leaving a trail of flak in its wake) and finally explode.

After shooting down all opponents, or if you run out of weapons and ammo you will have to return to base. Any remaining MiG's will chase you until you enter the safe zone surrounding your base. You then land, re-arm and get back up in the sky to nuke those Commie's.

The Target Strike Game

Object and Rules:

Your mission in the Target Strike game is to seek out and destroy all enemy ground targets. When flying the F-16, targets will be randomly selected from the local area airstrips, fuel depots, factories, and missile silos. In F-18 mode, your targets are Soviet Kynda-class cruisers randomly placed in the sea to the south of your carrier. Each target will be designated by a flashing red point. Your ordnance can include both Agm-65 air-to-ground missiles and Mk-82 smart bombs. Press [RET] or [CR] to cycle through your available weapons systems & choose the one you like best.

Turning on your range indicator automatically activates the ground targeting computer. As you fly, the range indicator will show the distance from your jet to the point on the ground that intersects your current flight path. If this distance is greater than the range of your selected weapon, the range circle will show all white. When you come within range, position the desired homing point in the center of the range circle and press the [Spacebar]. The weapon will be released and will track that point to the ground. If it impacts within the target's hit radius, the target will explode and a shock wave will spread from the impact point. Scoring is the same as in Dogfighting.

Surface to air Missiles

Enemy SAM launchers are only capable of detecting your presence within the conical airspace directly above them. If you pass within this airspace they will track your jet and launch their missiles. Because of this you should fly as low as possible when nearing your target. Should an enemy missile come within the danger threshold of your aircraft, a warning beeper will sound. If you are hit, the screen will flash red and orange then spin out of control. Rules of Ejecting are the same as always. Get out or be fried.

Game Tips & Strategies

The Dogfight Game:

When dogfighting, it's important to have the zoom set correctly. At greater distances, a higher zoom factor (4x-8x) will greatly increase your accuracy. During close-in fighting the lowest zoom factor will increase your field view and make it easy to find a target. Viewing the battle from the control tower can help determine enemy aircraft altitude. You may want to get into the habit of scanning several viewing directions during a dogfight to give yourself a better overall view of the surroundings.

The Target Striking Game:

As when dogfighting, high zoom factors increase accuracy. When firing air-to-ground weapons remember that aiming errors are magnified at shallow pitch angles. Approaching the target from a steeper pitch will allow you to deviate slightly from the target and still impact the ground near it. However, this will also place you in greater danger of being detected by the ever-hated SAM launchers.

Avoiding Missiles:

Should you detect an approaching enemy missile, there are two ways to increase your chances for survival. You can try to evade the missile, but this will be difficult. However the missile will run out of thrust quickly and lose speed rapidly once it begins to coast. Tracking imperfections can also cause the missile to miss you (don't count on it). Another way to avoid the dang thing is to fly at right angles to its flight path. It will keep turning, wasting its energy and degrading its homing accuracy. If all else fails, you can eject, but this will forfeit one of the three aircraft you are allowed each game.

Aircraft Technical Data

Courtesy of: The Dispatcher Written by: Lord de Winter

Information for the F-16

| | |
|-------------------------|---------------------------|
| Empty Weight: 14000 lbs | Maximum Weight: 33000 lbs |
| Max Thrust : 23800 lbs | Maximum Speed : 1320 mph |
| Wing Span : 31 feet | Length : 47 feet |

Information for the F-18

| | |
|----------------------------|---------------------------|
| Empty Weight: 20000 lbs | Maximum Weight: 50000 lbs |
| Max Thrust : 16000 lbs x 2 | Maximum Speed : 1190 mph |
| Wing Span : 37 feet | Length : 56 feet |

Information for the MiG-21

| | |
|------------------------|---------------------------|
| Empty Weight: n/a | Maximum Weight: 20000 lbs |
| Max Thrust : 14500 lbs | Maximum Speed : 1385 mph |
| Wing Span : 23 feet | Length : 51 feet |

Information for the MiG-23

| | |
|---|---------------------------|
| Empty Weight: 22000 lbs | Maximum Weight: 37000 lbs |
| Max Thrust : 25000 lbs | Maximum Speed : 1520 mph |
| Wing Span : 26-46 feet (variable-sweep) | Length : 55 feet |

*** Thus ends the Complete Jet Softdocs. We do hope you found this helpful.

-END-

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DOCUMENT jet.keys

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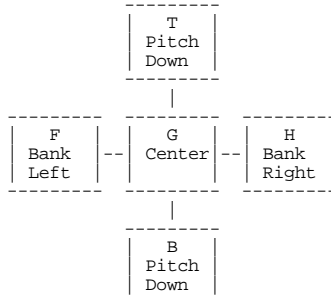
Jet Docs courtesy of Orlando Bandit:

The following is a simple list of all the control keys for Sub-Logic's latest release "JET".

```

Key-----Command
A-----Attitude Indicator
C-----Control Tower View
CTRL G-----Landing Gear Up/Down
CTRL B-----Airbrakes
Sp.Bar-----Fire Active Weapon
Y-----Zoom In (Up to 8X)
N-----Zoom Out (To 1X)
W-----Radar On/Off
CTRL E-----Eject
R-----Range Circle
S-----Sound On/Off
;-----Select Next Target
CTRL J-----Enable Joystick
P-----Pause
CTRL P-----Pause Without Screen Message
-> -----Throttle Up
<- -----Throttle Down
Return-----Select Active Weapon
    
```

Pitch and Bank Control Keys:



The View selection keys work as follows

First hit the '5' key and then:

```

T----View Front
B----View Back
F----View Left
H----View Right
G----View Up
    
```

-END-

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DOCUMENT journey

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*****
*
*           J O U R N E Y
*         a role playing chronicle
*           from
*           I N F O C O M
*
*           Docs by Zippo Pinhead
*           a Flying BimBo release
*           ...call the best...The Curse 612-835-1693
*****
    
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Preface

=====

A shadow of evil has fallen over the land. The crops are blighted, the earth scorched from lack of rain. Disease and famine ravage the once-prosperous people, whose hope of salvation fades with each passing day. The only hope left is to find the wizard Astrix, in faint hope that he will emerge from his distant solitude and offer his assistance. A party was dispatched, but they haven't been heard from since their departure months ago. Now, with winter's hardships looming on the horizon, a second expedition has been assembled and will soon embark on a fateful Journey into the unknown.

The party of four is led by Bergon, a strong and fair man and a carpenter by trade. The Wizard, Praxix, wise yet unpredictable, provides the part with knowledge of lore and magic. Esher, the well-respected (if somewhat curmudgeonly) physician, has also agreed to tend the party's provisions and to make a diary of its adventures. The tale is told by Tag and the story of your Journey is seen through his eyes.

Whether your party meets the fate of its predecessors or returns triumphant is in your hands. In Journey, the decisions you make for the party and its members are woven into an epic tale of danger and mystery, of breathtaking beauty and heartbreaking loss, of desperate struggle and, finally of ultimate triumph.

Your Journey will provide you with many hours of enjoyment and many hundreds of difficult decisions. But unlike other games you may have played, there are virtually no dead ends. Any action you take will advance the story toward one of its many endings. But there is only one ending that is the best. To lead the party to its ultimate victory is a challenge worthy of only the most brave and clever adventurer.

Getting Started

=====

Loading the game. If this is your first time playing Journey, you should read the Reference Card that came in your package for loading instructions specific to your computer. Also, it is always prudent to make a BACKUP copy of the disk(s) that came in your game package. Put the original disk(s) away for safekeeping. Upload the playable copies to as many boards as is possible.

The Journey screen. When you have successfully loaded Journey and passed the title screen and introduction, your screen will look something like this:

```

=====
-----Journey-----
I           I           I
I           I           I
I           I           I
I           I           I
I           I           I
I           I           I
I           I           I
I           I           I
I           I           I
I           I           I
I           I           I
-----The Party-----Individual Commands-----
I           I           I           I           I
I Start    I           I           I           I
    
```

```

I Background I I C I I I
I Change Name I I I I I I
I Help I I I I I I
I Game I I I I I I
-----

```

The Journey screen is divided into three distinct areas:

A) The story of Journey will appear here. Frequently, however, there is more to be told than can fit within this area. In that case, the word "MORE" will appear at the bottom; you can view the rest by pressing any key on your keyboard (or pressing your mouse or joystick button).

B) You will glimpse the world of Journey through the handsome illustrations that appear here.

C) All of your selections, while playing Journey, will be made in this area, which itself is divided into three sections, described on the following pages in the Playing the game section.

The initial menu. On the startup screen, five options are displayed in the lower left.

Start - sets you off on your Journey

Background - relates the events leading up to your Journey. If you are playing for the first time, it would be worthwhile to read this prologue before selecting Start.

Change Name - allows you to personalize your Journey by renaming the narrator of the story from Tag to a name of your own choosing.

Help summarizes these instructions.

Game displays a group of options that do not affect the story, but rather the play of the game (e.g. saving your place, making a transcript, etc). These options are described in detail in the Game option section.

Playing the game
 =====

Selection methods. You can make selections with your mouse, joystick, or keyboard. If you have two these devices (e.g. a mouse and a keyboard), you can make selections with either of them or both.

Mouse: Point at, then click on, your desired selection.

Joystick: Move the joystick to highlight your desired selection, then press the joystick button.

Keyboard: Use the arrow keys to highlight your desired selection, then press the RETURN or ENTER key.

Party and individual commands. In playing Journey, you have the task of making decisions not only for your party of characters as a group, but the individuals as well. As each decision is made, the story will move inexorably forward.

Looking at the bottom portion of the screen, you will see that it is divided into three areas.

The first column lists the PARTY COMMANDS, those actions which are taken by your entire party as a group. Most often, these will involve moving from one place to another. On the screen you would select Proceed to continue down the road or Enter to enter the provisioner's shop.

The second column lists the members of your party. When your Journey begins, there are four: Bergon, Praxix, Esher and Tag. During the course of your Journey, characters may be added (by choice) and lost (rarely by choice); all such changes will be reflected here.

To the right of each character's name are INDIVIDUAL COMMANDS, actions which the character can perform at any given moment. On the screen you will see that Bergon can get the advice of the group (Get Advice), Praxix can cast a spell (Cast) and examine objects (Examine) and Tag can drop things (drop) and check on what he's carrying (Inventory). These options change frequently during play to reflect the circumstances of the story (e.g. Tag might have an option to Pick Up if there is anything on the ground to take).

Many of the actions you can select require additional information (e.g. which spell to cast, which object to take, which legend to tell). When you select one of these options a list of possibilities will appear. Simply select your choice from the list, or select [chance] to change your mind about taking that course of action.

* Notes for keyboard users

1) A quick way to move the highlight bar back and forth between the PARTY COMMANDS section and the INDIVIDUAL COMMANDS section is to use the space bar.

2) You can quickly highlight AND select an option by typing its first letter. However, the highlight bar must be in the PARTY COMMANDS section to choose a party option or in the INDIVIDUAL COMMANDS section to choose an individual option.

3) You can select [cancel] with your BACKSPACE, back arrow or DELETE key.

Hints: The musing option
 =====

Your Journey will be long and challenge, it is unlikely that you will see it through to a happy conclusion until you have played for some time. Do not fear - all of the obstacles and pitfalls you face can be overcome in a logical manner; yet some may initially baffle even the most sophisticated player.

If you should reach an unsatisfactory ending, you will have the option of reading some of the narrator's "musings", thoughts made in hindsight about the decisions made during the Journey. Each "musing" refers to a specific point in the story where you may need some additional guidance. Of course, rather than using these musings right away, it might be more enjoyable to first experiment with different courses of action.

The game option
 =====

The Game option is always available as the last of the PARTY COMMANDS, at the lower left of the screen. Selecting this option displays a menu of control functions that have no direct effect upon the story, but rather upon the playing of the game. The options are:

Save - allows you to make a "snapshot" of you position in the story (a bookmark, if you will) so that you may return to that precise spot in the story at a later time. Unlike other games you may have played, Journey tries to lessen the interruptions you suffer by needing to frequently save you game place. Indeed, you will probably enjoy the flow of the story more if you avoid using the Save regularly during your first time through the story. The exact procedure for Save varies among computers, so you should check the Reference Card for details.

Restore - returns you to a previously Saved position. As with Save, the exact procedure will vary among computers. Check your Reference Card for details.

End Session - ends your play of the game, either by saving (Save), quitting (Quit), or by starting over from the beginning (Restart). Selecting End Session will cause another menu to be displayed allowing you to choose between these three options. Remember, you must Save your game before ending a session if you wish to Restore your current position.

Controls - causes the Controls Menu to be displayed. The controls are:

* Script On: this allows you to use your printer to make a transcript of the story. You may wish to use this feature to aid your memory about events earlier in the story, or just to have a souvenir of your journey. A menu will be displayed asking if you wish your transcript to include the party's commands or not by selecting Commands

or No Commands. If you select Controls while you are making a transcript, you will be given the option of Script Off; this option can now be used to end your transcript.

* Refresh: This option refreshes the screen display, in the unlikely event that it should become garbled by a power glitch or other such nuisance.

* Version: This will display the release version of Journey as well as the serial number of your copy of the game. Please include this information in any call to Customer Support.

* Check Disk: This option performs a check on the contents of your game disks(s) to ensure that they are undamaged. If you suspect a problem with your disk, use this option to "verify" its contents. If the disk checks out "OK" then there may be either a problem with your computer hardware or a bug in the game.

** Most of the Gmae Menu and Control Menu options can be accessed with function keys (closed-apple/option key). The keys are defined as follows:
 1 Save
 2 Restore
 3 Restart
 4 Quit
 5 Script On/Off
 6 Refresh
 7 Version

Tips for enjoying Journey

=====

* Try to play as much as possible without overuseing Save - remember all puzzles can be solved logically and without resorting to "try-and-die, brute force" methods. If you are unable to solve a puzzle, you might eventually want to refer to the musings option after reaching an ending.

* You might find it appropriate to make a Save each time you visit the Wizard Astrix.

* There are no "dead ends" in Journey; feel free to experiment and take chances. Every action you take will cause the story to move forward.

* Utilize the options available to you judiciously; if more than one character can take the same action (e.g. examining something) do not assume that the result will always be the same.

* If you are using a keyboard, remember the available shortcuts (space bar to move between PARTY and INDIVIDUAL COMMANDS, and using the first letter of choices to make a selection).

Some of my favorite boards:
 Bombay.....714-897-0412
 Lexicon of the Cabal.....213-690-6326
 USA West.....714-592-8996
 Digital Dimension.....301-599-1079
 Bill's Board.....602-298-9310

...note: this is all of the docs...there is no list of spells, the map that came with it does not tell you much...certainly not how to get up the mountain (left 4-5 times, then right, well it was the first time...maybe its random)...you also get a crystal...and not a very good one at that...

```
=====
DOCUMENT joust
=====
```

```
.....
:
:      JOUST DOCUMENTATION      :
: BY -> THE WYVERN/WRITERS GUILD :
:
:.....
```

STARTING OUT:

BOOT UP YOUR JOUST DISK IN A NORMAL MANNER. A TITLE PAGE WILL APPEAR WHICH WILL SWITCH BETWEEN AN OPTION SCREEN AND THE TITLE PAGE.

THE OPTION SCREEN:

THE OPTION SCREEN HAS THE OPTIONS OF [S], [K], AND [J].

HERE IS THEIR EXPLINATION:

[S]
 SOUND ON/OFF: IS A TOGGLE SWITCH TURING THE SOUND ON AND OFF. IT IS SET TO ON WHEN YOU FIRST BOOT UP.

[K]
 KEYBOARD MODE: SELECTS KEYBOARD FOR PLAYING MODE OF THE GAME.

[J]
 JOYSTCIK MODE: SELECTS JOYSTICK FOR PLAYING MODE OF THE GAME.

AFTER YOU HAVE SELECTED WHAT YOU WISH SIMPLY HIT THE SPCAE-BAR TO GO ONTO THE GAME!

KEYBOARD MODE:

WHEN PLAYING IN KEYBOARD MODE HERE IS WHAT YOU WILL NEED TO KNOW:

[CTRL-Q]
 WILL EXIT THE GAME AND BOOT YOUR DISK DRIVE.

[ESC]
 WILL PAUSE DURING PLAY.

[SPACE]
 WILL FLAP YOUR WINGS

[<-]
 WILL MOVE YOU LEFT

[->]
 WILL MOVE YOU RIGHT

JOYSTCIK MODE:

WHEN PLAYING IN JOYSTICK MODE HERE IS WHAT YOU NEED TO KNOW:

[CTRL-Q]
 WILL EXIT THE GAME AND BOOT YOUR DISK DRIVE.

[ESC]

WILL PAUSE DURING PLAY.

THE BUTTON WILL FLAP YOUR WINGS AND THE JOYSTCIK MOVES IN THE COMPLIMENTRAY DIRECTION IN WHICH YOU MOVE IT.

SPECALL KEYS:

AS DISCUSSED IN THE EARILER MODES, THERE ARE BUT TWO SPECIAL KEYS:

[CTRL-Q]
WILL EXIT THE GAME AND BOOT YOUR DISK DRIVE.

[ESC]
WILL PAUSE DURING PLAY.

THE GAME ITSELF:

THE OBJECTIVE OF THE GAME IS TO GET AS HIGH A SCORE AS POSSIBLE.

IN ORDER TO THIS YOU MUST JOUST AND DEFEAT ALL FOES ON THE SCREEN.

AS LEVELS INCREASE THE PLAINS WILL VANISH, LAVA WILL BE YOUR BASE, AND YOUR FOES WILL GET MUCH HARDER.

TRY TO GET EGGS FOR BONUS, AND EACH LEVEL YOU INCREASE ALSO RAISES YOUR SCORE.

.....
EVERYONE HAVE FUN WITH THIS ONE, IT IS A SUPER GAME!

THE WYVERN

=====
DOCUMENT kermit.380
=====

KERMIT-65 VERSION 3.80

A Kermit File-Transfer Program and
Terminal Emulator for Apple II Computers

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1. APPLE-DOS KERMIT

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Version: 3.80
Date: '87 Oct

Kermit-65 Capabilities At A Glance:

Local operation: Yes
Remote operation: Yes
Transfers text files: Yes
Transfers binary files: Yes
Wildcard send: No
^X/^Y interruption: Yes
Filename collision avoidance: Yes
Can time out: Yes
8th-bit prefixing: Yes
Repeat count prefixing: No


```

Alternate block checks:      No
Terminal emulation:         Yes
Communication settings:     Yes
Transmit BREAK:             Yes
IBM communication:         Yes
Transaction logging:        No
Session logging (raw download): Yes
Raw upload:                 No
Act as server:              Yes
Talk to server:             Yes
Advanced commands for servers: No
Local file management:     Yes
Handle file attributes:     No
Command/init files:        Yes
Printer control:           Yes

```

from a TEXT file, consult the Apple DOS 3.3 Manual. File information can be obtained by issuing the CATALOG command. For example:

```

]CATALOG
DISK VOLUME 010

*A 002 HELLO
B 078 KERMIT
A 002 READER
T 005 TESTFILE

]

```

When KERMIT-65 is receiving a file, the file it creates on diskette will be of the type indicated by the FILE-TYPE parameter. The file will always be left in an unlocked state after it is closed by KERMIT-65. When sending a file, KERMIT-65 will use the FILE-TYPE parameter to determine how to detect an End-of-file condition. Thus, it is important to have this set properly in all cases. Recommendations for archiving files When using a large system for archiving purposes, there is no reason to convert Apple Basic programs into text files before sending them since there is no need to edit them on the mainframe. The FILE-TYPE parameter must always be set correctly when sending and receiving files. The procedure for archiving files is:

- Run Kermit on remote system
- SET FILE-TYPE-MODE TEXT ! (or APPLESOFT or ...) on KERMIT-65
- Send files

1.2. The PRODOS file system

The prodos system is essentially the same as the dos system with the exception that performance has been improved, hardware usage has been expanded and file names have different syntax. File names are the major importance to the kermit system. File names have the following syntax:

```

/volname/subdirectory1/. . ./subdirectoryn/filename
volname is the volume name where the file is located.
Subdirectory(n) is a subdirectory on the volume and may be omitted. Filenames are
much more restrictive than dos filenames. Prodos filenames are limited to 15
characters no imbedded spaces few special characters and must begin with an
alpha character. Volname may be omitted from the filename by use of the prefix
command.

```

Binary file transfer using prodos has its dangers when creating new files. Prodos keeps its size & starting location in the directory which is of course not transferred. Therefore a new binary file will have its starting location 0 which can cause some interesting problems if you try and brun the file. Basic files all start at \$801 (it says here) so kermit creates new basic files with a starting address of \$801.

1.3. Program Operation

1.3.1. HARDWARE CONSIDERATIONS

Prior to using KERMIT-65 for transferring files, the modem interface must be set to handle data in a certain manner. Firstly, the data format should be 8 data bits and 1 stop bit. Secondly, the card should be set to no parity. The baud rate (if adjustable) must be set to whatever rate the modem can handle. For the D.C. Hayes Micromodem, these parameters are set correctly by default, so very little has to be done. For the Apple Super Serial Card these are set from within KERMIT-65 except the interrupt switch (sw6-2) which must be set for interrupts on. For the Microtek sv-622 all applicable parameters are set by KERMIT-65. Some mainframes may need parity checking (i.e. most IBM machines). In this case some parity setting (other than none) will usually work. When talking with such mainframes, binary and basic files on the Apple cannot be transferred unless Eighth-bit-quoting is acceptable to the host. If

KERMIT-65 is a program that implements the KERMIT file transfer protocol for the Apple][micro computer system. It is written in 6502 assembly language and should run on any Apple][or compatible running DOS 3.3 or PRODOS 8. This section will describe the things you should know about the file system in order to make effective use of KERMIT, and then it will describe the special features of the KERMIT-65 program.

1.1. The DOS 3.3 File System

Items of importance which will be discussed in this section include Filenames and File Characteristics.

1.1.1. Apple DOS Filenames

Filenames under Apple DOS may contain almost any ASCII character (including space). It is not recommended that special characters, (i.e. control characters or spaces) be used in a filename to be transferred by Kermit-65 since they may cause problems when parsing the filename. Filenames may be up to 40 characters in length. No wildcarding of any kind can be done in KERMIT-65.

1.1.2. Apple DOS File Characteristics

All files in Apple DOS have a file type associated with them which is contained in the directory entry for the file but is not part of the filename itself. There are four types of files in DOS 3.3. They are:

- APPLESOFT BASIC
- INTEGER BASIC
- BINARY
- TEXT

All file types have their data stored in eight-bit bytes although not all of them need the eighth bit. The two file types containing basic programs required the eighth bit due to the nature of the data being stored. BINARY files are images of memory copied into a file. Often, these are machine code programs. These files require all eight bits. TEXT files normally contain only printable or carriage control characters. They are stored in the form of seven-bit ASCII characters but the eighth bit should always be set since Apples manipulate all text internally as 'NEGATIVE ASCII'. When transmitting non text files the user must insure that both Kermits are handling eight bit data so that no information is lost. If an eight-bit data path is not available (i.e. the remote Kermit needs to do parity checking with the eighth bit), then eight-bit quoting should be used. Of course, BINARY files as well as Apple BASIC files will not have much meaning on a different system. If the user desires to edit a BASIC file on a mainframe, for instance, he must convert it to a TEXT file before sending it over. After receiving the file back on the Apple, the user may convert it back to BASIC once again. The reason BASIC files would be meaningless to a different machine is that the Apple stores BASIC keywords as single character tokens to save space and processing time. To convert a BASIC program to and

you have the parameters set correctly then the "connect" command will start kermit talking out the com port.

File transfer is very dependent upon parity. Make sure the host and local parity are the same. Following is one ibm sites method for file transfer:

We have an IBM 3033 and 4381 and use both 3705/3725 and 7171/Series 1 front ends. The only difference in front ends as far as any microcomputer Kermit is concerned is duplex (local-echo on for the 3705, local-echo off for the 7171). In Kermit-65 they need to set the following parameters:

```
BAUD          - whatever is supported.
PARITY        - EVEN for us, maybe MARK for others.
(It is the PARITY which usually causes people problems.)
FLOW         - XON for the 7171, NONE for the 3705.
FLOW DELAY   - 00
```

1.3.2. CONVERSING WITH KERMIT-65

KERMIT-65 reads file kermit.init from the default drive when started. The lines of this file are executed one at a time starting at the beginning. This file should be a ascii text file and contain commands to setup kermit the way you would like its parameters set. It will also execute kermit's other commands. However, any command which reads a file (like modem) or leaves local mode (like connect) will terminate reading of this file and continue with the command specified. Use your favorite editor to produce this file.

Following is an example of what might be in the file:

```
set display 80 3
set keyboard 2e
set baud 4800
modem
```

KERMIT-65's prompt is "KERMIT-65>".

To run KERMIT-65 and issue commands to it, type the following:

```
]BRUN KERMIT
NOSC/STEVENS/CU - APPLE ][ KERMIT-65 - VER X.XX
Kermit-65>SEND TESTFILE
file is sent
Kermit-65>STATUS
performance statistics are printed
Kermit-65>Other commands
.
.
.
Kermit-65>EXIT
]
```

KERMIT-65 uses a TOPS-20 style command parser. During interactive operation, you may use the ?-prompting help feature ("?") and recognition (ESC) features while typing commands. A question mark typed at any point in a command displays the options available at that point; typing an ESC character causes the current keyword to be completed (or default value to be supplied). If you have not typed sufficient characters to uniquely specify the keyword or filename (or if there is no default value) then a beep will be sounded and you may continue typing. Keywords may be abbreviated to any prefix that is unique. There are several different Apple]['s which can run KERMIT-65. Kermit will have no problems running on an Apple

][,][+, //e, //c, or //gs system. Of the different communication devices available for the Apple][, seven are currently supported:

- Microtek sv-622 Card
- D.C. Hayes Micromodem
- Apple Super Serial Card & //c serial port
- CCS 7710 Serial Card
- Apple Com Serial Card
- Prometheus Versacard - use the apple com card driver
- CPS card
- //gs serial port

It is possible that other cards may have operational characteristics very similar or identical to one of the devices above. If this is the case, it may work using one of the currently available device drivers. The user may want to try each of the above options to see if any of them work. KERMIT-65 must be told in which slot the card resides. This may be done with the 'SET' command (documented below).

1.4. Remote and Local Operation

KERMIT-65 is normally run in local mode. It may be run as a remote Kermit as well although there is no advantage to doing things that way. KERMIT-65 supports User-mode commands for talking to a Server. It does support a limited server mode.

1.5. KERMIT-65 Commands

1.5.1. THE SEND COMMAND

Syntax: SEND filespec

The SEND command causes a file to be sent from the Apple to the remote system. The Filespec is the name of the file on the Apple diskette to be sent. The parser will not accept control characters and certain special characters in a filename (i.e. a comma), so the user may have to rename the file before it is sent. The user may also have problems in filename compatibility with remote Kermits. If the remote Kermit does not have the facilities to beat the filename into a format that its system likes, the user may have to rename the file before sending it. The default disk drive is used for file transfers this can be changed with the 'SET DEFAULT-DISK'(dos) or 'SET PREFIX'(prodos) command (explained below). As a file is being sent, the screen displays either 'SENDING PACKET..' or 'WAITING PACKET..' followed by the absolute packet number since start of transmission. If a packet must be transmitted several times and it reaches the maximum retry count, the transfer will fail and the 'KERMIT-65>' prompt will return. If the remote Kermit sends an error packet, the text of the packet will be displayed on the screen and the prompt will return. Currently, a packet can be retransmitted manually by typing anything on the keyboard. If a 'Q' is typed, the entire transmission will be aborted.

1.5.2. THE RECEIVE COMMAND

Syntax: RECEIVE [filespec]

The RECEIVE command tells KERMIT-65 to receive a file or file group from the other system. If only one file is being received, you may include the optional filespec as the name to store the incoming file under; otherwise, the name is taken from the incoming file header. If the name in the header is not a legal filename, KERMIT-65 will attempt to change it into something legal. If FILE-WARNING is on and an incoming file has a name identical to a file already existing on the diskette, KERMIT-65 will issue a warning to the user and attempt to modify the filename to make it unique. Currently, a packet can be retransmitted manually by typing anything on the keyboard. If a 'Q' is typed, the entire transmission will be aborted.

1.5.3. THE GET COMMAND

Syntax: GET remote-filespec

The GET command requests a remote KERMIT server to send the file or file group specified by remote-filespec. This command can be used with a KERMIT server on the other end. The remote filespec is any string that can be a legal file specification for the remote system; it is not parsed or validated locally. If the remote KERMIT is not capable of server functions, then you will probably get an error message back from it like "Illegal packet type". In this case, you must connect to the other Kermit, give a SEND command, escape back, and give a RECEIVE command. Currently, a packet can be retransmitted manually by typing anything on the keyboard. If a 'Q' is typed, the entire transmission will be aborted.

1.5.4. THE CONNECT COMMAND

Syntax: CONNECT

Establish a terminal connection to the remote system. Get back to KERMIT-65 by typing the escape character followed by the letter C. The escape character is Control-@ by default. When you type the escape character, several commands are possible:

B Send a BREAK Signal.
 C Close the connection and return to KERMIT-65.
 D Drop the phone line to the remote and return to KERMIT-65.
 P Toggle the printer on/off.
 R pPrint the screen, >= //e required
 S Show status of the connection.
 W sWap the del and backspace key.
 0 Send a null.
 Connect-escape
 Send the Connect-escape character itself.
 ? List all the possible single-character arguments.

You can use the SET ESCAPE command to define a different escape character. When 'CONNECTED', KERMIT-65 will be passing characters entered on the keyboard to the remote system, and passing characters from the remote system to the Apple screen. If VT52-EMULATION is turned on, Kermit will trap escape codes and simulate the appropriate functions of a vt52 terminal. On an Apple][+ with an incomplete keyboard, special characters can be obtained by prefixing regular characters with a right-arrow. Also, Uppercase is shown in inverse and lowercase characters are displayed as normal uppercase characters. Here are the rules for using the special 2/2+ input, to get all printable ASCII characters, and how they appear on the screen: Special meanings are applied in various contexts to certain characters. The left and right arrow keys do special things, and sometimes the escape key does as well. For letters, the keyboard is always in either default UPPERCASE mode or default lowercase mode. When in UPPERCASE, all letters typed are sent out as uppercase. In lowercase, all letters are sent as lowercase. To reverse the case for the next character only, hit the right-arrow ("prefix") key. To switch the default case, hit the prefix-key twice in a row. For funny characters, the prefix key is also used to get the unusual punctuation characters which are not on the Apple keyboard. Here they are: (To represent the prefix character I am using the letter p).

| To get | Type | Appearance |
|----------------------|------|------------|
| Left Square Bracket | p(| [|
| Right Square Bracket | p) |] |
| Left Curly Bracket | p< | { |
| Right Curly Bracket | p> | } |
| Underline | p- | — |
| Backslash | p/ | \ |
| Tilde (wiggly) | p^ | ~ |
| Vertical Line | p. | \| |

The left-arrow key sends a rubout.

With left-arrow and right arrow doing special things, its a little hard to enter their characters (^H and ^U respectively). There is therefore an escape from prefix mode sequence. If you type prefix-ESC, the next character is sent without any interpretation. If you have the capability for upper/lower case etc then use the 'SET KEYBOARD' and 'SET DISPLAY' commands to specify complete keyboards.

1.5.5. THE HELP COMMAND

Syntax: HELP

Typing HELP alone prints a brief summary of the KERMIT-65 commands.

1.5.6. THE MODEM COMMAND

Syntax: MODEM

Typing MODEM causes the file kermit.modem in the default drive to be used as a menu. You will be able to select any line in the file to be sent to the modem. Sorry cant back up to a previous menu, you will have to Quit and execute modem again. A "connect" response from the modem will cause kermit to leave the modem command and execute the connect command. This file should have commands for a Hayes modem using text status responses (not numbers). One command per line with comments allowed after the first space (blank). Use you favorite editor to produce this ascii text file. Since the attention Hayes command requires a delay the & character takes on time delay for kermit. Each & causes a delay of one second on a 6502 chip. If you have a //gs or an accelerator board the timing may change and you may require several to produce a one second delay. Normally kermit will wait for 27 seconds (again on a 6502 chip) for the modem to respond, any character typed on the keyboard will terminate this wait. You may hear the busy signal and there is no sense waiting any longer, so hit (crash-not so hard) any key on the keyboard. Following is an example of the file:

```
+++&&ATH gets the Hayes modem's attention and then hangs up
ATDP1234567 call your local bbs with pulse dialing
ATDT8901234 call your work dialup phone with touch tone dialing
```

1.5.7. THE CATALOG COMMAND

Syntax: CATALOG

Typing CATALOG produces a catalog listing of your default drive.

1.5.8. THE DELETE COMMAND

Syntax: DELETE filespec

Typing DELETE causes the file specified to be deleted.

1.5.9. THE SERVER COMMAND

Syntax: SERVER

Typing SERVER alone turns kermit into a file server to a remote kermit. Currently server mode will handle remote "send", "get" and "fin" commands. Variants of the above commands will probably work but file serving is very limited at present. Because the Apple requires knowledge of file types and there is no current way for a remote to change the file type. You must set the appropriate file type before going into server mode. You can exit server mode by typing a control C (^C) when not doing file transfers or the remote can of course terminate via the "fin" command.

1.5.10. THE EXIT AND QUIT COMMANDS

Syntax: EXIT

Exit from KERMIT-65. You can restart the program, provided you haven't run anything else, by typing 'CALL 4096'.

Syntax: QUIT

This is merely a synonym for EXIT.

1.5.11. THE SET COMMAND

Syntax: SET parameter [option] [value]

Establish or modify various parameters for file transfer or terminal connection. You can examine their values with the SHOW command. The following parameters may be SET:

BAUD Which baud rate should the com card use?
 CURSOR-KEYS-VT100 In vt100 mode cursor keys work directly.
 DEBUGGING TERSE or VERBOSE packet information.
 DEFAULT-DISK Diskette drive used for dos 3.3 file transfer.
 DISPLAY Which type of screen display is being used?
 ESCAPE Character for terminal connection.
 FILE-TYPE Type of Apple DOS file being sent/received.
 FILE-WARNING Warn users if incoming file exists?
 FLOW Should xon/xoff flow control be used?
 KEYBOARD][+ or //e keyboard.
 KEYPAD Is there a gs style keypad?
 LOCAL-ECHO Full or half duplex switch.
 PARITY Character parity to use
 PREFIX Which default prefix to use with prodos?
 PRINTER Should the printer be used for the display?
 RECEIVE Various parameters for receiving files
 SEND Various parameters for sending files
 SLOT Which slot # is communication device in?
 TIMER Should Kermit observe the rec. timeout value?
 TERMINAL Which type of terminal should kermit emulate?

SET BAUD
 Syntax: SET BAUD value

Value is the baud rate for your com card. For the super serial and the microtek it can be 300 to 19200. The actual values will depend upon the com card you are running with.

SET CURSOR-KEYS-VT100
 Syntax: SET CURSOR-KEYS-VT100 {on/off}

In vt100 emulation the cursor keys can also emulate the vt100 cursor keys.

SET DEBUGGING
 Syntax: SET DEBUGGING options

Record the packet traffic on your terminal. Options are: TERSE Show packet info only (brief). VERBOSE Display packet field descriptions with packet info (lengthy). OFF Don't display debugging information (this is the default).

SET DEFAULT-DISK
 Syntax: SET DEFAULT-DISK parameter value

This dos command will tell KERMIT-65 which disk drive should be used for file transfers. The three parameters which may be set separately are SLOT, VOLUME and DRIVE. The value for SLOT ranges from 1 to 7. The value for DRIVE is either 1 or 2. The value for VOLUME ranges from 0 to 255.

SET ESCAPE
 Syntax: SET ESCAPE hexadecimal-number

Specify the control character you want to use to "escape" from remote connections back to KERMIT-65. The default is 0 (Control-@). The number is the hex value of the ASCII control character, 1 to 37, for instance 2 is Control-B.

SET FILE-TYPE
 Syntax: SET FILE-TYPE keyword hex-value

This will inform KERMIT-65 what type of file is being sent or received. It is important that this is set correctly since KERMIT-65 must create a file of the appropriate type when receiving (and it has no way of knowing what kind of file it is). When KERMIT-65 is sending, it must also know the type of file since that tells it how to detect the actual end-of-file. The keywords for this parameter are APPLESOFT, INTEGER, TEXT, BINARY and OTHER. Other has an added hex-value so that the user may specify the hex value of the file-type. This has meaning only in prodos and allows the user to specify any of the many different file types used in prodos.

APPLESOFT - Applesoft Basic program.
 INTEGER - Integer Basic program.
 TEXT - ASCII Text file.
 BINARY - Binary image.
 OTHER - specified by the hex-value.

SOME COMMON PRODOS FILETYPES:

| HEX | DEC | DESCRIPTION |
|------|-----|--------------------------------|
| \$00 | 0 | Typeless File |
| \$04 | 4 | ASCII Text File |
| \$06 | 6 | General Binary File |
| \$08 | 8 | Graphics Screen File |
| \$0F | 15 | Directory File |
| \$19 | 25 | AppleWorks Database File |
| \$1A | 26 | AppleWorks Word Processor File |
| \$1B | 27 | AppleWorks Spreadsheet File |
| \$FC | 252 | Applesoft BASIC Program File |
| \$FD | 253 | Applesoft BASIC Variables File |
| \$FE | 254 | Relocatable Code File (EDASM) |
| \$FF | 255 | ProDOS System File |

Extracted from Table B-1 page 173 of the 'ProDOS Technical Reference Manual' an Addison-Wesley Publication, Copyright (c) 1985 Apple Computer

SET FILE-WARNING
 Syntax: SET FILE-WARNING ON or OFF

This tells KERMIT-65 whether to warn the user about incoming filenames conflicting with existing files or not. If there is a conflict KERMIT-65 will attempt to change the file name to something unique.

SET FLOW

Syntax: SET FLOW {off/xon/delay} number

This allows one to use the xon/xoff protocol when you are connected to a remote site. Delay timings are part of this command. Using delay times is probably a desperation move to keep the screen/printer from losing characters. Setting the timings will have to be set by experience. Perhaps the best way to set the timings is to bring the values down until you get failures and then double the timing figure. Both LOG and SET PRINTER will probably depend on flow control.

OFF - turn off flow control
 XON - turn on xon/xoff flow control with the remote
 DELAY number - delay the micro til xoff takes effect

Delay followed by number(including 0) delays the program for number milliseconds after the xoff is given to the remote. This delay allows the xoff to take effect before the program continues.

SET KEYBOARD

Syntax: SET KEYBOARD {2P/2E}

SET KEYBOARD tells KERMIT-65 if the user has a full keyboard (2E) or not (2P). If the user is on an Apple][+, this should be set to 2P (which is the default). When set to that, certain character translations are available by using the right-arrow key as a prefix character.

SET KEYPAD

Syntax: SET KEYPAD {on/off}

SET KEYPAD tells KERMIT-65 if the user has a gs style keypad available. This is automatically set on a gs but must be set on other machines. With keypad set then "vt100 keypad on an apple keyboard" (see below) will not be used but the actual keypad will be.

SET PRINTER

Syntax: SET PRINTER {on/off/slot} number

This allows one to turn the printer on for printing what is displayed on the screen. With all the different printers and printer cards there will be a lot of variability here but flow control (xon/xoff) is probably required when you are connected to a remote site. The printer can also be toggled on/off via the ESCAPE character followed by the command "P".

Remember when you use your printer there are a lot of variables here. What was being sent to the screen now is being sent to your printer. If you were emulating the vt52 your printer may not know how to handle the escape sequences, tabs etc. It may be you can tell the host you are a tty or some such device that will give carriage returns etc that your printer can handle. Some printers may require the flow control and delay to get readable printing.

ON - turn the printer on, slot number is required
 OFF - turn the printer off
 SLOT number - printer card is in slot "number"

SET SLOT

Syntax: SET SLOT parameter

This option tells KERMIT-65 in which slot the communication device is located. The range for the parameter is 1-7.

SET TIMER

Syntax: SET TIMER ON or OFF

SET TIMER will turn on or off the timeout checking for receive file transfers. Since there is no clock for exact timing a loop of instructions has been set up assuming a 1 megacycle cpu. Cpus which run faster will have to make allowances via the SET RECEIVE TIMEOUT command.

SET TERMINAL

Syntax: SET TERMINAL {monitor/none/vt100/vt52}

MONITOR emulation

This emulation simply displays all the characters received from the remote (except nulls) without any formatting of the screen (40 or 80 ch per line). Control characters are displayed inverse.

NONE

In this mode all incoming characters (except nulls) are passed directly to the display.

Vt100 emulation

The vt100 is a small but working set of a true vt100 terminal, it appears to work with most of the standard full screen editors and processors on bsd un*x machines and vax vms machines. A //e, //c or //gs is probably required with the apple 80 column text card. Sorry but the II and II+ will probably have to use one of the other terminal options. The vt100 keypad has also been defined for the application mode via the OA/CA/game button. Following is a picture of what the keypad looks like to ed (vms). When using eve (vms) the meaning of the keys will of course change.

Vt100 keypad on an apple keyboard.

| PF1 | PF2 | PF3 | PF4 | .(period) |
|-----------------------|----------------------|------------------------|-------------------------|----------------------|
| 6
gold | 7
help | findnxt
8
find | delline
9
undelln | select
0
reset |
| 7 | 8 | 9 | - | |
| page
Y
command | section
U
fill | append
I
replace | delword
O
undelwd | |
| 4 | 5 | 6 | , | |
| advanc
H
bottom | backup
J
top | cut
K
paste | delchar
L
undelch | |
| 1 | 2 | 3 | ENTER | |
| word
N
chgcase | eol
M
deleol | char
,
specis | enter
.
sub | |
| 0 | | | | |
| space bar | | | | |
| bline | | | | |
| openline | | | | |

As you can see the keypad is physically laid out like the vt100 keypad except for the lower right corner. Notice that above the keys are the vt100 labels while within the box (key) is the apple key label. Also the arrow keys work as vt100 arrow keys with the OA/CA/game button.

Vt100 keypad on a gs or equivalent keypad.

| PF1 | PF2 | PF3 | PF4 |
|------------------------|----------------------|------------------------|-------------------------|
| CLEAR
gold | =
help | findnxt
/
find | delline
*
undelln |
| 7 | 8 | 9 | - |
| page
7
command | section
8
fill | append
9
replace | delword
+
undelwd |
| 4 | 5 | 6 | , |
| advanc
4
bottom | backup
5
top | cut
6
paste | delchar
-
undelch |
| 1 | 2 | 3 | ENTER |
| word
1
chgcase | eol
2
deleol | char
3
specins | enter
ENTER
sub |
| 0 | . | | |
| bline
0
openline | | select
.
reset | |

VT52 emulation

SET TERMINAL VT52 will turn on the vt52 terminal emulation. One thing that is required is your 80 column card must handle the \$16 command in order for reverse scrolling to work. The //e 80 col handles this fine.

The vt52 keypad has been defined using the open/closed apple. For II or II+ one will have to have a game paddle or joy stick (key shift mod too????) and use the buttons. When a button /open /closed apple is pushed then the keys starting with 6,7,8 & 9 form the top of the keypad. Key 6 is the blue key key 7 is the red key etc. The keys directly below the 6,7,8 & 9 and shifted one-half key to the right form the second row of the keypad etc. Every thing is fine until you get to the last row on the keypad. There the sp bar is 0 and the other two keys are moved to the upper right as the 0 & - keys. This way the arrow keys are available as vt52 keys with the OA/CA/game button combination (thanks to Dick Atlee for this idea). With those two exceptions the keypad is physically similar to a vt52 keypad. Remember the open/closed apple or the game button must be pushed (like the cntl key) to get the keypad emulation.

How about a picture to clear up the questions?

(^ is up arrow)

| BLUE | RED | GRAY | ^ | . | ENTER |
|-----------|-----------|-------------------------|--------------------|----------------------|-------------------|
| 6
gold | 7
help | delline
8
undelln | up
9
replace | select
0
reset | enter
-
sub |

(v is down arrow)

| 7 | 8 | 9 | v |
|----------------------|----------------------|-------------------------|----------------------|
| page
y
command | findnxt
U
find | delword
I
undelwd | down
O
section |
| 4 | 5 | 6 | -> |

| advanc
H
bottom | backup
J
top | delchar
K
undelch | right
L
specins |
|-----------------------|--------------------|-------------------------|-----------------------|
| 1 | 2 | 3 | <- |
| word
N
chgcase | eol
M
deleol | cut
.
paste | left
.
append |
| 0 | | | |
| space bar | | bline | |
| openline | | | |

The arrow keys work as vt52 arrow keys with the OA/CA/game button.

1.5.12. THE SHOW COMMAND

Syntax: SHOW [option]

The SHOW command displays various information:

| | |
|-------------------|---|
| ALL | All parameter settings (this is quite long). |
| BAUD | Baud rate of the com card. |
| CURSOR-KEYS-VT100 | Are cursor keys emulating the vt100 keys? |
| DEBUGGING | Is debugging mode on or off?. |
| DEFAULT-DISK | Which Diskette drive is being used? |
| DEVICE-DRIVER | Which communication device is being used? |
| DISPLAY | Which screen display is being used? |
| ESCAPE | Character used for terminal connection. |
| FILE-TYPE | Of Apple DOS/PRODOS file being sent/received. |
| FILE-WARNING | Warn users if incoming file exists? |
| FLOW | Is xon/xoff flow control being used? |
| KEYBOARD |][+ or //e keyboard. |
| KEYPAD | Does a gs style keypad exist? |
| LOCAL-ECHO | Full or half duplex switch. |
| PARITY | Character parity to use |
| PREFIX | Which default prefix to use with prodos? |
| PRINTER | Is the printer being used for the display? |
| RECEIVE | Various parameters for receiving files |
| SEND | Various parameters for sending files |
| SLOT | Which slot # is communication device in? |
| TIMER | Is the receive timeout on or off? |

TERMINAL Which terminal (if any) should kermit emulate?

The above options are analogous to the equivalent SET commands.

1.5.13. THE STATUS COMMAND

Syntax: STATUS

Give statistics about the most recent file transfer. This includes information such as number of characters sent/received, number of data characters sent/received, and last error encountered.

1.5.14. THE LOG COMMAND

Syntax: LOG filespec

When connected to a remote site, log the remote sessions output to the specified file. The file type and file warning protocols are observed. This command is dependent upon the flow control (xon/xoff) working. Without flow control there is little possibility of getting a correct copy of the terminal session. The logging begins when you connect to the remote and is terminated when you escape back to the local kermit with the ESCAPE character followed by the "C" command.

1.6. Standard installation

To bootstrap kermit to the apple, get the files a2k3xx.1 thru a2k3xx.3 on a dos 3.3 diskette. Where xx is the current version. Make sure the diskette is a master diskette and empty. Rename the files to ker3xx.1 thru ker3xx.3. Then:

```
EXEC KER3XX.1,R25
```

You will be asked several questions about your hardware and the program should execute and produce a binary with some starting instructions. If you want to run kermit on prodos simply use the prodos conversion routines to move the binary to prodos. If you want to make settings permanent in the binary. Start up kermit and set all the parameters in kermit the way you want them. Then "exit" kermit and "bsave kermit,a\$1000,l\$6900". The next time you "brun kermit" you will find all your parameters already set.

FILES SUPPLIED FOR KERMIT-65

The following files should be supplied on the distribution tape:

```
a2acc.hex - apple com card hex
a2acc.m65 - apple com card source
a2ccs.hex - ccs 7710 com card hex
a2ccs.m65 - ccs 7710 com card source
a2cps.hex - cps com card hex
a2cps.m65 - cps com card source
a2diff.doc - difference between the original m65 doc and this
a2gs.hex - gs serial port hex
a2hmm.hex - hayes micro modem card hex
a2hmm.m65 - hayes micro modem card source
a2k3xx.1 - easy install file 1 (an exec file for dos 3.3)
a2k3xx.2 - easy install file 2 (an exec file for dos 3.3)
a2k3xx.3 - easy install file 3 (an exec file for dos 3.3)
a2m65.doc - complete documentation (it says here)
a2main.hex - main kermit pgm hex
a2main.m65 - main kermit pgm source
a2make.unx - make file for unix xasm (to assemble kermit)
a2msv.hex - microtec com card hex
a2msv.m65 - microtec com card source
a2ssc.hex - super serial com card hex
a2ssc.m65 - super serial com card source
a2xasm.1 - xasm for unix system part 1
a2xasm.2 - xasm for unix system part 2
a2xasm.3 - xasm for unix system part 3
```

1.7. Alternate Installation

The main problem exists in getting the hex files onto your diskettes as a text file. But again that is a test of your creativity. If you have a version of kermit running then GET or RECIEVE the file as a text file and you are in business. Since kermit has been separated into two assemblies then two hex files will have to be present on the diskette. Get the main hex file a2main.hex and select which com card hex you will need. First "exec p2main.hex". Your apple (or compatible) will go into monitor and show you *'s for several minutes. This is the monitor loading the hex into binary. If you get beeps from the monitor its probably because you didnt get a good copy of the text file. Now EXEC the com card driver you are going to use. You will have to get back into basic(aha another test for you,try "3d0G") to do this. And you will see the monitor loading the com driver. The order of EXEC's is important. The com card should be loaded last. Next get back into basic and do a "BSAVE kermit,A\$1000,L\$6900" You may have to specify the drive to do this binary save, with a slot or drive on the end of the BSAVE(aha another test). You now run kermit via "BRUN kermit"

If you want to customize kermit for your equipment. Do all your "set's" etc and then do an "exit". Now you should be back in basic. At this point do a "BSAVE name,A\$1000,L\$6900" and when you do a "BRUN name" all your setup will be remembered. NOTE: If you save your current settings via "bsave kermit ..." you may find that moving that binary to another type of apple (eg. //e -> //e+) will not be possible. So make sure you keep the original binary to move between machine types.

Since the org is now \$1000 if you have been using kermit and then went back to basic for some trivial thing a "CALL 4096" should start up kermit without having to reload it.

In summary:

```
EXEC A2MAIN.HEX
```

Choose the com card driver you will use. For example A2SSC.HEX.

```
3D0G
EXEC A2SSC.HEX
BSAVE kermit,A$1000,L$6900
```

And you should be in business. Remember there is the command HELP and whenever you are into a command a "?" will give you the possible options available at that point of a command. The escape key will finish typing an option if it is possible. The syntax of all the commands and options only requires enough characters to make that command or option unique.

1.8. Problems

1.8.1. Installation

NOTE: When using the super serial driver you must have the cards sw6-2 on. This allows the card to use interrupts. The rest of the switches are set from within kermit. It appears to me that you can run your apple 2 with sw6-2 on and in 99% of the cases will cause no problems. This is because dos runs with interrupts locked out ("sei" in assembly language) and the program must explicitly give a "cli" for interrupts to work (the super serial driver does).

The microtek driver is a super serial look alike which does not run with interrupts. If you have trouble with the super serial driver you might try the msv driver. For you people with the msv-622c card. You might try running a jumper from the UART 6551 pin 26 to the card edge pin 30. This will enable interrupts just like the ssc sw2-6, and then you can use the super serial driver.

The prometheus card will work with the apple com driver. However you will have to set the switches on the card for baud etc. Evidently this card can not be programed by the software. If that is not true then here is an opportunity for you to write a better driver. If you do please pass it on for other prometheus users.

Unconfirmed reports have it that the apple cat will work with the apple com driver. Would appreciate a confirmation.

Some have noted the apple com card must be initialized via the "IN#x" before starting kermit. Ike has now updated this driver and the initialization is now done within the apple com driver. Thanks Ike.

1.8.2. Usage

There is the command HELP and whenever you are into a command a "?" will give you the possible options available at that point of a command. The escape key will finish typing an option if it is possible. The syntax of all the commands and options only requires enough characters to make that command or option unique. When using flow control you may appear to hang. Type a ^Q (control Q) and that may free you up. Remember when you use your printer there are a lot of variables here. What was being sent to the screen now is being sent to your printer. If you were emulating the vt52 your printer may not know how to handle the escape sequences, tabs etc. It may be you can tell the host you are a tty or some such device that will give carriage returns etc that your printer can handle. Some printers may require the flow control and delay to get readable printing. File transfer is very dependent upon parity. Make sure the host and local parity are the same.

1.9. Customizing Kermit-65

CUSTOMIZING AND BUILDING KERMIT-65

The source code to KERMIT-65 is in 6502 Assembler. It has been formatted for a cross assembler which runs on a unix 2's complement machine. Files a2xasm.1 thru a2xasm.3 are the cross assembler for unix. Get the files on a unix system and then look at the documentation at the start. They will easily make you a xasm for kermit. The file a2make.unx is the make file to use with the xasm to reassemble all of kermit's parts.

KERMIT-65 currently supports the following communications devices:

- The Microtek sv-622 card
- The D.C. Hayes Micromodem.
- The Apple Super Serial Card
- The CCS 7710 Serial Card
- The Apple Com Serial Card
- The Prometheus Versacard - uses the apple com card driver
- The CPS card
- The //gs serial card

Kermit 3 has now been separated into two assemblies. The main routines and the com card routines. A vector has been set up in low memory for the two assemblies to communicate. Look at the working com drivers for tips on how to incorporate your version of the com driver. some things to note: It is probably best to buffer the input from the remote and to get input characters from the remote every chance you get. Note the Microtek SV-622 driver, whenever the input is checked for a character and has a character the character is put into the buffer immediately. Also when the output is checked for ready to output, if the card is not ready to output then it is checked for a character to input. All this should help prevent losing characters.

1.9.1. Communications card vector area

| address | size | provided by | function |
|---------|------|-------------|---|
| 1003 | byte | main | This is the baud rate index as follows:
3 - 110
4 - 135.4
5 - 150
6 - 300
7 - 600
8 - 1200
9 - 1800
10 - 2400
11 - 3600
12 - 4800
13 - 7200
14 - 9600
15 - 19200
for example:
if index is a 6 then line should be 300 baud |
| 1004 | byte | | unused |
| 1005 | word | driver | Address of a null terminated string.
address should point to a capitalized string of the drivers id |
| 1007 | byte | main | Com slot in the form \$n0 where n is the slot #. |

| | | | |
|------|---------|--------|---|
| 1008 | byte | main | Force initialization flag when 0.
initilization routine should always initialize when this flag is 0 & then set flag non zero |
| 1009 | word | main | Address of the end of kermit main routine. |
| 100b | byte | main | Flow control is on when high bit is set |
| 1020 | 3 bytes | driver | Jump to initialization routine. |
| 1023 | 3 bytes | driver | Jump to command routine. A reg has command
0 - hang up the line
\$0b - set baud rate
\$0c - set break on the line
\$91 - do xon on the line
\$93 - do xoff on the line
routine returns false (P reg zero flag)
if unable to do command |
| 1026 | 3 bytes | driver | Jump to check for input from the line.
routine returns false (P reg zero flag)
if no character on line |
| 1029 | 3 bytes | driver | Jump to get input character from line.
routine returns character on the line in A reg |
| 102c | 3 bytes | driver | Jump to put character in A reg on line. |
| 102f | 3 bytes | driver | Jump to reset com driver. |
| 1040 | 3 bytes | main | Jump to apple rom wait rtn. micorseconds
delay =1/2(26+27A+5A*A) where A is the accumulator |
| 1043 | 3 bytes | main | Jump to routine to print null terminatedstring.
X reg contains least significant byte of address
Y reg contains most significant byte of address
routine does not issue a carriage return |
| 1046 | 3 bytes | main | Jump to routine to read the keyboard.
A reg contains the character read |
| 1049 | 3 bytes | main | Jump to routine to print carriage rtn & line feed. |
| 104f | 3 bytes | main | Jump to routine to set characters parity.
A reg contains the character befor and after |

All the routines should return with the "rts" instruction. Routines which can return a true/false indication should return with the P reg zero flag set appropriately. That is:a "beq" instruction will branch on a false indication and the "bne" will branch on a true indication. Currently the com driver should start its routines at address \$7600. If your com driver gets too large then the bsave address would have to be changed when you are saving the binary to diskette.

=====
DOCUMENT kings.quest.ii
=====

[*****]
[King's Quest][
[Romancing The Throne]
[An Extasy Presentation]
[Cracked by:]
[Crustacio Mutoid]
[And]
[The Bit Blitz]
[*****]

Softdocs by: The Bit Blitz

A long, long time ago, when creatures of myth and magic walked the earth
openly with lesser mortals, there dwelt in the kingdom ory a King name
Graham. He had one the crown by his wit and courage, when he went forth
to uncover and reclaim the three lost treasures of Daventry. Now Graham
ruled over the land, with the aid of the mirror that foretold the
future, the bottomless treasure chest, and the invincible shield. The
people of Daventry prospered under the reign of the kindly monarch.

Just one year after returning from his first victorious quest, King
Graham arose and looked into the mirror as he was wont to do daily. Much
to his astonishment, he beheld the face of Edward, the King who came
before him in the succession.

King Edward spoke, "Graham, your kingdom is strong now, thanks to the
recovery of the three treasures and your wise leadership. But it will
soon grow weak again, if you do not provide and heir to the throne.
Marry, my son, and give your people a prince that make their future
secure."

The vision faded. King Graham pondered how he might find a bride fit
to reign over Daventry. He consulted with Gerwain, his wise prime
minister.

"She must be good, and kind, so that she will love my people and they
will love here," said Graham. "She must have the wisdom to counsel me in
my daily problems, and a loving heart to bring me comfort. I wish my
Queen to glow with an inner beauty of spirit as well as beauty of face
and formt."

Gerwain suggested that Graham host a celebration, and invite all the
maidens of marriageable age from his whole kingdom. He could then
observe and conserve with the likely candidates, and see if any one of
them fit his idea of a queen.

The invitations were sent out, and the whole kingdom turned out for the
celebration. From every corner of Daventry the maidens came. Short and
tall, slender and plump, fair and dark, pretty and plain. There were
maidens from all stations of life, from Dukes' and earls' daughters to
the village goose girl and the scullery maid from the castle kitchens.
They all had but one thing in common: They greatly admired the handsome
King, and were eager to catch his eye. Word had spread that the King was
looking for a bride, and they were all thrilled at the prospect of
marrying the charming Graham.

For two days the celebration wore on, and though he tried to be
cheerful, Graham gradually became somber. None of the maidens he had met

quicken his pulse. One maid squinted, another triped over everything
in sight. Another was too coy, and the one after her giggled constantly.
They all had some fault, however small. It was with great relief that
Graham saw his guests ride away at then end of the celebration. He
retired to his room to reflect gloomily.

"My kingdom is home to hundreds of lovely maidens," he mourned. "Why is
there not one among them who touches my heart and my dreams."

As he asked the question, King Graham was standing near the magic
mirror. He glanced toward it, and noticed that the glass had grown
inexplicably cloudy.

The mist cleared, All at once, King Graham beheld the most beautiful
maiden he had ever seen. She had hair of glowing auburn, and eyes of
midnight blue. Her skin was the color of rich cream, but alas, no roses
bloomed in her cheeks, and the corners of her pretty mout drooped in
sorrow.

She was standing at a window, motionless except for the stray breeze
that stirred her hair. A tear fill from one eye, and sparkled on her
cheek like a diomand on velvet. She put up one hand to brush it away,
and Graham was struck by the grace of her movement.

The kings heart was suddenly enveloped in a strange fever. He knew that
this was the maiden for whom he longed - this was the woman who must be
his queen. He wanted to find her and bring a smile to her lovely face.
He wanted to take her in his arms, and protect her from trouble
forevermore. Eagerly he consulted the magic mirror.

"Oh mirror wis," said Graham, "I have vowed to make this maiden my
bride. Where may I find her?"

The mirror clouded again, and a voice was heard. "This is the maiden
Valanice. She is from the kingdom of Kolyma, and is known for her
goodness no less than her beauty. The jealous crone Hagatha whisked
Valanice away to an exchanged land, and imprisoned her in a quartz tower
guarded by a ferocious wild beast."

"I must rescue her or die in the attempt," declared King Graham. "How
may I find this enchanted land?"

"You must travel to the kingdom of Kolyma," said the mirror. "There you
may search for the keys which unlock the three doors to the enchanted
land..."

The voice faded and the mirror cleared. Graham stared at his own
reflection. Vainly did he call for its return, to give him more clues to
the whereabouts of the magic keys. Finally, he shouldered his
provisions, and set out on his quest of love.

Only you, my bold adventurer have the power to finish this tale.
Accompany King Graham on his quest to find the magic keys. Encounter
characters of legend, folklore and fantasy. Explore underground caverns,
eerie towers, and ocean wonderlands. Help him rescue the enchanted
maiden, so he can lay his kingdom and his heart at her feet.

You will be faced with challenges that would intimidate those of lesser
timbre. Summon all your strength and courage. Leave no stone unturned,
no avenue unexplored, and your perseverance will be richly rewarded.

It may be possible to find each key through more than one avenue. The
more imaginative your solutions, the greater you reward.

Study all the ancient lores for clues. Along the way collect as many
treasures as you can - treasures fit for a queen.

Game play instructions:

King's Quest II requires either a //c or a 128 //e with double hi-res graphics capabilities.

Commands for the Hero:

Talk to your computer in commands of one or two words, or even simple sentences.

Use a jostick or the Keyboard to move King Graham around.

Joystick-Directions for directions. Button 0 for return, Button 1 for swim.

Keyboard-
;-Northwest
'-Northeast
>-Southwest
/-Southeast
Arrow keys for North, South, East, and West

Initialize a save game disk - "INIT DISK"

Saving the game - "SAVE GAME" then under the A-Z position on disk.

Restoring a game - "RESTORE GAME" then under the A-Z position on disk.

Additional commands:

ESC - Pause King's Quest II
TAB - Inventory and Score
1 - Turn music off/on
3 - Save Game
5 - Restore Game
7 - Restart Game
9 - Echo last command
= - Swim

===== DOCUMENT kng.bnty.ref =====

Kings Bounty Reference Card

| Monsters | Skill | Hit | Points | Movement | Damage | Recruitment | Morale |
|-------------|-------|-----|--------|----------|------------|-------------|--------|
| CASTLE | | | | | | | |
| Militia | 2 | 2 | | 2 | 1-2 | 50 | A |
| Archers 1 | 2 | 10 | | 2 | 1-2/1-3 | 250 | B |
| Pikemen | 3 | 10 | | 2 | 2-4 | 300 | B |
| Cavalry | 4 | 20 | | 4 | 3-5 | 800 | B |
| Knights | 5 | 35 | | 1 | 6-10 | 1000 | B |
| PLAINS | | | | | | | |
| Peasants | 1 | 1 | | 1 | 1 | 10 | A |
| Wolves | 2 | 3 | | 3 | 1-3 | 40 | D |
| Nomads | 3 | 15 | | 2 | 2-4 | 300 | C |
| Barbarians | 4 | 40 | | 3 | 1-6 | 750 | C |
| Archmages 2 | 5 | 25 | | Fly+1 | 2-3 | 1200 | C |
| FOREST | | | | | | | |
| Sprites | 1 | 1 | | Fly+1 | 1-2 | 15 | C |
| Gnomes | 2 | 5 | | 1 | 1-3 | 60 | C |
| Elves 3 | 3 | 10 | | 3 | 1-2/2-4 | 200 | C |
| Trolls 4 | 4 | 50 | | 1 | 2-5 | 1000 | D |
| Druids 5 | 5 | 25 | | 2 | 2-3 | 700 | C |
| HILLS | | | | | | | |
| Orcs 6 | 2 | 5 | | 2 | 2-3/1-2 | 75 | D |
| Dwarves | 3 | 20 | | 1 | 2-4 | 350 | C |
| Ogres | 4 | 40 | | 1 | 3-5 | 750 | D |
| Giants 7 | 5 | 60 | | 3 | 10-20/5-10 | 2000 | C |
| Dragons 8 | 6 | 200 | | Fly+1 | 25-50 | 5000 | D |
| Dungeon | | | | | | | |
| Skeletons | 2 | 3 | | 2 | 1-2 | 40 | E |
| Zombies | 2 | 5 | | 1 | 2-2 | 50 | E |
| Ghosts 9 | 4 | 10 | | 3 | 3-4 | 400 | E |
| Vampires 10 | 5 | 30 | | Fly+1 | 3-6 | 1500 | E |
| Demons 11 | 6 | 50 | | Fly+1 | 5-7 | 3000 | E |

Notes:

- 1 Archers have 12 shots
- Archmages may cast 2 Fireball spells
- 3 Elves have 24 shots
- 4 Living Trolls regenerate to full hit points
- 5 Druids may cast 3 Lightning Bolt spells
- 6 Orcs have 6 shots
- 7 Giants have 6 shots
- 8 Dragons are immune to magic
- 9 Ghosts absorbs creatures they kill
- 10 Vampires heal thier own wounds equal to the damage they inflict
- 11 Demons may halve any troop

| Character | Villains Caught | Leadership | Maximum # spells | Spell Power | Commission per week |
|-----------|-----------------|------------|------------------|-------------|---------------------|
| Knight | - | 100 | 2 | 1* | 1000 |
| General | 2 | +100 | +3 | +1 | +1000 |
| Marshal | 8 | +300 | +4 | +1 | +2000 |
| Lord | 14 | +500 | +5 | +2 | +4000 |
| Paladin | - | 80 | 3 | 1* | 1000 |
| Crusader | 2 | +80 | +4 | +2 | +1000 |
| Avenger | 7 | +240 | +5 | +2 | +2000 |

Apple II Computer Info

| | | | | | |
|-----------|----|------|-----|----|-------|
| Champion | 13 | +400 | +6 | +2 | +4000 |
| Barbarian | - | 100 | 2 | 0* | 2000 |
| Chieftain | 1 | +100 | +2 | +1 | +2000 |
| Warlord | 5 | +300 | +3 | +1 | +2000 |
| Overlord | 10 | +500 | +3 | +1 | +2000 |
| Sorceress | - | 60 | 5 | 2 | 3000 |
| Magician | 3 | +60 | +8 | +3 | +1000 |
| Mage | 6 | +180 | +10 | +5 | +1000 |
| Archmage | 12 | +300 | +12 | +5 | +1000 |

* = Must learn magic to cast spells

Morale Chart

Units Morale Group

| | | | | | |
|-------|---|---|---|---|---|
| | A | B | C | D | E |
| Other | A | N | N | N | N |
| Units | B | N | N | N | N |
| In | C | N | N | H | N |
| Army | D | L | N | L | H |
| | E | L | L | L | N |

L = Low morale (if any low in army)
 N = Normal morale
 H = High morale (only if all units are H)

A Few = 1-9
 Some = 10-19
 Many = 20-49
 A Lot = 50-99
 A Horde = 100-499
 A Multitude = 500+

| Castles: | Locations
X,Y | Towns: | Locations
X,Y |
|--------------|------------------|----------------|------------------|
| Continentia | | Continentia | |
| ----- | | ----- | |
| Azram | 30,27 | Bayside | 41,58 |
| Cancomar | 36,49 | Fjord | 46,35 |
| Faxis | 22,49 | Huntermville | 12,3 |
| Irok | 11,30 | Isla Vista | 57,5 |
| Kookamunga | 57,58 | King's Haven | 17,21 |
| Nilslag | 22,24 | Lakeview | 17,44 |
| Ophiraund | 6,57 | Nyre | 50,13 |
| Portalis | 58,23 | Path's End | 38,50 |
| Rythacon | 54,6 | Quiln Point | 14,27 |
| Vutar | 40,5 | Riverton | 29,12 |
| Wankelforte | 40,41 | Xoctan | 51,28 |
| Forestria | | Forestria | |
| ----- | | ----- | |
| Basefit | 47,6 | Anomaly | 34,23 |
| Duvock | 30,18 | Dark Corner | 58,60 |
| Jhan | 41,34 | Elan's Landing | 3,37 |
| Mooseweigh | 25,39 | Midland | 58,33 |
| Quinderwitch | 42,56 | Underfoot | 58,4 |
| Yeneverre | 19,19 | Wood's End | 3,8 |
| Archipelia | | Archipelia | |
| ----- | | ----- | |
| Endryx | 11,46 | Centrapf | 9,39 |
| Goobare | 41,36 | Japper | 13,7 |
| Hyppus | 43,27 | Overthere | 57,57 |
| Lorshe | 52,57 | Simpleton | 13,60 |

| | | | |
|----------|-------|-----------|-------|
| Tylitch | 9,18 | Topshore | 5,50 |
| Xelox | 45,6 | Yakonia | 49,8 |
| Saharia | | Saharia | |
| ----- | | ----- | |
| Spockana | 17,39 | Grimwold | 9,60 |
| Uzare | 41,12 | Vengeance | 7,3 |
| Zyzzaraz | 46,43 | Zaezoizu | 58,48 |

If your picture isn't next to the word LAME in the dictionary call these boards:

Byte Bastard BBS 201-697-7001
 Third Stone 201-652-7349
 Wizzards Annex 201-402-0786

"How dare you," he yelled. "What do you want?"
 "We fight now," bellowed the dim-witted Bargash Eyesore. "Arech says attack castle now." He focused on the girl with his solitary, menacing eye, "Kill !" Bargash smiled toothily as the slave cringed with fear.
 The Baron smiled, pretending not to notice the exchange. How quaint, the one-eyed monster wanted to play with the soldiers. "Prepare the troops. I will lead them myself. Now, leave me."

The Baron sat mounted upon a dazzling white charger. Bargash stood next to him towering over the mounted men. Thousands of troops stretched behind them, a motley crew of men and monsters.
 Raising his gauntleted hand, the Baron signalled the trumpeter to sound attack. Galloping, he led the charge down to The King's Castle, home to King Maximus.
 At first the battle went well. The Baron withdrew to a hill overlooking the field of battle surrounded by his entourage. His troops slaughtered the suprised garrison that met them on the field. Bargash Eyesore was especially impressive, laying waste to all about him. He pulverized friend and foe alike with his deadly spiked club.
 Then, Maximus appeared on the castle parapet. He was adorned in mirrored armor, a beacon of blazing light reflecting the mid-morning sun. He held the Scepter of Order high, so all could see it. Suddenly, pikemen rushed from the hastily opened castle gates, clearing a path for the charging cavalry and knights.
 The Baron's troops hesitated, suprised by the ferocity of the counterattack. Within minutes, it was clear that Maximus had won the day. On his hilltop, the Baron watched in sorrow as Bargash was captured. It was time to flee.

A dirt encrusted horseman knelt before King Maximus, "My liege, Baron Makahl has been captured. We have thrown him in the dungeon next to his single visioned compatriot."
 The King grinned, "Well done. The Four Continents are safer now that he lays in captivity."
 The Baron frowned as he lay staring at the stone ceiling. The cell just would not do. Bargash snored louder than an army. Still, he contemplated, Arech would be pleased that the first stage of his plan was successful. He closed his eyes and dreamt of the riches that would be his.

III
 A bearded wizard, garbed from head to toe in crimson, bent over the Tome of the Prophecy muttering to himself. Magus Deathspell could not believe it. He the most powerful wizard on the Four Continents, upstaged by a nobody, an old man and his bumbling petty thief of a companion. Now reduced to reaserch with the arrogant trickster Prince Barrowpine, Lord of the Elves.
 Magus wondered wht he put up with Arech's orders. Maybe he should research a way to kill the mighty dragon. Slow poison or a dry rot spell would do nicely. Magus' index finger glowed eerily with power as he anticipated the demise of his master.
 Prince Barrowpine stode regally into the room. The pair of guards escorting him remained just inside the entryway, waiting silently. The Prince spoke, "You should be studying, not daydreaming, O mighty wizard."
 Magus glared at the Prince, daring him to continue.
 "Arech will be displeased with you, most ingenious of wizards, if we do not finish translating the second part of the Prophecy," taunted the elf.
 Magus' finger glowed sun-bright and then the blinding light lanced out into two twin beams of destruction. Where the two guards stood, nothing remained but wisps of smoke, and even these faded into oblivion. A grin of satafaction crossed Magus' face
 The Prince burst into laughter, "Really Magus, you should not go around destroying my illusions like that. I shall just have to surround myself with new ones."
 Prince Barrowpine then proceeded to reach into a pouch and removed his fabled enchanted coin. He held it aloft and it flickered briefly like a lighthouse beacon. The guards reappeared, silent as ever, waiting once again.
 "Enough games, Deathspell. Tell me more about the passage in the book mentioning the Demons." The Prince paused, "Are we really going to ally ourselves with a Demon? Demons unnerve me more than Arech, and Arech Dragonbreath frightens me to death."
 Magus glowered, "I like it not also, but it states clearly in this passage here, "The Good King and his symbol of Order will be replaced by an Evil King and a

===== DOCUMENT kng.bnty.story =====

King's Bounty Story Book

Theft of the Scepter

I
 The crypt below the ruined keep was dank and musty. Moisture congealed on the floor, forming small puddles. A pair of grimy grave robbers braved the crypt and set about exploring the tombs.
 Caneghor the Mystic, old and bent, sifted through aneicnt relics buried along with an equally aged mummy. His young and somewhat frivolous companion, Hack the Rouge, sought treasure in the tomb of an ancient warrior queen. Caneghor smiled as he turned the pages in a book and silently wished Hack luck, warrior queens were not renown for their booty.
 "Aha ! Hack come here and look at this,"chortled Caneghor. His eyes gleamed like a librarian who has found a rare and precious volume. One of the tomes floated in the air before Caneghor. He was studying it intensely, leafing through the pages with a rapidity suprising for one his age.
 Hack strutted out wearing glimmering jewelry he had just liberated from the warrior queen. His eyes betrayed fear as he noticed the levitating book.
 "I wish you wouldn't do that around me, I hate it !" Hack paused and gave an appraisal, "Book looks valuable...gold inlay on the leather...lemme see it !"
 As Hack reached for the floating book, Caneghor shouted fiercely, " No!" His eyes blaced with mystic power, "This is for the Master."

The cave was unfathomably large as was it's chief occupant Arech Dragonbreath. Arech wondered what his henchmen wanted now. Hack the Rouge was almost unbearable, a petty thief who acted the part of an accomplished master criminal. Arech laughed, hot smoke streaming from his scaly nostrils, as he thought of several bloody ways for Hack to die. Hack paled as he was bathed in the uncomfortably warm smoke. He backed away from the immense dragon, trying to blend in with the natural crevices of the cavern wall.
 Caneghor decided that it was time to speak, "O Arech, mightiest of dragons, most cunning of all, I bring you knowladge of unbridled power."
 Arech smiled, rows of dagger-sharp teeth glistening with saliva. Cangehor always knew how to please him. A very useful man, even though he was unambitious.
 "What do you bring me, master sage," queried Arech.
 "A book, milord. A book with a prophecy," intoned Caneghor. He straightened, "The propecy tells how Good King Maximus can be toppled from his throne and supplanted."
 "How is that, Caneghor ?" Arech's greed for power was aroused, "How can I dethrone Maximus ?"
 "Steal the Scepter of Order," blurted the suddenly courageous Hack.
 Arech grumbled a low and distant thunder. He unfurled his wings, enclosing the two men under an umbrella of darkness. Arech slowly lowered his massive head, neck extending sinuosly until he was face to face with the humans. "Why the Scepter," he breathed.
 Caneghor and Hack were assailed by a tepid gust of sulfurous air. As Hack trembled, Caneghor spoke firmly, "For it ties him to the land, Arech. He loses the Scepter, and the Four Continents lose Order. And with out Order, Chaos shall rule."
 Arech shot a burst of flame across the cavern, scorching the farthest wall. "Excellent," he roared, "Excellent ! You both shall be rewarded."
 Hack's eyes lit up at the mention of the word reward. Caneghor merely smiled. Arech did not even notice, he was already formulating a master plan.

II
 Baron Johnno Makahl stretched his considerable girth across the pillows which lay strewn across the tent floor. A slave girl murmured dreamily next to him. He contemplated her sleek back as dawn slowly approached.
 The Baron was of a once proud lineage whose mighty empire had shattered and collapsed upon itself until it was no more than a pitifully small island nation, far removed form the days of conquest and glory.
 He stared in suprise as a huge cyclops burst throught the tent flaps. The Baron, seemingly offended by the cyclops' lack of manners, stood up with fire in his eyes.

symbol of Chaos." Magus continued, "The only kings extant now are Maximus and Urthrax Killspite, the Demon King."

"Very well." sighed the Prince, "I suppose we should inform Arech of this."

IV

It was after midnight. Furtive clouds stole quickly over the face of the moon, as if afraid to remain in any one place for too long.

The devastated castle crested a desolate hilltop. Long moon shadows played ominously over the empty courtyards, highlighting the bleakness of the ruins. The whole countryside was dead, as were the castle's inhabitants.

In the still functional north wing of the castle, three figures sat across from one another at a table in a dimly light room. Two were Undead, and the third gesticulated wildly over a map which lay across the table.

"It cannot be done at night. It is not proper to conduct a battle after dusk. We have enough forces, let us attack by daylight," pleaded the lone human in the room, Auric Whiteskin.

Auric was a bear of a man, tall, heavily muscled, and full of life. He wore his customary Whiteskin, sewn together flesh of baby lambs which he believed would protect him from disaster, disease, and other malign occurrences. He was worried, the undead do not understand the foibles of the living.

Dressed in moldering green strips of cloth and garnished with the odor of death, Ragface, mightiest of the Undead, spoke, "At night, we have a distinct advantage. Our troops will fight better and the humans will be scared. After all, it is the Week of Demons and we wouldn't want to dissappoint thier superstitions."

Rinaldus Drybone, the Lich Lord, crossed his arms. Bone, yellowed with age peered from the folds of his robe. His head, a human skull, gazed expressionlessly outward. The burning red embers that were his eyes floated in otherwise empty eye sockets, scanning slowly from first Auric and then to Ragface. He spoke with a hollow voice, "There will be more death during the light than in the dark. The humans will kill more of each other if they can see each other. We will fight during the daylight."

Auric cursed himself softly as Ragface acquiesced to Rinaldus' order. He could not believe he consigned his loyal troops to slaughter just for the added amusement of the two undead lords. Arech's mission could have been fulfilled just as easy during nightfall. To bad honor was not an expedient to him.

Leaning over the map once more, Auric outlined his battle plan to the two Undead. The continent Saharia would be liberated from King Maximus' rule quickly. Afterward, Auric, Ragface, and Rinaldus would rule jointly over what was left.

V

King's Castle was in a state of uproar. Rebels had successfully wrested control of the entire continent of Saharia from King Maximus in a matter of days. A seemingly endless stream of refugees were pouring into the castle daily, seeking safety and shelter.

To make matters worse, a trio of disreputable nobles from a distant land were in the castle on a matter of state. They were forever poking around, wandering into restricted areas with innocent looks on thier faces, and mercilessly running the royal stewards ragged. It seemed that the nobles felt that they had to take the king literally when he told them that they had the run of the castle until he could give them a proper audience.

At the moment, the trio of nobles appeared to be giving the royal stewards a break, allowing them to prepare for the evenings feast.

The Czar Nickolai, a strange and wild looking man, paced around his tower suite in a frenzy. His disheveled appearance made him look more like a crazed conjurer or a possessed soul than a king from a foriegn land.

His eyes, which some said revealed madness, darted back and forth across the room, glancing at everything and recognizing nothing. Nickolai's fists clenched and unclenched constantly, moving in a strange cadance with the mutterings which passed under his breath. It sounded as if he was arguing with himself. "If it were anything but a demon I would have no problem. Yet they have so much power to offer. Demons bother me, nothing else does. I don't let them bother me. Demons don't care what I let them do or don't do, they do what they want. What are you going to do?"

Sir Moradon the Cruel, a knight with a rather sinister background, took the Czar's question as a cue, "I think we should ally with this Arech Dragonbreath. He has impressed me more than this knave Maximus. Arech said he would liberate Saharia and he did. Maximus was supposed to have a conference with us more than a week ago about establishing trade between our two empires.

A man of inaction and indecision does not impress me as much as a man willing to take risks to ensure decisive action, even if it fails. I say Arech is right, he should rule the Four Continents rather than Maximus."

Moradon neglected to mention that he was secretly promised significant trade monopolies for cooperating with Arech. He had hesitated when Arech mentioned that a demon would rule as a figurehead, but his reservations were cleared when large parcels of land were dangled before his greedy eyes.

Princess Aimola, a rather striking if overweight woman known more for her deceitfulness than her beauty, sat upon a great stuffed chair. Absentmindedly twirling a strand of her long, dark hair, she wondered what Sir Moradon the Cruel had said. She also pondered the treasure hoard that Arech had shown her. It was to be hers if she supported him with one small indiscretion.

"But Sir Moradon, you forgot. A demon is going to rule the Four Continents. No matter how powerful this dragon Arech is, will he be able to control a demon as he would a puppet? I think not. Yet I cannot agree that life would be much easier if Arech held sway in the government. I found his arguments very persuasive. Besides, I think it would be very thrilling to poison our unsuspecting Maximus at a public feast."

Nickolia stopped moving and silence spread over the room like a blanket. His eyes turned to the fire and he said, "We will side with Auric. The demon king will help us greatly as will Arech. We must act swiftly."

Aimola and Moradon turned and stared at one another. Maybe the rumors were true, their sorcerer Lord Nickolia had cast one spell to many in his thirst for power.

Nickolia made for the door and thrust it open. A kitchen boy, no doubt sent to notify the trio of the exact time they were expected at the feast, paled with fear at being caught evesdropping. The Czar picked up the child roughly and shut the door. Grinning savagely, he drew a long sharp dagger from a hidden sheath.

The boy struggled fiercely, trying to make noise, trying to bite the hand that smothered his mouth, trying to live. It was to no avail. Nickolia arched the boy's head backward and ran his razor sharp dagger across the exposed throat. A fountain of coruscating blood leaped from the youth's slit arteries, spraying the walls with a multitude of tiny crimson droplets.

Moradon smiled a simple smile of pleasure as he watched Nickolia with utter fascination. Aimola covered her face with an ever-present handkerchief as she averted her gaze. Nickolai laughed with glee as he cleaned his knife on the back of the boy's tunic. Not a drop of blood stained his clothes.

"Lets prepare for the feast," he commanded the Czar. "Go to your rooms and meet me as soon as you can. I shall take care of my little mess."

After Aimola and Moradon had left, Nickolai fell to the floor trembling, "No, no, not again! I must stay in control." It was not to be. Flames leapt out of from nowhere and danced all around him. He closed his eyes and sundered.

A change swept over Nickolia's body. He stood up and surveyed the completely clean room with eyes of fire. There was no trace of the blood or the body, all that remained was a slight smell of sulfur.

VI

Magus Deathspell placed the finishing touches on his pentagram. The five pointed star was drawn in dried blood and the protective circle and runes of protection were drawn in enchanted powder made of ground bone. He stepped backward and admired his work. Fit to enslave the Demon King, he thought. He was snapped out of his reverie abruptly.

"Is it done, wizard?" That was Arech, impatient and imposing, "Let us finish our buisness."

"It is ready, Arech." Magus glared at the dragon and took a deep breath, "I should rest before I summon Urthrax Killspite, he is strong and I am to tired now to incant the spell properly. Besides, I heard that progress was made deciphering the last part of the Prophecy. I am curious."

"Very well, Magus. I do not like having to wait, but I dislike the thought of having an uncontrolled demon in my cavern. You have three hours," declared Arech. The Wizard left and Arech flew out of the cavern entrance to do some research himself.

Magus walked through the tunnel system to the library. The network interlacing all of the caverns was quite elaborate. One day, he would ask Arech how this was all made and why the dragon would want such a complex.

He entered the library and saw Caneghor the Mystic scribing down information that Prince Barrowpine was rattling off. "What have you two found," demanded Magus.

"In addition to the propechey," said Caneghor. "It seems that conditions must be met for the Scepter to be stolen."

Barrowpine continued, "No evil maybe in the castle except the evil stealing the Scepter. Once the Scepter has been stolen, we must wait. King Maximus will sicken and die soon after the theft. While he sickens, so will the land. Chaos will slowly replace Order. When the King is finally dead, the demon will sit upon the throne.

Magus concluded, "And with the demon on the throne, we will have accomplished all that we have strived for."

"I just hope Arech can control the demon," said Caneghor nervously, "I would not relish living under the rule of a freed demon."

"There is no fear of that happening, my incantations will bind the demon thoroughly," assured Magus.

Magus took his leave and went to his chambers to rest and prepare for the evenings exertions.

Arech returned to his chambers. The news he had received was disheartening. He would have to arrange for his servitors to be rescued from King's Castle. Baron Makahl and Bargash Eyesore were faithful servants and Arech knew their abilities completely. But the three new allies were another question altogether.

Czar Nickolia, Sir Moradon, and Princess Aimola were held captive for attempting to murder Maximus. Overconfident, they had made mistakes. Before the feast had begun, an outcry was raised, a kitchen boy was missing. Maximus and the revelers left the table to search for the lad. The three panicked and began preparations to leave.

When the youth did not turn up after many hours, the search was called off until morning. The food for the feast had been left untouched and Maximus had given it to his servants. The one eating Maximus' portion had died from poisoning.

Conspicuous by their absence, the three were brought before the King. Poison had been found in Aimola's belongings, which were packed neatly away for a midnight journey. Furious, the King jailed the three and set their execution for the first day of the Week of the Peasant.

Arech wondered if he could trust such a trio to serve him. However, it did not matter. They had to be removed from the castle along with the rest. Arech rumbled and exhaled smoke, a dragon's laughter. He knew just the pair to free them all from Maximus. Now, on to the conjuration.

VII

The two pirate ships cruised silently over the ocean waters. They were sailing blind at night, sneaking up on the King's Castle with only the light of the quarter moon to guide them.

The Dread Pirate Rob stood alone at the prow of the flagship, inhaling deeply of the sea air. Nothing thrilled him more than the sea and sailing. And fighting.

Rob was a small man, but lithe and swift. He fought with a rapier to make the most of the small advantages he possessed. It was enough to make him the scourge of the seas. It was enough to have Arech Dragonbreath pay him an exorbitant sum to rescue his five servants.

On the second ship, a hesitant knock woke Mahk Bellowspeak from his well deserved rest. Mahk lived up to his name and bellowed, "It had better be good for you to wake me. You know I get cranky when I don't get enough sleep."

A voice quivering with fear answered, "The Dread Pirate Rob signalled us, sir. We have arrived."

A slow smirk passed across Mahk's green face. The cabin boy would live, it was time to fight! Mahk dressed quickly, picking up clothes off the floor of his cabin haphazardly. With care, he took his mighty two-handed sword from its protective coverings. It shined brightly in the dim lamplight.

Mahk left the cabin and waited.

Murray, sometimes called The Miser, feigned sleep inside the castle walls. He "slept" next to the gate mechanism for King's Castle. At the appointed time, he was to open the gate and allow a band of pirates to swarm the castle, freeing those political prisoners.

Murray got up and stretched, the time was near. His aged bones cracked and ached when he got up. He scratched his balding head and rubbed his bearded jaw. It was getting harder and harder to wake up. He heard something.

The two groups of pirates, one led by Rob and the other by Mahk, waited at the castle gate. Rob gave the signal which was supposed to open the gate. He waited. The troops bristled with adrenaline, anticipating the upcoming battle.

Slowly the gate raised. Before it was halfway up, both groups were in the castle.

Maximus woke to the sounds of battle. He had thought he was dreaming of the days when he, as a warrior king, had united the Four Continents. Not today.

He rushed to his tower window. A group of men crossed the courtyard furtively. A small, thin man seemed to be leading five manacled figures away from the dungeons.

Maximus shouted, drawing attention to the second group of intruders. More guards rushed forward reinforcements alerted by the alarm that was sounding.

A second group fought noisily on the castle walls. His guards were holding their own, except against one brute of a fellow who turned them into mincemeat with his giant sword.

Dread Pirate Rob laughed gleefully. It had been horrendously easy. Walk in, free the prisoners, and walk out. Mahk had done his job excellently, drawing all of the attention away from Rob, killing the guards who would cut off Rob's retreat.

All that remained now was to return the five convicts to Arech. Rob laughed again, exulting in the sea breeze whipping across his face. They were asleep below decks and his and Mahk's ship were sailing quickly away, with no pursuit in sight. Arech would reward him well.

VIII

Magus stood in the center of the cavern dressed in his finest red robes with his arms upraised. His brow was furrowed in concentration which threatened to break as a single, warm bead of sweat slowly traced a cold, wet path down his forearm to his biceps and finally to his sweat drenched chest.

The incantation was harder than he thought. He realized that summoning Urthrax Killspite, the Demon King, was near impossible task. But the fight the demon put up! He either really did not want to be summoned or he was testing Magus to see if he was worth anything but a slow, lingering death.

Minor demons fluttered distractingly around, attracted by the strong magic Magus was working and no doubt sent by Urthrax to disturb the wizard. Magus shut them out, they could not enter his protective circle anyway. No harm could be perpetrated.

A wave of joy and terror flushed violently through Magus now trembling body. Urthrax had come! Sulfurous vapors swirled madly in the center of the pentagram. A ring of towering flames flared up inside the protective circle of the pentagram.

The cavern turned totally black. Slowly, from the center of the pentagram, a fiery light shone. Urthrax Killspite had come.

He was huge and terrifying. His skin was bright green and had a scaly texture. His arms were long and heavily muscled with cruel, sharp nails extending inches beyond the ends of his powerful fingers. His massive torso was topped by a ghastly head. Thick, green horns protruded from the side of his head. The features of his face were blunt and ugly. His manner reeked of death, command, and power.

When Urthrax spoke, his deep voice seemed to echo from the vastness of his chest, "I am here. I know your plans. I will be your king, but conditions have to be met first. Where is your leader, the dragon?"

Arech stepped forward from the perimeter of the cave, forgotten in the excitement of the conjuration. "I am Arech. Let us set the terms so that we may act quickly."

Magus, near total exhaustion, sighed. It was going to be a long night.

IX

King Maximus rapped the table loudly with the Sceptre of Order, silencing his many arguing counselors. He spoke, "We need help. The rebels are well organized and have put us at their mercy. Their early attack failed because they wanted it to. They led a successful rebellion in Saharia. They subverted foreign emissaries, who sit in my dungeons right now awaiting execution, to their cause, convincing them that they would prevail against me. What will they do next?"

His advisors debated for many hours, unable to come to a conclusion. The session adjourned until the morning, vainly hoping that sleep would bring a new light to the situation. Maximus kept a grim determination though. He knew that as long as he, the king, held the Sceptre, Chaos could not come to the Four Continents.

Arech and Urthrax bargained well in to the next day. They both made sure that there would be no problems. Each felt that they had the upper hand.

Later, plans were finalized for the theft of the Sceptre. Urthrax would lead Arech in to his domain. From his home, Urthrax would open a dimension gate allowing

Arech to appear next to Maximus and the Sceptre, but only for a matter of moments. Arech would have to secure the Sceptre in his grasp to be sure that when he was sucked back to Urhrax's domain the Sceptre would travel with him. Contrary magics often held a negative effect for one another.

Arech was nervous. All his work and that of his minions led up to this point. It all depended on him. There was not even a chance of treachery from Urthrax, blood oaths were signed between them. What if he failed?

Arech searched and found Urthrax, who was deep in conversation with Rinaldus Drybone and Ragface. "It is time, Urthrax."
"Then let us go."

Maximus could not believe that his advisors were so helpless. The meeting was utter chaos, nothing was being accomplished. His subjects needed help, his enemies needed to be stopped.

Maximus stood, Sceptre of Order clenched firmly in his hand. The room quieted. His advisors attention fixated on the King.

"We know that the Dragon Arech Dragonbreath leads our opposition." Maximus continued, "We know where he is. It is a time to end counsel. It is time for action."

He raised the Sceptre over his head, "We will lead an army now. We will crush him once and for all."

Suddenly his advisors gasped collectively. Behind Maximus a large, rectangular void had appeared. A scaly head protruded from the void, a dragon head.

Maximus, sensing that something was wrong, began to turn. He instinctly drew the Sceptre to his body while he moved but, it was too late. An immense claw pried the Sceptre of Order from his grip and withdrew into the void.

Looking into the void Maximus could see the dragon who had just stolen his precious Sceptre. Beside the dragon was a fierce looking demon who guffawed wildly. Flames surrounded the pair, licking them but not burning. The void closed. Maximus was frozen in place. His advisors stared at him, hoping that what they had just seen had not happened. Maximus collapsed and their fears were realized.

X

Months had passed since the theft of the Sceptre. The Four Continents were falling into ruin. All the many castles which crossed the land were inhabited by one of Arech's henchmen or a horde of monsters. The last remaining outpost of Order was the King's Castle, where some trace of the Sceptre's location was eagerly being sought after.

Maximus was dying. All Arech wanted now was his death and it seemed as if Maximus was going to give him that too. Arech was patiently waiting for the day Urthrax Killspite would sit upon the throne and Chaos would rule supreme.

Maximus smiled, a last glimmer of hope. He had a surprise for Arech and Urthrax. A hero was on his side. Recently returned from a conquest of a ferocious, evil dungeon, the hero agreed to raise armies and recover the Sceptre from Arech. Maximus would cling as long as he could to life. The hero was the only chance for his people and his land, to remain pure and the hero only had until the time Maximus died to recover the Sceptre.

A seed of worry bloomed in Arech's mind. Resting comfortably within his newly acquired castle, Arech listened to Magus' report with distress.

They were sending a mighty hero after him to recover the Sceptre. Damn heroes anyway, they were always seemed able to do the impossible. But not this time, thought Arech, not with me. I will make it truly impossible.

Arech put his plan into action. He buried the Sceptre in a secret location and then fragmented the map into 25 pieces. He and his followers each kept a piece of the map and he placed the remaining 8 artifacts of power which he could not use.

Let them find the Sceptre now. I will rule. Chaos will prevail.

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DOCUMENT kobayashi.1

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LETTER OF TRANSMITTAL

FROM: Thometz, G., Admiral, Commandant, Star Fleet Academy, San Francisco, USNA, Earth

TO: Kirk, James T., Admiral, Star Fleet Command, commanding NCC-1701 ENTERPRISE, on active-mission status (via: Star Fleet Command/Deneb: scrambled/Captain's Seal: hold for arrival: routing code EFT070137226012144030951852SF/FSIG)

SUBJECT: ADVANCED CADET-EVALUATION MATERIALS

Sir:

You will be pleased to know that Star Fleet Command has chosen the Enterprise's recovery of the USS Robert A. Heinlein during the second five-year mission as the model for the new cadet-performance evaluation exercise at Star Fleet Academy, Earth and Star Fleet Academy, Deneb, supplementing the "Kobayashi Maru" scenario. (Star Fleet Academy, Vulcan is presently evaluating the supplement to see that it meets their logic standards, and Admiral T'Kaen's office assures me of a decision within several standard weeks.)

You have not been the only commander to point out the Academy's urgent need for a subtler and more complex evaluation scenario than the one offered by the "Maru."

While administering the "no-win" scenario gives us a good preliminary sense of who our potential heroes are, it leaves untested those qualities in a commander that are as important as heroism but less spectacular: namely, observation, accurate evaluation, and multi-level "synthesis" -- not to mention sheer endurance, empathy, and humor. The Enterprise's recovery-mission scenario gives us ample opportunity to test for all of these, in depth. And since the mission results were (naturally) never declassified, the effectiveness of the material as a means of testing the command aptitude and intelligence of new cadets should be very high indeed.

I suspect that some of Fleet's eagerness to implement this new scenario has to do with the fact during the past year three more cadets have broken the old "Kobayashi Maru" scenario---and only one of them used methods similar to yours. (This information is to be treated as confidential until further notice.) Apparently, cadets are getting smarter. Or perhaps the no-win scenarios of the past are no longer a sufficient match for the deviousness (and resourcefulness) of the present.

At any rate, we need to prepare our cadets for reality, not fantasy. Both the despair of the pure no-win scenario and the equally dangerous elation of the "no-lose" attitude lie mostly in the latter category. We look for good results from the new scenario, for it concerns the real-life, "gray" area between those two attitudes. Administration methods will vary. The test may be conducted via sleep learning or in computer simulation.

Star Fleet Academy, Earth will be administering it aboard the new training ship USS Sans Souci. I am enclosing a copy of the computer version for you to evaluate. Please feel free to make any suggestions you think will improve the usefulness of this scenario as a test for future starship captains.

Sincerely,

Apple II Computer Info

Admiral G. Thometz, Commandant Star Fleet Academy, Earth

(P.S.: Let's see them cheat on this one, huh, Jim? Also, 'Eliake sends her regards. Best, Greg)

BRIEFING

Transcript of disk SFC/SFAMK2 #664658: Audio/sleep-learning cadet preparation session. Authorized personnel only.

(CAUTION: Full Vulcan cadets should not take the direct-experiential version of this briefing, due to the presence of species-idiosyncratic emotional reactions.)

The communicator whistles right into your ear. The dream you were having about hiking in the Grand Canyon falls right out of your head as your eyes snap open. You lie there staring at the ceiling for just long enough to let your heart rate slow down a little, then sit up and swing out of bed, hitting the communicator switch.

"Kirk here. This had better be good, Lieutenant."

"It may not be good, sir," says the dry voice of the duty communications officer, "but it's important. Eyes-only dispatch from Star Fleet."

You groan softly to yourself and sit up a little straighter, just enough so that you can reach the keyboard by the bed and type in the long string of characters that will give the comm officer access to your command ciphers.

"Have the computer send it down here."

"Aye, aye, sir."

You wait a few seconds. The communications officer wakes up your desk screen by remote, then switches off.

"Voiceprint," says the desk computer.

You say your name.

"Retinal," says the computer.

You hold still and let the low-power laser flicker in your eye. Without further ceremony the desk screen fills up with print, amber on black.

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URGENT * URGENT * URGENT * URGENT * URGENT * URGENT * URGENT *
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From: SFC, EARTH VIA SFC, DENEb TOP SECRET/EFTO/SC937-0176CEC To: JAMES T. KIRK, CAPT. (COMMANDING) From: NHAURIS RIHAUL, ADM., SFC, DENEb Subject: SPECIAL MISSION ORDERS

TEXT: U.S.S. Heinlein, on exploratory mission in Trianguli area, has fallen out of communication under what we consider suspicious circumstances. Routine hourly telemetry squirts ceased without explanation twelve hours ago. Appended to these orders is the contents of a single unscheduled squirt that came to us via an unusual routing --- dumped to a robot communications satellite near Gama Trianguli, apparently by high-powered communications tachyon packet beam. You are to evaluate the contents of the telemetry squirt and report immediately at maximum warp to the Heinlein's last known position, which is indicated in the squirt.

WARNING: Heinlein was pursuing a mission, the objectives of which are highly sensitive and have not yet been declassified for any personnel except those of Star Fleet Command, Earth Fleet Admiral's Office. This

mission material will be available to you as soon as declassification procedures are completed.

Address any inquiries to Star Fleet Command, Earth.

(Respectfully) NHS. Rihaul, Admiral, Star Fleet Command, Deneb

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You sag a little where you sit, letting out a worried sigh as the screen scrolls down and adds:

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P.S.: Jim --- Stay out of trouble. You're going to be a long way from help. Best, Naurus.

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"Stop," you say to the screen as you get up and head for the closet to get into uniform. Damn, you think. Sulu has the Heinlein. What's he gotten himself into now? Brand-new ship. And you were the one who recommended him for this temporary command assignment. When one of command rank with sufficient knowledge of the Trianguli sector was available, he was the perfect choice. You thought he'd just ride around for a few weeks, enjoy the scenery, and not get himself right into trouble.

You pull the uniform top over your head and sit down at the desk. "Go," you say to the computer.

"Appended," it says. "Visual and audio content."

"Ready. Go."

The text vanishes. Part of the screen begins reading out printed telemetry, the ongoing status of a starship's main function boards. The rest of it fills with an image of the ship's bridge. The Heinlein is one of the newer light-cruisers and, though the bridge is a touch smaller than the Enterprise's, it's sleeker, neater. Banks of switches have been replaced by light-controlled relays or motion sensors; screens are bigger and clearer: the fore screen looks more like a picture window, one that you could walk right out of and into the stars drifting slowly toward you. You look past the helm, at that screen. Sitting in the center seat is a lithe young form, with his back to you. You know that back well, having stared at it for so many years when you were sitting where he is now. But he's not so young anymore, and very straight he sits in his own center seat, superbly self-assured. He is staring at the contents of the screen intently.

"Don't lose it, Michael," he says softly. "You lose it, I promise you I'll dock your pay."

The navigator looks over his shoulder for a second. Wearing the slightest grin, he says, "Sir, this fish is hooked. Eighteen light-years and closing."

"Screens," says Sulu.

"Deployed," says the helmsman, glancing over her board. "At full intensity."

"Phasers---"

"Ready, sir."

"Don't get trigger-happy, Brynne. They're just in case."

"Noted, sir," says the helmsman. But you notice that her fingers are twitching a bit --- the way Sulu's used to, once upon a time. Despite the building tension, you smile a little.

"Target at sixteen light-years," says the navigator.

"Identification yet?"

"Not close enough, sir."

"I want to know who that is," Sulu says softly, "and what they're doing here so close to what we just passed."

"Target's accelerating, sir! Warp five now --- warp six ---"

"Oh, no you don't," Sulu says. "Catch him. Maneuvers at your discretion. Mr. Wilhelmsen, hail him. Ask him politely to stop and be identified."

"Warp seven now, sir," says the navigator, and the ship moans softly in its bones as it leans into higher speed. You lean forward a little with it. Stars stream by the screen faster. And up there in the darkness, just barely visible, something shines.

"Visual!" says the comm officer. "No response to hails."

"All right," Sulu says, not sounding entirely regretful, "we'll do this the hard way. Rhia, what do its engines' power-consumption curves look like? Can you get a fix on them?"

-- and your insides jump in terror as the screen whites out, as the ship lurches madly and people caught entirely unaware spill onto the floor as the Heinlein's automatic red-alert sirens begin wailing like banshees, as the moaning of the ship's engines gets alarmingly loud. Sulu is still in his helm --- how, you can't imagine, shouting orders, hearing answers back before he finishes them.

"--- five ships --- six --- eight now ---"

"--- fore screens down to forty percent, sir!"

"--- fire at will ---"

"--- hull pressure ---"

"--- explosive decompression!"

"--- seal down decks five and eight ---"

"--- Wil, dump the log three ways, hurry it -- packet the top to the nearest station and load the buoys with the rest -- no, even better, just one buoy ---"

"Star Fleet Command, Deneb, this is Heinlein ---"

"--- twelve of them, sir ---"

"What are they? who are they?!"

"--- can't even ---"

"--- hull pressure ---"

"--- starboard nacelle ---"

And then comes another terrible explosion and crash and flinging of bodies about. Visual goes down, leaving you with a screen two-thirds black, the rest displaying frantic and deranged readouts from science

station, helm, navigations: all systems near failure, life support going, matter-antimatter reaction near critical --- and the voices, the terrible voices, confused, desperate, brave:

"--- come on, Wil, move it!"

"--- phasers ---"

"--- tubes are crushed, no use ---"

"--- Star Fleet, Deneb, do you read? U.S.S. Heinlein ---"

And worst of all, Sulu's voice, flavored with something you've never heard in it before --- despair.

"Oh, my god ---"

A scream; then nothing but black noise, the complacent hiss of uninvolved stars. And even the telemetry dies.

"End file," says the screen.

You have to hold still for a few seconds, again, to let your heart slow.

"Bridge," you say then.

"Bridge. Lieutenant Renner."

"Get me Star Fleet," you say. "And once you've done that, recall the special-missions crew. We've got trouble."

"Yes, sir"

Sulu... you think.

"Any other orders, sir?"

You think about that too.

THE CREW

Cadets may wish to review the histories and careers of the principal Enterprise special-missions command crew. Although much of this information is common knowledge among Star Fleet personnel, cadets of species in which latency has occurred recently (plus/minus ten standard years) may not be familiar with the qualifications of the command crew of the Enterprise. For their benefit, and to dispel many rumors (justified or not), a brief career history of each crew member is included. (Excerpted from Who's Who in the Federation, revised edition. Reproduced by permission, Marquis, Who's Who Interstellar, Earth/Vulcan/Deneb V.)

ADMIRAL JAMES T. KIRK

Admiral (Commanding) James T. Kirk: A legend in his own time; soldier, diplomat, and student of history; past and present commander of a ship whose name is synonymous with bold adventure; born Iowa, U.S.A., 28 July 2132; graduated Star Fleet Academy with highest honors; relieved Captain Christopher Pike and served as captain of U.S.S. Enterprise for the duration of her second five-year mission; promoted to commodore, then admiral, and assigned to Star Fleet Command, San Francisco, Earth; reassigned to the refitted Enterprise at the time of the Vejur crisis; now commanding Enterprise for special exploratory, diplomatic, and interventional missions; adviser to the Federation Council on Interspecies Affairs; Chairman, Cadet Commandant's Training Studies Group, Star Fleet Academy, Terra.

CAPTAIN SPOCK

CAPT. Spock First Officer and Science Officer, USS Enterprise Half-vulcan - WEIGHT: 170 lbs. at lg Typical Vulcan physiology: Two hearts and manganese based blood cells. Special attributes: Contact telepathy; scientist and mathematician of galactic repute.

Captain Spock: An inseparable part of the Enterprise legend; galactically renowned scientist, research mathematician, and computer specialist; serving for these missions as First Officer and Science Officer; born ShiKahr, Vulcan, 56 Tasmeeen, 503 VSD; graduated Star Fleet Academy with highest honors; assigned to Enterprise during Captain Christopher Pike's command; associated with her ever since, excluding a period spent on sabbatical on Vulcan after the second five-year mission; returned to service aboard Enterprise during the Vejur crisis; promoted to captain shortly thereafter; assisting Star Fleet in designing the courses and curricula to be used when the Enterprise becomes a training ship; currently in special-mission service.

===== DOCUMENT kobayashi.2 =====

DOCTOR McCOY

CMDR. Leonard Edward McCoy, MD.
Chief of Medicine and Psychiatry, USS Enterprise
Human - HEIGHT: 5'11"; HAIR: Brown; EYES: Blue; BLOOD TYPE: A+
Special Attributes: Fellow of the Interstellar College of Xenomedicine.
Hobbies: Spock baiting, Creole Cuisine

Leonard McCoy, M.D. (Commander): Another name that made Enterprise famous (or vice versa); chief medical officer during the second five-year mission and again (after a brief retirement) during the Vejur incident; commissioned full commander after the incident; born Atlanta, Georgia, 24 October 2119; M.D. and internships, Cornell Medical Center/New York Hospital; board certified in human and exopsychiatry, Payne Whitney Clinic; senior fellow, the Interstellar College of Xenomedicine; enlisted and assigned to Enterprise; one of the most decorated medical officers in Star Fleet; Legion of Honor; Star Fleet Awards of Valor; Fleet Surgeons' "LifeStar" with double cluster; rumored to have had the Enterprise's sick bay rebuilt to his own specifications.

COMMANDER SCOTT

CMDR. Montgomery Scott
Chief Engineer, USS Enterprise
Human - HEIGHT: 6'1"; HAIR: Brown; EYES: Brown; BLOOD TYPE: O-
Hobbies : Comparative alcohol appreciation, Reading technical manuals.

Commander Montgomery Scott: Renowned throughout Star Fleet as the man who can make anything work; chief engineer of Enterprise for almost her entire period of commission; born Aberdeen, Scotland, 31 August 2121; shipwright's apprentice in the P&O Orbital Shipyards at L5/"Glasgow Yonder" until old enough to enter Star Fleet Academy; junior engineer aboard U.S.S. Potemkin; assistant chief engineer aboard U.S.S. Hood; transferred to Enterprise under Captain Pike; brief stint at Star Fleet Corps of Engineers, Planetary Division, following second five-year mission; Nobel Prize nominee (structural engineering) for the design and construction of the dome for Greater Mariner Base; serving aboard Enterprise for special missions; working on engine plans for NX transwarp starships.HF

COMMANDER UHURA

CMDR. Nyota Uhura
Chief of Communications, USS Enterprise
Human - HEIGHT: 5'5"; EYES: Brown; HAIR: Black; BLOOD TYPE: AB+
Hobbies: Comparative Xenolinguistics, Denebian Opera.

Commander Nyota Uhura: Rumored to have opened more hailing frequencies than any other entity alive; known throughout the galaxy as "the Voice of Enterprise"; born Nairobi, United States of Africa, 24 October 2140; M.S., comparative xenolinguistics, Queen's College, Cambridge; enlisted in Star Fleet, Communications Division; assigned to Enterprise early in the second five-year mission; promoted to full commander at the mission's end; assigned to Federation True Universal Translator Project (which she created); serving as special-missions communications chief; concurrently conducting research on the potential of thought as a carrier for instantaneous interstellar communications and species-specific context in language.HF

LT. COMMANDER CHEKOV

LT. Pavel Chekov
 Weapons Officer, USS Enterprise
 Human - HEIGHT: 5'6"; HAIR: Black; EYES: Brown; BLOOD TYPE: O-
 Hobbies: Sky-yacht Racing, Old Cyrillic and Slavic Linguistics and History.

Lieutenant Commander Pavel Chekov: Navigator and weapons officer par excellence; one of the youngest officers in Fleet history to achieve "high mastery" rating on three stations at once (helm, weapons, science); born Moskva, U.S.S.R., 6 March 2145; attended Moscow University at Flamsteed, Luna; completed his Bachelor's degree in astrogation while in Star Fleet Academy; assigned to Enterprise during the second five-year mission; promoted to lieutenant commander at its end; transferred to Star Fleet Command, Earth; awaiting first officer's billet aboard one of the new Grissom class exploratory starships; currently posted to Enterprise for special missions; captain of the solar-sail yacht Volga and of the winning America's Cup sky yachting team for the past two years.

CAPTAIN SULU

Captain Hikaru Sulu: Former helmsman of Enterprise, temporarily assigned as captain of the exploratory ship U.S.S. Robert A. Heinlein; born Wailuku, Maui, Hawaii, 3 July 2141; enlisted in Star Fleet Academy; graduated with highest honors with a dual specialty in engineering and helm functions; assigned to Enterprise early in the second five-year mission; promoted and decorated on various occasions, most notably for conspicuous heroism during the raid on the Romulan StarSeed Project and during the events surrounding Enterprise's tests of the elective-mass inversion drive; promoted to captain after the Vejur incident; presently on a one-year exploration and mapping mission in the Great Rift area of the Sagittarius Arm.

LT. CMDR. Harb Tanzer
 Chief of Recreation, USS Enterprise
 Human - HEIGHT: 5'9"; HAIR: Silver; EYES: Blue; BLOOD TYPE: A+
 Special Attributes: Past Contact Bridge Champion of the Federation - four standard years.

LT. CMDR. Lia Burke, RN, MD, ND, FICN
 Assistant Head Nurse, USS Enterprise
 Human - HEIGHT: 5'7"; HAIR: Blonde; EYES: Hazel; BLOOD TYPE: A+
 Hobbies: Recreational Computer Simulations, Chess (2-D & 4-D), Alien Mythologies.

LT. Jerry Freeman
 Assigned to Biology, USS Enterprise
 Human - HEIGHT: 5'10"; HAIR: Brown; EYES: Brown; BLOOD TYPE: A+
 Hobbies: Antique Entertainment forms, Image Processing.

LT. Janice Kerasus (pronounced JANEECE)
 Chief of Linguistics, Communications Department, USS Enterprise
 Human - HEIGHT: 5'11"; HAIR: Brown; EYES: Brown; BLOOD TYPE: A+
 Hobbies: Cats, Creative Writing, Equestrian Events.

LT. Derval Seamonn Ni Avoca
 Replacement Helm Officer, USS Enterprise
 Human - HEIGHT: 6'1"; HAIR: Black; EYES: Brown; BLOOD TYPE: A+
 Hobbies: Irish Studies, Amateur distilling of off color limericks.

LT. Sean Ohara
 Assistant to Security, USS Enterprise
 Altonian - HEIGHT: 5'2"; HAIR: Brown (shaggy); EYES: Green (2);
 Distinguishing Marks: Blonde Patches on Mane.
 Hobbies: Moon Watching, Burger Eating.

LT. Azrieh Lee
 Junior Weapons Officer (specialist in phaser technology), USS

Enterprise
 Human - HEIGHT: 5'5"; HAIR: Brown; EYES: Brown; BLOOD TYPE: B+
 Hobbies: Graphics Arts, Historical Costumes.

LT. Olga Litowinsky
 Chief Computer Librarian, USS Enterprise
 Human - HEIGHT: 5'6"; HAIR: Salt & Pepper; EYES: Blue; BLOOD TYPE: AB-
 Hobbies: Children's Books, Surf Fishing.

LT. Theresa Renner
 Transporter Technician, USS Enterprise
 Human - HEIGHT: 5'5"; HAIR: Brown; EYES: Brown; BLOOD TYPE: AB+
 Special Attributes: Professional Violist; Third Degree Black Belt (Kung Foo)
 Hobbies: Collecting Purple Things and Teddy Bears.

EN. Dahai Lohor Naraht
 Assigned to Biology & Biomaths, USS Enterprise
 Horta - 8,412th Egg of the Horta; HEIGHT: 2'3"; SKIN: Orange-Brown "Islands"; Voder strapped to "Back"
 Hobbies: Recreational Gambling, Cooking with Heavy Metals.HF

SHIP'S COMPLIMENT

| | |
|------------------------|--------------------------|
| KIRK (COMMANDING) | TANZER (RECREATION ROOM) |
| SPOCK (SCIENCE) | McCOY (SICKBAY) |
| UHURA (COMMUNICATIONS) | BURKE (SICKBAY) |
| CHEKOV (NAVIGATIONS) | KERASUS (LABORATORY) |
| AVOCA (HELM) | OHARA (SECURITY) |
| SCOTT (ENGINEERING) | LEE (SECURITY) |
| NARAHT (ENGINEERING) | LITOWINSKY (LIBRARY) |
| FREEMAN (WARP DRIVE) | RENNER (TRANSPORTER) |

SHIP'S SYSTEMS

Some candidates may not have detailed information concerning the theory and operation of Constitution class starships. Since basic knowledge of these systems is required for participation in this scenario, a brief rundown of equipment structure and capabilities is included. (Excerpted from Jane's Fighting Starships, vol. 1, Federation Star Fleet Vessels: revised edition. By kind permission of the publisher, Jane Interstellar Ltd., London WC1/Deneb V.)

ENGINES

Propulsion is by controlled matter-antimatter reaction. Total annihilation of both substances takes place within magnetic bottle. Maximum speed: Warp Factor 8; cruising speed: Warp Factor 4; maximum safe cruising speed: Warp Factor 6. If Warp Factor 6 is maintained for more than twenty-four hours at a time, the magnetic bottle containing the matter-antimatter reaction erodes dangerously and becomes un-regenerable because of magnetization of the generating equipment. Damage to the dilithium crystals is also likely, especially if the crystals have seen more than 3000 hours of service. Failure of dilithium crystals (which help channel power to the warp engines from the matter-antimatter reactors in the nacelles) will force the ship to drop out of warp. The ship may proceed on impulse power until repairs are effected (usually eight hours).

Destruction of all of the ship's dilithium crystals will force the ship to proceed to a planet where they can be obtained through mining or trade. However, just getting to such a planet is likely to take anywhere from several months to several years. Captains who burn out all of their ships' dilithium crystals are rarely entrusted with another starship command.

Matter for the matter-antimatter reaction is usually interstellar

hydrogen, NH, or other radicals that are "scooped" out of space by the accretion layer of the ship's warp field. Antimatter is manufactured periodically aboard ship by accepted laboratory methods (each nacelle has a collapsed-matter-target linear accelerator adapted for use as an antiparticle "breeder"). Fuel is therefore a regenerable resource. However, there are places in space where even monatomic hydrogen is so sparse that the ship will be in danger of running out of "steam." Sensors can be used to locate these interstellar doldrums in advance.

Primary life support is powered by the warp engine system. Secondary life support is powered by the impulse engines. Periods longer than thirty days on impulse will exhaust secondary life support, leaving the ship without backup.

PHASERS

Phasers come in two kinds: the large "ship's phaser" and the small "handphaser." A "phaser beam" is hypercoherent radiation from an artificially grown cesium-dilithium crystal LED that is energized by ganged conventional high-power laser (descendants of the "satellite killers" of old). The multiple lasers and the crystal are manufactured and tuned to emit a "chord" of frequencies only a few hundred-thousandths of an angstrom apart. The multiple beams exponentially augment one another's efficiency and are still more coherent than any conventional laser alone while they remain in phase (hence the name). Phasers are independently powered out of the ship's secondary energy supply (as opposed to those on the newly designed Enterprise, which are powered directly out of the warp engines). When a starship is in warp, the phaser beams (at firing) shares its faster-than-light (FTL) acceleration for a brief period after punching out of the warp field. Therefore, they can be used in FTL battle, but over long distances they quickly lose their FTL speed. Phasers can be "burned out" by excessive use (bombardments of more than five minutes without a rest-and-recycling period). Their most common malfunction -- also related to overuse (which often occurs after approximately three minutes of constant use) -- is failure of one of the ganged lasers. This causes the phaser chord to lose effectiveness. Full power is not always necessary. A captain may call for half- or quarter-power.

Ship's phasers are the most effective way to reduce another ship's defensive screening. A sequence of three hits (sustained barrages lasting from 3 to 10 seconds each) at full power on another ship's screens will begin overloading those screens and reducing their effectiveness. Subsequent hits knock the target's screen down another 10 percent to 15 percent for each hit until there is no power left and the target ship's naked hull is exposed.

Enterprise's phaser "banks" are located both fore and aft. The fore bank is located under the main "disk" hull, near the center; the aft bank, on the rear edge of the disk, above the impulse engines. Both banks are aimable within about a 270-degree spherical radius, leaving very few unprotected angles. (But there are a few.)

Handphasers are small versions of the large ship's phasers. Setting range from "stun" to "kill." The stun setting will leave the average human being unconscious for anywhere from ten minutes to an hour, depending on the victim's physical condition. A handphaser on the highest setting is capable of heating a small boulder red-hot in a matter of seconds or melting through a metal door. Handphasers are good for about twenty minutes' continuous use before needing recharge. They are rechargeable either aboard ship or, in the field, by use of extra power packs (which contain about fifteen minutes' power each).

Handphasers have the same tendencies to burn out or lose chord as the big ship's phasers do. They can be set to intentionally overload and explode. Some alien species (for example, Hortas) are not affected by handphaser fire unless special alterations have been made to the weapon. They have small limited-range warp-field generators that enable them to

be used against objects traveling faster than the speed of light.

PHOTON TORPEDOES

A photon torpedo is a simple, elegant, and effective weapon comprised of a very small amount of antimatter contained in a magnetic bottle and the generating apparatus to maintain the bottle. On command, the bottle degenerates, which brings the antimatter into contact with the generator's matter and produces a tremendous explosion of both standard shock waves and extremely hard radiation. Photon torpedoes can be fired directly at a nearby object to explode on contact with it, or they can be set with delayed fuses and ejected as mines.

Photon torpedo "tubes" must be recharged after each use, both by reloading the tubes with new torpedo apparatus and equipping the torps with fresh antimatter from ship's breeder. The process takes from thirty seconds to a minute after a "full spread" has been fired.

Enterprise is equipped to fire photon torpedoes from both front and rear: each bank is comprised of four aimable tubes. A "full spread" is eight torpedoes, one from each tube: front, back, right front, right rear, left front, left rear, upper center, lower center. Simultaneous fire from all four tubes pointing in a given direction may be concentrated on one point.

TRACTOR BEAMS

Tractor beams are actually "grasers": coherent beams of gravity-wave packets. A tractor beam locks onto a given object

TRANSPORTERS

Close-range transporters move people and objects by analyzing the energy states of their atoms and then creating an equivalent set of states, or Dirac jumps, at another location. (Therefore, one briefly "ceases to exist" while in the transporter, which is what always makes Dr. McCoy so nervous about using it.) The transporter's maximum range is 30,000 miles (a little more than the usual orbital altitude of a visiting starship). Because of the extreme proximity of the tolerances to which they must be tuned to ensure that living beings get safely from one location to another, transporters are cranky and delicate, and are constantly malfunctioning for one reason or another: dilithium-crystal misalignment; interstellar jamming, or "black noise" that threatens to distort the signal; and so forth. When screens are up, the transporter cannot be used to beam out of the ship. Overuse (heavy continuous transporting for more than several hours) may cause transporter circuitry to burn out. Intraship beaming is extremely dangerous and is not recommended except in utmost emergencies. The result of beaming from one location to another within the ship is almost always fatal.

SHUTTLECRAFT

Shuttlecraft are small general-use spacecraft powered by impulse power only. They are used: for trips that exceed the transporter's effective range, when the transporter is malfunctioning, and for carrying objects either too large or too delicate to entrust to the transporter. Their power supply is rechargeable from the Enterprise but is still somewhat limited. Their effective range is about 500,000 miles at .10 c. (Shuttlecraft do not exceed this speed limit for fear of relativistic effects.) This gives them up to about eight hours at cruise or an hour at top speed.

COMMUNICATIONS

Subspace "radio" is actually a tachyon-based technology bearing little resemblance to the radio of old. It is not dependent on lightspeed -- indeed the slowest it can go is c; its high speed limit is about 136,000 c, or warp 9. But even this great speed becomes insufficient for effective communication as one's distance from Star Fleet increases. Out near the Romulan Empire, for example, it takes nearly three weeks for a message to reach Fleet. This leaves a starship captain pretty much on his or her own, although regular communication with Star Fleet is expected and advised. Subspace radio can be jammed purposely or interfered with by bad interstellar "weather."

Communicators use the same technology but with a shorter range (about 40,000 miles) and much lower power. Use in atmosphere limits their range to about 20,000 miles, because of the dissipation of tachyon pulses into Cerenkov radiation on contact with the gas molecules in air.

Ship's intercom systems permits audio and visual communication and conference calling to and from any location on the ship. One may also be "patched in" to external communications, allowing these same capabilities from virtually any location.

COMPUTER

Enterprise's computers are extraordinarily versatile, with a total memory and "effective synapse number" that make some people wonder whether they're slightly sentient. Their exact virtual memory size is classified; it is rumored to be in the multiple petabytes (1 PeB equals 1 quadrillion bytes.) Computers can report verbally or visually (hard copy or display) on any phenomenon the ship's sensors can detect and, if requested, will include analysis. The computers also contain a vast data base of general information on ship's function and other subjects.HF

SICK BAY

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DOCUMENT kobayashi.3

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and, by mimicking a radically increased gravitational field, pulls it closer to the ship for examination or other purposes. Pressor beams use the same technology but with polarities reversed to exert great gravitational pressure on a small area. Conventional tractors and pressors are effective only on masses less than several hundred thousand tons; this makes their effect on other starships minimal. The net effect of a full force tractor or pressor on a starship is equivalent to a hard shove. Therefore, tractor and pressor beams generally are not used in battle situations.

SCREENS

Defensive screening is one of the largest power drains in a Federation starship and its main protection in battle. (Klingon -- being more interested in offensive armament -- pay relatively little attention to screening. But the better-engineered and -powered screens of a Federation ship are a match for Klingon phasers.) The screens are a set of classic force fields, domains of tuned high-state particle/wavicle-packet fluctuations: six sets of field domains, overlapping and reinforcing one another in a manner reminiscent of the tuned reinforcement of phasers (i.e., one screen's destruction weakens all of the others by 10 percent).

Enterprise has six screens -- fore, aft, right high, right low, left high, left low -- that completely surround the ship when all are running. Power can be selectively channeled to each of them to reinforce one screen that's being attacked more forcefully than the others, though this decreases the total power available to the others. Screens are powered out of the warp drive and do not function at peak capacity while the ship is in warp and running. This tends to encourage a captain to choose "stand-and-fight" battle situations whenever possible.

Self-destruct can be effected by overloading all of the screens and channeling full power to them. This option is available for last-resort situations but is not considered a viable alternative in most battle scenarios for obvious reasons. Those who bluff self-destructs often find their bluffs called.

SENSORS

Enterprise's main sensor array (sometimes referred to as "scanners") includes a variety of tachyon-based devices capable of detecting movement or radiation and analyzing the composition and location of almost every known element. At short range (up to 500 miles), the sensors can detect individual creatures' life signs. At medium range (500 to 50,000 miles) they are better at detecting movement and radiation from the infrared up through visible light, the ultraviolet, and x-rays; and doing compound analysis. Long-range sensing (50,000 miles to approximately 10 parsecs, or 32 light-years) is confined primarily to very strong and artificial radiation sources (i.e., other ships, which in warp drive tend to leave a readable "ion trail" behind them) and large-scale physical movement (planetary orbits, stellar motion, etc.). Certain lead-bearing and heavy-metal-bearing compounds (pitchblende, etc.) will interfere with scanner functions. Long range scanning in particular is easily disrupted by interstellar "jamming" and "bad weather," because of the extreme length of the tachyon particle/wave on which it relies.

Personal scanners, such as the tricorder, are also more effective at close range (1 to 1000 feet) than at long range (5 to 10 miles). Tricorder readings usually have to be supplemented with on-site investigation: they tend to be vague.HF

Sick bay contains various kinds of medical scanning equipment and numerous devices for healing the sick: primarily the "anabolic protoplaser," which forces tissue regeneration. The more delicate or specialized the tissue (heart, brain, etc.) the longer such regeneration takes. A broken bone can be reknit in about an hour. Damaged brain or neural tissue regenerates in one to two days, but rehabilitation or retaining time must be added.HF

SHIP LAY-OUT

| | |
|--|--|
| DECK #1
Bridge | DECK #7
Security
Library |
| DECK #2
Lab | Sickbay
Transporter
Engineering |
| DECK #3
Turbo-lifts | DECK #8
Recdeck |
| DECK #4
Turbo-lifts | DECK #9
Reclamation |
| DECK #5
Spock's quarters
McCoy's quarters
Scott's quarters
Uhura's quarters
Chekov's quarters
Kirk's quarters
Cafeteria
Briefingroom | DECK #10
Cargo hold

DECK #11
Phaser banks

DECK #12
Observation deck |
| DECK #6
Turbo-lift | DECK #13
Lounge |
| DECK #14
Turbo-lifts | DECK #20
Gym
Pool |
| DECK #15
Maintenance | DECK #21
Kitchen
Bowling alley |
| DECK #16
Warp-drive | DECK #22
Computer |
| DECK #17
Turbo-lift | DECK #23
Turbo-lift |
| DECK #18
Hydroponics | |
| DECK #19
ShuttlebayHF | |

MISSION AREA

Partial description of active mission area: Galactic "southern hemisphere,"Quadrantboundries:GalLong 290-310 degrees; distance fromarbitrary Galacticcorevaries, 24000-27000 light-years.(Abstracts ofplanets freelyadapted from Jane's Interstellar Gazetteer and SystemCatalogue, 231st edition.By kind permission of the publisher, Jane Interstellar Ltd., London WC1/Deneb V.)

ORNA/IOTA TRIANGULI

This system has 6 planets
Planet #2 has 2 moons
Planet #3 has 3 moons

Free traders report one intelligent species (Name: ORNAE). They have a reputation as great tool makers. Last contact: One standard year ago. The Ornae were reported to be interested in Electronic Equipment and Extracultural Artifacts. A striking borderline M-class world of blue sandstone canyons and evaporated salt-pan seas. This is the home of the Ornae, a strange protoplasmic/amoeboid species... never yet contacted by Federation personnel but rumored by free traders to be the greatest toolmakers in the galaxy. An Ornaet will use anything as a tool... even itself.

MALAKIYY 12/789 CIRCINI

This system has 9 planets
Planet #1 has 2 moons
Planet #5 has 3 moons
Number from primaries: 9
Diameter: 1860 miles
Mass: 3.5 sextillion metric tons
Distance from primary: 48.6 astro-units (4,519,800,000 miles)
Pre-existing information: Location uncharted; no preliminary mapping.
Planet name: Unassigned

From the surface of this small, dark rocky world, far out in its solar system, a radio signal whispers desperately into endless night, crying out for help...and the language it uses is ancient English.

ANDORNGHA/KAPPA-1 APODIS

This system has 8 planets
Planet #1 has 3 moons
Planet #2 has 2 moons
Planet #3 has 7 moons
Planet #5 has 2 moons
Planet #6 has 4 moons

Planet location charted on two occasions. No confirmation of the presence of intelligent life. U.S.S. Hastings attempted contact and assumed lost. U.S.S. Vincennes also lost. Causes: Unknown. AREA QUARANTINED. Commanders are cautioned to keep clear of this system unless absolute necessity. An R-type world with a silvery, murky methane atmosphere and a bad reputation...no Federation vessel investigating it has ever come back.

HASTORANG/1214 NORMAE

This system has 6 planets
Planet #1 has 2 moons
Planet #2 has 8 moons
Planet #3 has 4 moons
Planet #5 has 1 moon
System charted and mapped.
Planet name: Hastorang
Translation: "Lifemother"
Intelligent Hominid life
Level of civilization: Feudal
Single language: Daiya

Opened to licensed free trade four standard years ago. Prime Directive is in force. A gorgeous M-type planet, almost a twin of Earth--but an Earth stuck fast in the tenth century and populated by alien kings, armored knights, distressed damsels, and wizards..."white" and otherwise. And what of the dragons?

ACHIR/R OCTANTIS

This system has 1 planet

Location and existence noted within last standard year. Area outside the Federation's patrol corridors. Several forms of intelligent life reported to share the sphere. All the species reported to be technologically advanced. An alien species has built a Dyson sphere around this lovely rose-colored sun---a stupendous feat of engineering, now home to billions of people. But the star is dangerously variable and about to flare up. Without the help of a Federation starship, billions could die.

NIAU/I 139 CIRCINI

This system has 8 planets

Planet #1 has 2 moons

Planet #3 has 3 moons

Planet #4 has 2 moons

Planet #6 has 2 moons

Planet #7 has 2 moons

Planet name: Niau

Type of planet: Class "M"

Diameter: 6000 miles

Mass: 5 sextillion metric tons

Distance from primary: 2 astro-units (186,000,000 miles)

Satellites: 1

Intelligent life: Not confirmed

Contact: Unconfirmed finding of "BONES" of unknown landing party. An Earthlike planet populated by an intelligent feline species in the early stages of its space program. As yet there has been no official contact with the Federation. However, a delirious free trader picked up in a derelict ship near the system reported seeing the bones of a previous exploratory expedition there. This observation has not been confirmed.

JAUZAH/4403 PAVONIS

This system has 4 planets

Planet #2 has 2 moons

Planet #4 has 3 moons

Location charted and preliminary mapping done. Intelligent life readings un-confirmed. Readings confused and no final determination made. No artifacts or other signs of life forms known to the Federation. Planet name assigned randomly. A small, dry, cold planet, rich in minerals, but barren of cities or other artifacts. Sensors insist that life has evolved here...but it has not yet been found. Star Fleet cannot tell if this is a trap, a sensor malfunction, or a misunderstanding.

KLUSOS/515 ARAE

This system has 1 planet

Location charted and preliminary mapping done. Intelligent life found. Hostile action precluded direct contact. U.S.S. Nihal attacked in orbit. All communication refused. Nihal withdrew to avoid prolonging the engagement. About as non-Earthlike as a planet can get---a world of corrosive soil and an atmosphere full of hydrochloric acid. Why this world's sleek, glassy starships attack everyone who passes by remains a mystery... as does what can be done to stop them.

TSHIO/803 MUSCAE

This system has 6 planets

Planet #1 has 4 moons

Planet #3 has 3 moons

Planet #6 has 7 moons

Location charted. No mapping. Intelligent life found. Anomalous sensor readings indicate possible contamination by more advanced culture. PLANET QUARANTINED. Position classified. Prime Directive in full effect. A world superficially Earthlike but housing a bizarre culture

uprooted from Earth by another spacefaring species in the dim past.

KHUT/43 PAVONIS

This system has 2 planets

Planet #2 has 2 moons

Intelligent life found.

Contact: Ceased by request of Khut. Reclusive species, extremely cautious. Privacy has religious importance. Federation vessels are advised to avoid planet except in extreme emergency.

A hot world of mountainous continents washed by soupy seas of hydrocarbons and liquid plastics. In those seas live the a'Khut, intelligent and reclusive beings who in the past have asked only to be let alone. Recently, however, they have been desperately hailing every ship that passes their planet.

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GENERAL INFORMATION

Star Fleet Command Verbal Commands and Quiries

NAVIGATION

=====

TAKE THE CONN

CHART (set or plot) A COURSE FOR (to)

WARP (factor) (0-12)

INCREASE/DECREASE WARP SPEED

GO SUBLIGHT

IMPULSE POWER

ORBIT THE THIRD (3rd) PLANET

ORBIT PLANET (#)

(begin) EVASIVE MANEUVERS

PERSUE

SENSORS

=====

SCAN = LONG RANGE SCAN

SCAN THE PLANET (object)

LONG RANGE SCAN

CLOSEUP OF THE PLANET

SYSTEM SCAN

SCAN FOR LIFE READINGS

COMMUNICATIONS

=====

OPEN A HAILING FREQUENCY (communications channel) TO (ship or planet)

KIRK TO ENTERPRISE (or any crew member) [ACTIVATES THE INTERCOM AND COMMUNICATOR]

WEAPONS

=====

LOCK PHASERS (photon torpedoes or tractor beam) ON TARGET

DIVERT ALL POWER TO THE SHIELDS (or any other system)

SET PHASERS ON (to) FULL (maximum) (power)

FIRE PHASERS (torpedoes)

TRACTOR (beam) ON/OFF

ENGAGE/DISENGAGE TRACTOR

SHIELDS (screens) UP

RAISE/LOWER SCREENS (shields)

TRANSPORTER

=====

SET COORDINATES (coords) AT

ENERGIZE

BEAM ME (us or any object) DOWN/UP

TURBOLIFT

=====

DECK (1-23)

ENGINEERING (or any location within the Enterprise)

OTHER COMMANDS

=====

TRICORDER READINGS

ANALYZE (any object)

GIVE ME THE (any object)

SEARCH

GO TO (any location or person)

TAKE THE (object) TO (any person or location)

COME TO (any location)

FIX (repair) THE (any piece of equipment)

PREPARE A LANDING PARTY

LAUNCH (land or dock) THE SHUTTLECRAFT

BRING THE (object) TO ME (or any location)

TELL ME ABOUT (an object or being)

DAMAGE REPORT

MIND MELD

COMPUTER

=====

COMPUTER DATA (any planet or entity)

QUESTIONS

=====

HOW LONG WILL THE REPAIRS TAKE

WHAT IS WRONG WITH THE (any equipment)

HOW ARE THE (any equipment)

WHO ARE YOU

HAVE YOU SEEN (any object or being)

CAN YOU UNDERSTAND ME

RESULTS

WHERE ARE YOU

CAN YOU HELP US

ACTIONS

=====

ACTIONS ARE CONTROLLED WITH SPECIAL KEYS, NOT WITH THE INTERACTIVE TEXT WINDOW. POSSIBLE ACTIONS ARE:

| | |
|-----------|-----------|
| Inventory | Examine |
| Give | Look |
| Take | Drop |
| Use | Utilities |
| Shoot | |

To see an index of actions on the screen, press SHIFT-1. When you press an action, a window appears in the upper-left corner of the screen. The options available for that action are listed in the window. To remove an action window, press ESC. Remember, you cannot use the interactive text window to perform any of these actions. However, you can use the text window to tell other crew members to do things for you.

WALKING

=====

Walking is controlled by the arrow keys. The arrow keys are your legs. You cannot walk from one place to another by giving a verbal command with the interactive text window. However, you can tell other beings to go from one place to another within the Enterprise or on a planet's surface. An arrow in the lower right of the status window indicates your current direction.

| | | |
|------------------|---|----|
| MOVE WEST/LEFT | = | <- |
| MOVE EAST/RIGHT | = | -> |
| MOVE NORTH/ENTER | = | ^ |
| MOVE SOUTH/EXIT | = | v |

EXCERPTS FROM STAR FLEET COMMAND SPECIAL REGULATIONS FOR THE KOBAYASHI ALTERNATIVE.

[THE PRIME DIRECTIVE OF NON-INTERFERENCE]

No Federation personnel shall interfere with the normal development of non-Federation life or societies unless such interference is vital to the safety and interests of the Federation as a whole.

[0324.52]

Command personnel shall become familiar with all printed materials and

computer data prior to proceeding with any mission.

[4034.67]
Identify yourself by name to all alien beings.

[4036.22]
Inform all beings that you come in peace.

[4036.23]
Ascertain the identity and/or species of all alien entities.

[4044.03]
Caution is advised in the use of telepathy.

[8023.88]
Personnel may "Fan Out," on a planet's surface, but must remain in radio contact at all times.

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DOCUMENT kq3.spells
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KINGS QUEST III MAGIC SPELLS

Understanding The Language Of Creatures

Page II

Ingredients:
One small feather from a bird
One tuft of fur from any animal
One dried reptile skin
One rounded spoonful of powdered fish bone
One thimble full of dew
One magic wand

Directions:
I) Put the small feather in a bowl
II) Put the fur in the bowl
III) Put the reptile skin in the bowl
IV) Add a spoonful of powdered fish bone
V) Put the thimble full of dew in the bowl
VI) Mix with hands (mixture will be doughy)
VII) Separate mixture into two pieces
VIII) Put dough pieces into your ears
IX) Recite this verse:

feather of fowl and bone of fish,
molded together in this dish,
give me wisdom to understand
creatures of air, sea and land

X) Wave the magic wand

You will now be able to understand the speech of animals, birds and fish. You will not, however, be able to speak to them. The spell will last as long as the dough is in your ears.

Flying Like An Eagle Or A Fly

Page IV

Ingredients:
One tail feather of any eagle (to fly like an eagle).
One pair of fly wings (to become a fly)
One pinch of saffron ;
Rose petal essence
One magic wand

Directions:
I) Put a pinch of saffron in essence
II) Recite this verse:

Oh winged spirits, set me free
of earthly bindings, just like thee
in this essence, behold the might
to grant the precious gift of flight

III) Wave the magic wand

You now have a potion which will allow you to cast the transformation spell. To cast the spell any time later:

Dip the eagle feather in the essence (if you want to become an eagle) or dip the fly wings in the essence (if you want to become a fly). You will turn into an

eagle or a fly. If you do not transform back into yourself, the spell will wear off after some time has passed.

You can use this spell until your rose petal/saffron potion is gone. to return to your own form before the spell wears off, recite this verse:

Eagle begone!
myself, return!

or

Fly begone!
myself, return!

Teleportation at Random

Page VII

Ingredients:

One spoonful of salt grains
One sprig of dried mistletoe
One smooth rounded stone of unusual colour
One magic wand

Directions:

- I) Grind a spoonful salt in a mortar (with a pestle)
- II) Grind the mistletoe in the mortar
- III) Rub the stone in the mixture
- IV) Kiss the stone
- V) Recite this verse:

With this kiss, I thee impart,
power most dear to my heart.
take me now from this place hither,
to another place far thither.

VI) Wave magic wand

You now own a charm which will allow you to cast the random teleportation spell. To cast the spell, rub the stone. It will instantly whisk you away from where you are. Remain alert, however --even though you use the spell to run away from danger, nothing guarantees that you will not arrive in a more precarious situation than the one you left. The power of the charm remains- or as long as you can retain the stone.

Causing a Deep Sleep

Page XIV

Ingredients:

Three dried acorns
1 cup nightshade juice
1 magic wand
1 empty pouch

Directions:

- I. Grind the acorns in a mortar [with a pestle]
- II. Put the acorn powder in a bowl
- III. Put the nightshade juice in the bowl
- IV. Stir the mixture with a spoon
- V. Light a charcoal brazier
- VI. Heat the mixture on the brazier [boil the mixture until the nightshade juice is almost gone, then remove from heat]
- VII. Spread the mixture on a table [wait until dry]
- VIII. Recite this verse:

Acorn powder ground so fine

nightshade juice like bitter wine,
silently in darkness you creep
to bring a soporific sleep

- IX. Wave the magic wand
- X. Put the sleep powder in the pouch [4 safekeeping]

You have now mixed a powder for casting a sleep spell over whoever is nearby. To cast the spell, pour the sleep powder on the ground [or floor] in a dank, dark place. Then recite:

Slumber, Henceforth!

Transforming Another into a Cat

Page XXV

Ingredients:

1/2 cup mandrake root powder
1 small ball of cat hair
2 spoonfuls of fish oil
1 magic wand

Directions:

- I. Put mandrake root powder in a bowl
- II. Put the cat hair in the bowl
- III. Put 2 spoons of fish oil in bowl
- IV. Stir mixture with a spoon [dough will be oily]
- V. Put the dough on the table
- VI. Pat dough into a cookie [let harden on table]
- VII. Recite this verse:

Mandrake root and hair of cat
mix oil of fish and give a pat
a feline from the one who eats
this appetizing magic treat

VIII. Wave the magic wand

You have just created a cookie that, when eaten, will turn the victim into a cat. Forever!

Brewing a Storm

Page LXXXIV

Ingredients:

1 cup of ocean water
1 spoonful of mud
1 pinch of toadstool powder
1 magic wand
1 empty jar

Directions:

- I. Put a cup of ocean water in bowl
- II. Light a charcoal brazier
- III. Heat the bowl on the brazier [heat slowly, but not to boiling, then remove from heat]
- IV. Put a spoon of mud in the bowl
- V. Add a pinch of toadstool powder
- VI. Blow into the hot brew
- VII. Recite this verse:

Elements from the earth and sea,
combine to set the heavens free.
When I stir this magic brew,
great god thor, I call on you.

VIII. Wave the magic wand
IX. Pour the storm brew into the jar [to store]

You have mixed a potion that you can use to brew a storm. To activate the spell, stir the storm brew with your finger and recite:

Brew of storms,
churn it up!

Outdoors, a rainstorm complete with thunder and lightning will occur. It will last for some itme, but will eventually rain it self out. If you wish it to subside earlier, recite:

Brew of storms,
clear it up!

Becomeing Invisible

Page CLXIX

Ingredients:
1 jar of lard
1 cactus
1 spoonful of cactus juice
2 drops of toad spittle
1 magic wand

Directions:
I. Cut the cactus with a knife
II. Squeeze the cactus juice on spoon
III. Put the cactus juice in a bowl
IV. Put the lard in the bowl
V. Add 2 drops of toad spittle
VI. Stir the mixture with a spoon
VII. Recite this verse:

Cactus plant and horny toad
I now start down a dangerous road
combine with fire and mist to make
me disappear without a trace

VIII. Wave magic wand
IX. Put ointment in the empty lard jar

You now have a magic ointment that will allow you to turn invisible [but beware, the ointment only works in a place where there is both fire and mist]. To cast the invisibility spell, rub the ointment on your body. You will be invisible for a short while. You have enough for one.

-END-

===== DOCUMENT labyrinth =====

////////////////////////////////////
/ Labyrinth /
////////////////////////////////////

TO MOVE:

I
J L
K

(I-UP, J-LEFT, L-RIGHT, K-DOWN)

TO SHOOT:

E
S F
D

(E-UP, S-LEFT, F-RIGHT, D-DOWN)

YOU ARE TRYING TO ENTER THE BOXES WITH THE PEOPLE IN THEM. ONCE YOU GET ALL FOUR PEOPLE, A FLASHING "X" APPEARS IN A CORNER. IF YOU MAKE IT TO THE "X", YOU WILL GO ON TO THE NEXT LEVEL. AFTER THE 4TH LEVEL, THE WALL PATTERNS REPEAT AGAIN. YOU START OUT WITH 3 BULLETS. EVERY TIME YOU SHOOT AT ONE OF THE THINGS RUNNING AROUND IN THE MAZE AND HIT IT, YOU GET 2 BULLETS (SO INSTEAD OF LOSING 1 BULLET, YOU GAIN 1 BULLET.) IF YOU RUN OUT OF BULLETS, YOU CAN GET IN A BOX AND YOU WILL GET 1 BULLET. YOU CAN SHOOT THROUGH ANY WALLS EXCEPT THE ONES SURROUNDING A PERSON. A GOOD WAY TO RACK UP POINTS IS TO STAY INSIDE A PERSON-BOX (THE THINGS IN THE MAZE CAN'T SHOOT THROUGH THOSE WALLS) AND SHOOT ANYTHING THAT ENTERS:

=====
HERE-> I * I
I I
I I
=====

THE SPACE BAR WILL STOP YOUR GUY FROM MOVING.

=====

DOCUMENT last.gladiator

=====

The Last Gladiator
By: Bets C.

Move joystick left and right to choose player and starting level,
press button to select.

Press button or spacebar to start.

CTRL-R:
restarts

CTRL-L:
returns game to titles screen to change player and starting level.

ESC:
to pause. Begin again with spacebar or the joystick button. Repeat ESC
key to advance game action one frame at a time.

CTRL-S:
toggles sound on/off

To throw, strike or fire weapon - joystick button 0

To throw net - joystick button 1

To repeatedly fire the gun from a standing still position, hold the
button down and aim the joystick. To strike repeatedly with the club,
javelin or trident, press and release the button for each hit.

There are 8 game levels. After level 8, the game returns to level 5
with more monsters and continues to cycle.

For Apple IIe:
boot and play with CAPS LOCK key locked down.

=====

DOCUMENT leap.notes

=====

Programs that work under Leapfrog

SnowTerm(1)
Acer
the Finder
Music Seq Maker(2)
SHR Convert(3)
AWGS
Sonic Blaster Demo (From AE)
DiCeD

(1) Snowterm works just fine but the Snowterm default files must be in the
directory that leapfrog is in. Also, when you shell back into Snowterm, you
no longer have ANY menus on the menu bar.

(2) Music seq maker doesn't work with sequences (of course because the
tool set isn't loaded)

(3) Works fine but program comes up with messed up color table. If you load
a picture and then click, the normal color table is restored.

Programs that do not work under leapfrog

Tml Pascal 1.5A and II. They will load perfectly but they somehow take over
and will not allow you to shell back out.
Any text based GS/OS applications (De-Arc)
320 Mode games

Some programs seem dependant on what order they were loaded. DiCeD and
Fontasm seem to perform much better if they are loaded first or second. The finder
seems to be able to be loaded at any time, as with Acer and SHRConvert.

===== DOCUMENT leapfrog2 =====

"Leap Frog" -- a second pre-release version of a multitasking program
by
William Gulstad (wogg0743@uxa.cso.uiuc.edu)

Note on this release--Pre-release means that it works but not all the time. A lot more programs will run successfully under this version, but I would not (I must emphasize this) use Leapfrog in a situation where valuable data could be lost.

"Leap Frog" is a program which allows up to eight other programs to run all at the same time! It is like a combination of Multifinder and Switcher, with some advantages all its own.

What is new in this (pre-)release: Resource-oriented programs should now run more successfully, including AppleWorksGS. Also, the Finder will run under Leapfrog (though I suggest that you make Leapfrog the Start program, and rename the finder to "finder" if you want to try this). You cannot run other applications from the finder by double clicking on an icon. All that will happen is the finder will start to shut down and the system will crash. Probably, though I will prevent the crash in a future version, Leapfrog will never allow finder to run other programs. If Apple wants true MultifinderGS, they can pay me to edit Leapfrog hooks into their finder code, otherwise there isn't much I can do short of writing a program to patch finder, something that strikes me as a stupid way of doing things.

How to use it--Run the program leadfrog from GS/OS 5.0.2 or later. It will bring up its menu bar, which has apple, file, edit, and applications menus. You may then procede to open applications with the open menu item.

Shelling out of a program--press Control-@ at any time to return to the standard Leap Frog menu bar. Use the applications menu to get back to the program you want, open another application, or whatever.

Selecting windows--like Multifinder (on the Mac), if you click on a window, the application owning that window becomes active. This does not work while the Leap Frog menu bar is visible, only when an opened application is in control.

Quitting--quitting from a program should return you to the Leap Frog menu bar. All other programs opened should be accessable through the applications menu.

How it works--Leap Frog uses patched to TaskMaster and GetNextEvent to allow all opened programs to run at once. Only the "hot" program (the one owning the top window) will receive input, but all others will continue to operate, thus allowing any number of different activities (animation, sound generation, computation) to take place in the background.

william gulstad
(e-mail me! I like user response. A new version of Carpet Bag is coming real soon now.)

===== DOCUMENT lifestar =====

Finally!

The Complete Lifestar Documentation

Written by The Warelord of The Nopg

Complete Docs typed by Quick Zipper

Starting the game:

After loading the game, You choose a mission, and skill level. Missions are:

- Outpost
- Escort
- Plague
- Invasion

Outpost is:

To protect orbiting space stations. You can land on them by Thrusting very slowly towards the opening (White Triangle). When you are close enough, their tractor beam will pull you into the base. You will be given ore (cargo) to return to base planet. Outposts are constantly under attack and it is your mission to defend them from being pillaged.

Escort is:

You have to escort the green envoy ship making sure it makes it to the base planet at the top left corner of the quadrant map. The ship is attacked by various bandits who must destroy it.

Invasion is:

All planets are under attack by aliens with joined forces of bandits. This mission is very difficult to win.

After choosing a mission, you will be Thrusting towards base planet. Depending on what type of mission you choose, different display messages will inform you of enemy activity.

Ship commands:

Pressing any key will call the ship's computer menu to appear on the screen.

[Commands]

- Enable Missles/Lasers
- Quadrant map - Described in detail below
- Raise/Lower shields
- Hyperdrive - To planet selected from quadrant map
- Magnify/Demagnify - Is used to see greater distances from cockpit window
- Scan to 10m/1km - Shows your ships flight pattern or returns to long range radar
- Look left - Enables view from left cockpit window
- Look right - Enables view from right cockpit window.

Ship shows up and damage boxes point to either lasers, controlls, engines, and missles. If dwindling number appears in a box, object damaged and not functional until number reaches zero. It also displays fuel in the form of lbs. and hull % left before destruction.

[Display Screen/Cockpit]

Upper left box is filled with missile count.

Lower left is speedometer.

Middle is radar.

Upper right: (S)hield Power
(L)aser's ability to inflict damage.

Below Middle is a thin line which is fuel level.

Lower right is the time clock.

Under every gauge is a small indicator light:

Green = Go
Red = Damaged/Depleted

Joystick commands:

Button 0 - Thrust
Button 1 - Space Brakes
Both 0&1 - Fire Enabled weapon

Keyboard commands:

Ctrl-S - Sound on/off
Ctrl-; - Pause game

Ships:

Blue - These weak vessels always attack you.
Purple - getting tougher, this bandit craft is a formidable foe.
Red - Top notch alien Terraackian fighters that are mean in spirit, and deadly at heart.
Green - These weak fighters are from the planets own defenses and they are your allies. They help in getting ships off your tail.

Objects in space:

Moons - These annoying rocks in space will damage your craft upon collision.
Planets - You may only land on base planet (Big, half white half orange planet on map).
Far planets - These can never be reached.
Space stations - Green and white, 8 sided rotating object which you defend.

Misc bullshit:

To land on home base, fly into it then you will see the pad. Fly towards yourself then pull down to the right attempting to land on the pad's white cross in the center.

To win a mission, hyperdrive to a planet under attack, help it out, try to land on the station and get 10 tons of ore accumulated. After sufficient ore is stored on your ship, return to base planet to land.

Quadrant map:

```

-----
! !..! ! ! ! ! ! ! ! ! !
-----
! !..! ! ! 2! ! ! ! ! ! !
-----
! ! ! ! ! ! ! ! ! ! ! !
-----
! 3! !..!..!..! ! 4! !..! 5! !

```

```

-----
! ! ! !..! ! ! !..! ! 6! !
-----
! !BP! !..! ! ! !..! ! ! 7!
-----
! ! ! !..! ! 8! ! ! ! 0! !
-----
! 9! !..!..! ! ! ! !..! ! !
-----
! ! ! ! !..! ! ! !..!..! !
-----
!..! !10! !..! ! ! !11!..!..!
-----
!..!..! ! ! !12! ! ! ! !..!
-----

```

Descriptions:

.. - Moons in sector and if attempting warp through these, you may encounter a hyperspace storm.
1 - Taurus. (Space station)
2 - Beta. (Space station)
3 - Gryphon. (Space station)
4 - Unknown planet (no ss)
5 - Unknown planet (no ss)
6 - Unknown planet (w/ ss)
7 - B-12. (Space station)
8 - Alpha. (Space station)
9 - Unknown planet (w/ ss)
10 - Quantum. (Space station)
11 - Epsilon. (Space station)
12 - Unknown (no ss)
BP - Base planet
0 - Outpost

=====

DOCUMENT lisa

=====

LISA816 v4.0g SHAREWARE version

by

Randall Hyde
and
Brian Fitzgerald

(c) 1980-1987 Randall Hyde and HAL LABS
all rights reserved.

Note: this shareware version of LISA may be freely distributed, provided that the following files are included:

| | |
|---------------|--|
| LISA816 | shareware assembler |
| ANIX.SYSTEM | ANIX system (LISA runs under the ANIX shell) |
| LISA.DOC | this document file |
| DISASM816.SRC | source to the disassembler |
| SIMPLECDA.SRC | source to the simple CDA |

After a two-week review period, you are required to either destroy any copies you have (should you decide NOT to purchase the assembler package) or send \$50.00 (plus \$5.00 shipping and handling) to

HAL Labs
18942 Dallas
Perris, CA 92370

APDA should also be carrying LISA816 in the near future, along with the ANIX package (manual, extrinsic source and ANIX shell source).

The disassembler provided in this package is also SHAREWARE; if you purchase LISA816, the disassembler is included. If you wish to use the disassembler otherwise, send \$15.00 to the above address (which entitles you to a disk, one update, and printed documentation).

ANIX is freeware, but is (c) 1982-1987 Randall Hyde.
DISASM816 is (c) 1987 HAL Labs

What follows are some notes on using the LISA816 assembler. Providing an assembler as share-ware is a large task- an assembler is usually not the intuitive kind of program that a word processor or terminal emulator is. So, even though the accompanying document is 40K long (longer than the assembler!), everything is not covered.

Of course not! After all, we want you to buy the assembler. However, we also want you to get a good feel for what LISA's like. Therefore, there are several programs included in the package. First, there's the source to a 65816 disassembler. Second, there's the source to a SIMPLE CDA. Each file can be LOaded into the assembler, ASMbled (to a file on disk) and run.

Any simple questions may be sent online to

GEnie: HAL.LABS
DELPHI: HALLABS
CompuServe: 72250,3226

Until you buy the assembler, we won't answer more than a few simple questions, of course. Registers users, of course, get better support.

How to set up LISA816:

LISA816 runs under the ANIX shell. Therefore, you must have ANIX running before you can use LISA816. Either

- 1) run ANIX.SYSTEM from basic (ie "--ANIX.SYSTEM")
- 2) make a boot disk with PRODOS and ANIX.SYSTEM

Then, after you have run ANIX, from the ANIX command line, type

LISA816

(assuming that the LISA816 file is in the currently prefixed directory). ANIX is a command-line interface with many useful programmer extensions; that's why LISA816 uses it (ANIX was actually developed mainly so that there would be a decent environment to run LISA in).

After that, you're up and running. We hope.

Have fun!

Source Editing Commands

LISA has a few special characters of it's own, that only have meaning in the insert mode. These special characters are used to enhance source-file editing.

<<return>> is used to exit insert mode. This command, as do all the following commands, needs to be used as the first character of an insert line.

<<control-A>> has the effect of moving the insertion point to before the line immediately preceding the current insertion point. The previous line is displayed (for user convenience), and the new line number displayed for insertion.

<<control-B>> has the effect of moving the insertion point to after the line immediately following the current insertion point. The next line is displayed (for user convenience), and the new line number displayed for insertion. If the insertion point is line N, then line N+1 becomes line N, and the new insertion point is line N+1.

<<control-W>> has the effect of deleting the line previous to the insertion point, and then starting insertion at that point. The deleted line is displayed (for user convenience), and the new line number displayed for insertion. This is the most useful of the four special editing commands. Typically, a line will be entered, the user will press return, and then notice an error. Using <<control-W>> has the same effect as:

```
<<return>>
M nn
...
```

<<control-C>> has the effect of deleting the next line in the source following the insertion point, and placing the insertion point following that line. The deleted line is displayed (for user convenience), and the new line number displayed for insertion. If the insertion point is line N, then line N+1 is deleted, and the new insertion point is line N (because line N+1 was deleted).

Importing and Exporting Text Files

LISA source files are stored in a compressed, tokenized form. This has several advantages:

- * files are smaller

- * assemblies are faster
- * most errors are caught at edit time, not assembly time

The disadvantage, of course, is that files are not stored in a pure text format. It is, however, easy to import text from a text file, or to save a LISA file out as text, by using the READ and WRITE commands. To import text, simply use a command of the form

```
READ nnn <textfile
```

where nnn is the line to start insertion, and textfile is the name of the text file to read from. LISA will convert each line from the text file into it's tokenized format. If an error is detected in a line, LISA will stop momentarily and ask you to fix it - note that you can abort the read-in process (if, for example, you weren't reading a program text file) by pressing <return> by itself to exit insert mode.

Exporting to a text file is just as easy, using a command of the form

```
WRITE n1,n2 >textfile
```

where n1..n2 is the range of lines to write to the text file named textfile. Normally, LISA writes text files with no space padding to line columns up. If you want the space padding, insert the TAB switch in the write command:

```
WRITE -t n1,n2 >textfile
```

and spaces will be added to pad the columns out as they would be if a LIST command were issued.

READ and WRITE can also be used to move portions of code from one LISA file to another. If you have libraries that you raid routines from, or perhaps equate files that you only want certain lines from, you would use WRITE to extract the lines needed, and READ to insert them into the correct source file.

LISA editor commands

Note: each command may be abbreviated to the characters shown in upper case. Optional parameters are enclosed in braces, as {optionalparms}; required parameters are encased in double-brackets as, <requiredparms>.

<<ctrl-D>> (execute ANIX command)

Parameters: output file/device.
Usage: <<ctrl-D>> <<anix command>>
Executes the command following the <<ctrl-D>> as an ANIX intrinsic command. ANIX will report any errors that occur in the execution of the command.

<<ctrl-P>> (toggle printer on/off)

Parameters: none
Toggles the setting of the ANIX printer device; if printer was off, printer is turned on, and vice versa. This action is the same as in the ANIX shell.

- (list previous 20 lines)

Parameters: none.
Lists the 20 lines previous to the last line listed (by any list command).

, (list next 20 lines)

Parameters: none.
Lists the 20 lines after the last line listed (by any list command).

. (list 20 lines around current line)

Parameters: none.
Lists the 20 lines around to the last line listed (by any list command);

ie, from -10 to +9 around the current line.

? (command help)

Parameters: output file/device.
Usage: ? {>outfile}
Prints a short summary of all the LISA commands available; if {>outfile} is present, output is redirected to the selected file or device.

Assemble (assemble source)

Parameters: output file/device.
Usage: Assemble {>outfile}
Assemble the source file in memory; if the optional parameter {>outfile} is present, output is directed to the selected file or device. If the source file in memory ends with a CHN " <<file>>" and not an END, the file in memory is saved out to disk as "T.." and then assembly continues with <<file>>.

BReak (break to monitor)

Parameters: none.
Exits from LISA into the LISA monitor. To return to LISA, use <<control-C>> for a LISA warmstart (leaves file intact) or <<control-B>> for a LISA coldstart (does a NEW on re-entry to LISA).

COpy (copy source lines)

Parameters: start line, end line, dest line.
Usage: COpy <<startline>>, <<endline>>, <<destline>>
Copies source lines in the range <<startline>>.. <<endline>> to a position in the file starting at <<startline>>. Note that <<endline>> must not be less than <<startline>> and <<destline>> cannot lie within the selected range <<startline>>.. <<endline>>.

CPu (set CPU type)

Parameters: CPU type
Usage: CPu <<cputype>>
Set CPU type to be of type <<cputype>>. CPU Type must be one of the three: 6502 65C02 65816
If <<cputype>> is omitted, the current CPU type is displayed.

Delete (delete source lines)

Parameters: delete line 1, delete line 2.
Usage: Delete <<delline1>>, {<<delline2>>}
Deletes source lines in the range <<delline1>>.. <<delline2>>. If <<delline2>> is not specified, only line <<delline1>> is deleted. The range must be legal - <<delline2>> must not be less than <<delline1>>.

DS (dump symbol table)

Parameters: optional file/device.
Usage: DS {>outfile}
Will print the symbol table from the last assembly to the standard output device. As usual, output may be directed to any ANIX device (>.P for printer, >filename for file, etc).

Find (find search string)

Parameters: search string.
Usage: Find {searchstring}
Looks for {searchstring} in the file and displays all lines it is contained in. FIND may be aborted by pressing <<control-C>>. If no search string is specified, FIND will do nothing.

FReplace (find and replace)

Parameters: search string, replacement string.
 Usage: FR {searchstring} ^ {replacestring}
 Looks for {searchstring} in the file and replaces it with {replacestring} where-ever found. FR will prompt for replacement at each occurrence of {searchstring}. FR may be aborted by pressing <<control-C>>. If no search string is specified, FR will do nothing. If no replacement string is specified, FR will delete the search string if allowed.

Insert (insert source lines)

Parameters: insert line.
 Usage: Insert {insline}
 Starts insertion of source code lines at <<insline>>. If <<insline>> is not specified, insertion starts at the end of the file. Insert mode is exited by entering <<return>> on a blank line.

LEngth (source file stats)

Parameters: optional file/device.
 Usage: LEngth {>outfile}
 Will print the statistics for the current source file in memory- length, number of symbols.

List (List source lines)

Parameters: list line 1, list line two, output file/device.
 Usage: List {line1},{line2},{>outfile}
 Lists source lines in the range <<line1>>.. <<line2>>. If no lines are specified, then the entire source file is listed, starting at line 1. If only the first line is specified, then only that line is listed. If one line number is given, followed by a comma, then 20 lines are listed starting at that line. If one line number is given, followed by two commas, then the entire source file is listed, starting at that number. If both numbers are given, then the source lines in that range are listed. If the optional parameter {>outfile} is used, output is re-directed to the selected file or device.

LOad (load source file)

Parameters: ProDOS pathname.
 Usage: LOad <<pathname>>
 Used to load a LISA source file from disk. Errors- applicable ProDOS errors, memory full, not LISA vx.x file.

Modify (modify source lines)

Parameters: modify line 1, modify line 2.
 Usage: Modify <<modline1>>,{modline2}
 Deletes source lines in the range <<delline1>>.. <<delline2>>, and then starts insertion at <<delline1>>. Note that MODIFY is equivalent to DELETE followed by INSERT at the first line <<modline1>>. MODIFY follows the same syntactic rules as DELETE.

New (clear LISA workspace)

Parameters: none
 clears the LISA workspace area in preparation for new source file creation.

Read (read text file source)

Parameters: insert line, read source.
 Usage: Read {linenum},{<file}
 Inserts lines from the specified text file starting at line linenum; if linenum is not specified, then insertion starts at the end of the source file. Insertion ends when end-of-file is reached.

SAve (save source file)

Parameters: ProDOS pathname.
 Usage: SAve <<pathname>>
 Used to load a LISA source file from disk. Errors- applicable ProDOS errors.

SYstem (system call)

Parameters: none.
 Returns control to ANIX shell. To return to LISA, type RUN 303 from ANIX.

TABs (set tab stops)

Parameters: opcode tab, address tab, comment tab.
 Usage: TABs { <<optab>>, { <<adtab>>, <<comtab>> }
 If no tab stops are specified, then the default tab stops of 10,19,40 are used. If TA 0 is used, the current tab stops are displayed. If three tab stops are specified - TA x,y,z - then the opcode field tab is set to x, the address field tab is set to y, and the comment field tab is set to z. These tab stops settings are saved with the file. Note that LISA tab stops are implicit, and used for output formatting - the TAB key is not used on input.

TRansfer (move source lines)

Parameters: start line, end line, dest line
 Usage: TRansfer <<startline>>, <<endline>>, <<destline>>
 Moves source lines in the range <<startline>>.. <<endline>> to a position in the file starting at <<startline>>. TRANSFER is subject to the same restrictions as COPY; it is the same as COPY, except that it deletes the original lines from the file.

Write (write source lines)

Parameters: write line 1, write line two, output file/device.
 Usage: Write {line1},{line2},{>outfile}
 Write out source lines in the range <<line1>>.. <<line2>>. No line numbers are printed for the listed source lines (as opposed to LIST, which numbers each line). If no lines are specified, then the entire source file is listed, starting at line 1. If only the first line is specified, then only that line is listed. If one line number is given, followed by a comma, then 20 lines are listed starting at that line. If one line number is given, followed by two commas, then the entire source file is listed, starting at that number. If both numbers are given, then the source lines in that range are listed. If the optional parameter {>outfile} is used, output is re-directed to the selected file or device. Note that this is the typical use of write.

LISA expression syntax

13.1 Definitions.

A token is the smallest meaningful unit of text in a LISA source line. The tokens of LISA are classified into special-symbols, identifiers, numbers, character-strings, and comments.

A LISA source line is composed of tokens, separated by blanks (a blank is defined as the ASCII space character). The tokens are classified by type according to the field they are in- label field, opcode field, operand field, and comment field. Two adjacent tokens must be separated by one or more separators if each token is an identifier, number, or opcode. Only 1 token may be in the label, opcode, and comment fields apiece- the operand field can (and often does) contain multiple tokens.

13.1.1 Character Set and Special Symbols.

The letters are the English characters A through Z, and a through z.
 The decimal digits are the numerals 0 through 9.

The hex digits are the numerals 0 through 9, letters A through Z, and a through z.
The binary digits are the numerals 0 and 1.

The special-symbols are tokens having one or more fixed meanings. The following single characters are special-symbols:

```
+ - * / = < > @ # $ % ^ & | \ ( ) [ ] , ' " ~ :
```

The following character-pairs are special-symbols:

```
<= >= <> :A :L
```

13.1.2 Labels.

A label is an identifier appearing in the label field or the operand field (regular and numeric), or in the opcode field (macros only). A label serves to denote a constant, variable, program address, data address, or macro call. Identifiers can be any length up to 63 characters, all of which are significant. Case is not important in identifiers. Labels can have the same spelling as an opcode, because type is determined by context. A label must begin with either a letter (regular labels), the special character {^} (numeric local labels), or the special character {_} (macro call). Regular labels can contain letters, numbers, and the special characters {.} and {_}. A regular label in the operand field can be followed by the type-coercion tokens {:A} or {:L}.

Numeric local labels are {^} followed by 1 numeric digit, and are referred to as {^0}..{^9} in the label field, or {<0}..{<9} and {>0}..{>9} in the operand field. Regular labels must be unique (within their scope); numeric local labels do not have to be.

13.1.3 Opcodes.

An opcode is an identifier appearing in the opcode field. An opcode may be classified into one of three groups- instruction, pseudo-op, or a macro. The following opcodes are the legal instructions and pseudo-ops for the assembler:

```
= .DA .DB .EL .FI .GO .IF .LA .LX .MD .ME .SA .SX .TF .WE ADC ADD ADR AND
ANX ASL BBY BCC BCS BEQ BFL BIT BGE BLT BMI BNE BPL BRA BRK BRL BTR BVC BVS
BYT CHN CLC CLD CLI CLV CMP CND CON COP CPU CPX CPY CSP DBY DCI DEC DEX DEY
DPS DPH END EOR EPZ EQL EQU EXP FZR GEN HBY HEX ICL IF1 IF2 INC INP INX INY
JML JMP JSL JSR LCL LDA LDX LDY LIB LNK LSR LST MSG MVN MVP NLC NLS NOG NOP
NOX OBJ ORA ORG PAG PAU PEA PEI PER PHA PHB PHD PHK PHP PHS PHX PHY PLA PLB
PLD PLP PLX PLY PSM REP RLB RLS ROL ROR RTI RTL RTS RVS SAV SBC SBT SEC SED
SEG SEI SEP SET STP STR STX STY STZ SUB SWA TAD TAS TAX TAY TCD TCS TDA TDC
TRB TSA TSB TSC TSX TTL TXA TXS TXY TYA TYX USR WAI WHL XBA XCE XOR ZRO
```

Any other identifier appearing in the opcode field is assumed to be a macro- all macros must begin with the macro lead-in character {_}. Any token appearing in the opcode field that does not parse to an instruction, pseudo-op, or macro is declared illegal by the editor.

13.1.4 Operands.

The operand field contains one or more expressions; each expression is separated by the special symbol {,}. An expression consists of a term, which is an label, number, character-string, or special operand, followed optionally by operator-term pairs. An operator is a special-symbol. The whole expression may be prefixed by one or more prefix operators {@}, {-} and {-}. Byte selector operators {#} (low byte), {/} (middle byte), and {^} (high byte) may also prefix the whole expression (before the normal prefix operators). Word selector operators {||} (low word) and {\} (high word) may also prefix the expression. Type-coercion suffixes {:A} and {:L} must follow the label they apply to, not the expression as a whole.

13.1.4.1 Expression modifiers.

Expression modifiers are used to modify an entire expression, and are always the first prefix to an expression. There are five expression modifiers:

```
# select low byte (LISA mode) or low word (APW mode 16-bit)
/ select middle byte
^ select high byte (LISA mode) or high word (APW mode 16-bit)
| select low word (LISA mode)
\ select high word (LISA mode)
```

When used with a 65816 instruction, all the expression prefixes indicate immediate addressing mode. When used with LISA pseudo-ops, the expression prefixes select various parts of a 24-bit value for code generation.

13.1.4.2 Operators.

Operators are either monadic (operator preceding expression) or dyadic (operator infix between two terms).

A monadic operator is one of the following special-symbols.

```
- @ ~
```

A dyadic operator is one of the following special-symbols.

```
+ - * / < > = <= >= <> & | ^ %
```

13.1.4.3 Labels.

An label appearing in the operand field has the same format as one appearing in the label field, except for the special case of numeric local labels. A numeric local label reference in the operand field has the form {<0} to {<9} and {>0} to {>9}, where {<} and {>} indicate the direction relative to the expression of the particular local label.

A label in the operand field may have a type-coercion suffix that is used to force address mode type regardless of the declared type of the label- {:A} is used to force the absolute attribute for a label, and {:L} is used to force the long attribute for a label.

13.1.4.4 Numbers.

A number can be either decimal, hexadecimal, or binary. Decimal numbers use no prefix. Hexadecimal numbers use the {\$} character as a prefix. Binary numbers use the {%} character as a prefix.

13.1.4.5 Character Strings.

A character-string is a sequence of characters delimited by the special string delimiter characters {'} or {"}. If {'} are used, the high-order bit of each byte is set to 0; if {"} are used, the high-order bit of each byte is set to 1. Inside the delimiters, a doubled occurrence of the delimiter inserts one char of that delimiter in the string without terminating the character string.

13.1.4.5 Special Operand.

A special-operand is a sequence of one or more characters representing a certain value. There are several special operand types. The current program-counter value (of the assembler) can be referenced by {*}. Macro parameters can be referenced (inside a macro) by {?0}..{?9}. Parameters to a macro are numbered by occurrence; parameters, where required, may not be omitted.

13.1.5 Comments.

A comment begins with the {;} character, and optionally (first column only) with the {*} character. The comment field is the last field in the source line, and is terminated by a <<return>> character.

13.2 Source Line Formats.

Each source line is separated into 4 fields: label, opcode, operand, and comment. All four fields do not have to be present on a line, but there are some restrictions to field appearance. The general case of a LISA source line is-

```
line # label opcode operand comment
11 PROGRAM lda SEQUENCE:L + R.OFFST ;get record byte from sequence
```

The assembler supplies all line numbers. PROGRAM is in the label field (the first field), so it is parsed as a label. LDA is in the opcode field (the second field), so it is parsed as an opcode, and recognized as a 65816 mnemonic. SEQUENCE:L+R.OFFST is in the operand field (the third field), so it is parsed as an operand, in this case as an address expression. The remainder of the line starts with the character {;}, so it is parsed as a comment.

If a colon {:} follows the token in the label field, then the line is assumed to have only the label field in it.

```
29 STUB:
```

If the first character of the line is a comment char {;} or optionally {*}, the line is assumed to have only the comment field in it.

```
241 ; The next routine is responsible for gathering characters one at
```

If the first character of the line is a blank (space character), then the label field is assumed to be null, not specified.

```
122 mvp L.BANK,R.BANK ;move var set
```

If the line ends after the opcode field, or a comment character is found following the opcode field, then the operand field is assumed to be null, not specified.

```
45 asl ;shift twice for x4 indexing
46 asl
```

Note that in each of the above cases, the lines were listed as LISA would list them, not as they might be entered. LISA tokenizes and formats all source lines according to it's model, checking syntax at line entry time. A line entered in as:

```
122 draw lda #myset ;get set number for DRAW
```

would be parsed and listed as

```
122 draw lda #MYSET ;get set number for DRAW
```

and

```
123 jsr newplot ;call version 2 plot routine
```

(with a leading space) would be parsed and listed as

```
123 jsr newplot ;call version 2 plot routine
```

13.3 Syntax checking.

Each line is checked for syntax errors on entry. The line is broken up into tokens, and each token analyzed according to it's field position.

13.3.1 Label field.

There are two types of labels. Alpha labels must start with an alphabetic

character, (upper/lower case), and contain only {A}..{Z}, {a}..{z}, {0}..{9}, {.} and {_}. Labels have a maximum length of 63 characters. Alphabetic case is maintained as entered, but has no significance on assembly ("Label" is the same as "LABEL"). Labels start in the first column of a source line. Errors generated by a bad label include:

```
Bad character in symbol
Illegal label
Label required here
```

Numeric local labels start with a caret {^} and are followed by a numeric digit {0}..{9}. Only 1 digit is permitted after the {^} symbol.

A space { } or a colon {:} must terminate entries in the label field.

13.3.2 Opcode field.

There are two types of mnemonics that are legal in the opcode field. The first type are the 65816 opcode mnemonics and LISA pseudo-ops. The second type are macro invocations. All legal 65816 opcodes and LISA pseudo-ops are listed in section 13.1.3. Macros are identified by a special lead-in character, currently defined as {_}. Examples:

```
23 jsr PRINT
24 byt "Enter file name",0
25 _GETNAME
```

where line 23 contains a 65816 mnemonic {jsr}, line 24 contains a LISA pseudo-op {byt}, and line 25 contains a macro call {_GETNAME}. Errors pertaining to the opcode field include:

```
Illegal mnemonic
Illegal label
```

13.3.3 Operand field.

The operand field contains 1 or more expressions; the expression type depends on the mnemonic in the opcode field. Expressions can be:

```
address expressions
string expressions
```

If the mnemonic is a 65816 opcode, the expression is embedded in address type selectors, to indicate addressing modes. Legal 65816 address expressions are:

```
1 iny ;implied
2 asl ;implied (accumulator)
3 ldx #dexpr ;immediate (8 bit)
4 ldy |aexpr ;immediate (16 bit)
5 asl dexpr ;direct page
6 inc aexpr ;absolute
7 and lexpr ;absolute long
8 ldy dexpr,X ;direct page indexed,X
9 dec aexpr,X ;absolute indexed,X
10 ora lexpr,X ;absolute long indexed,X
11 ldx dexpr,Y ;direct page indexed,Y
12 ora aexpr,Y ;absolute indexed,Y
13 sbc (dexpr) ;direct page indirect
14 jmp (aexpr) ;absolute indirect
15 adc (dexpr,X) ;direct page indexed indirect
16 jsr (aexpr,X) ;absolute indexed indirect
17 cmp (dexpr),Y ;direct page indirect indexed
18 eor [dexpr] ;direct page indirect long
19 jsl [aexpr] ;absolute indirect long
20 sbc [dexpr],Y ;DP indirect long indexed
21 and dexpr,S ;stack relative
22 sta (dexpr,S),Y ;stack relative indirect index
23 mvn bexpr,bexpr ;block move
```

```

24   bcs rexpr      ;program counter relative
25   brl rlexpr     ;program counter relative long

```

where epxr can be any legal expression that evaluates to an address. Dexpr must evaluate to a 8-bit (direct page) address. Aexpr must evaluate to a 16-bit (absolute) address. Lexpr must evaluate to a 24-bit long address. Bexpr evaluates to a 8-bit bank number. In each case, unique special-symbols provide address type information; the individual addressing types cause unique opcodes for each instruction to be assembled.

If the mnemonic is a LISA pseudo-op, various combinations of address and/or string expressions are permitted. Each expression is separated by a {,} delimiter.

```

26   adr aexpr,aexpr,aexpr      ;16-bit addresses
27   byt "string",expr,'string' ;byte data declaration.
28   .da aexpr,#aexpr,/aexp,\aexpr ;address and byte data

```

Address expressions consist of identifiers and constants combined with operators. An expression is of the form

```
{modifier} {prefix} term {operator-term} {operator-term} . . .
```

There are 5 expression modifiers:

```

#   use low byte (LISA mode) or low byte/word (APW mode) of expression
/   use mid byte (LISA mode) of expression
^   use high byte (LISA mode) or high byte/word (APW mode) of expression
|   use low word of expression
\   use high word of expression

```

There are 3 prefix operators.

```

@expr  at-operator.    evaluates to {PC-expr}, where PC is the value of
                        the assembler program counter at the start of the
                        instruction line
-expr  negate-operator. evaluates to {0-expr}
~expr  not-operator.   evaluates to {$FFFFFF EOR expr}.

```

There are 10 types of terms.

```

identifier  statement label or equate label (from EPZ, EQU, EQL etc).
              The value of the label is used.
354         decimal number (no prefix character).
$3B        hexadecimal number.
%10011     binary number.
*          value of PC counter (of assembler)
?0..?9     macro parameter value (only inside macro). select one of
              the 10 possible macro parameters passed to macro invocation.
?#         number of macro parameters passed.
?:expr     evaluate expr; result must be 0..9 and is used to select
              one of the 10 possible macro parameters.
>0..>9     local label reference in forward direction. >0 refers
              to next ^0 local label in forward direction, etc. The
              value of the local label is used.
<0..<9     local label reference in backward direction. <0 refers
              to next ^0 local label in backward direction, etc. The
              value of the local label is used.

```

There are 14 infix operators

```

+      addition
-      subtraction
*      multiplication
/      division
%      modulo
&      bitwise AND
|      bitwise OR

```

```

^      bitwise EOR
=      logical EQUALS
<      logical LESS THAN
>      logical GREATER THAN
<=     logical LESS THAN OR EQUAL
>=     logical GREATER THAN OR EQUAL
<>     logical NOT EQUAL

```

String expressions consist of a string delimiter {'} or {"}, followed by some ASCII characters, and ending with the same string delimiter {'} or {"}. The {'} string delimiter sets bit 7 (the MSB) of each byte to 0; the {"} string delimiter sets bit 7 of each byte to 1. To imbed the delimiter char inside a string, double it.

```

'A string with bit 7 clear'
"another with bit 7 set"
'one with 'an apostrophe' inside it'
"a last "quote" to remember"

```

Using the LISA calculator

Built in to the LISA assembler is a programmer's calculator that will do decimal and hexadecimal math to 224-1 (3 hexadecimal bytes, the range of addresses in the 65816); basic 4-functions (+ - * /), boolean operations (AND OR NOT), negation, left and right shifts, hex to decimal and vice versa. It also has help screens for ASCII characters, ProDOS 8/ProDOS 16 equates, and ANIX and CHARIO equates (for programmers writing programs to run under the ANIX shell).

To access the calculator, press <<esc>> <<esc>> at any place where LISA is waiting for a line of input (even in the middle of entering a line of text). That is, press the ESC key, and then press it again. NOTE: there is a reason why you must push ESC twice to get into the calculator. Pressing ESC in ANIX tells it to return the next keypress unchanged; this is the only way to return all control characters (except RETURN and CTRL-@), since the normal response to some control characters is as screen editing functions. So, pressing ESC twice has the effect of returning one ESC char (which is ASCII \$1B or \$9B) to the LISA input routine. Once in the calculator, the line editing characters are not needed, so only one ESC is necessary until you return to LISA.

The calculator screen should pop up, overlaid on your screen. Don't worry; since it's a pop-up window, it will restore the screen when you exit. The calculator looks like this:

```

-----
|                                     |
|                                     |
|         0                           |
|                                     |
|< > H M S                           |
|& | ^ ~                               |
| C D E F -                             |
| 8 9 A B *                             |
| 4 5 6 7 /                             |
| 0 1 2 3 %                             |
|                                     =                             |
|                                     |
|-----|-----|
ESC: quit                               !
T: ASCII codes                          !
Q: ANIX equates                          !
P: PRODOS equates                       !
O: CHARIO opcodes                       !
-----|-----|
H: HEX mode                              !
M: DECIMAL mode                          !
L: clear calculator                      !
S: change sign                           !
&: AND ^: EOR                            !
|: OR ~: NOT                             !
<: left shift                             !
>: right shift                            !
-----|-----|

```

Pressing ESC when the calculator is showing will return you back to what you were doing before you entered the calculator. So, you could be in the middle of entering a source line and want to calculate a constant before entry. Pressing ESC twice gets you into the calculator, you do the calculation,

note the result, press ESC again to return to line entry, and enter in the calculated constant.

The calculator is fairly self-explanatory. It is a regular infix calculator (TI style rather than HP style); so you enter number then operator then number, etc. The RETURN key doubles as the "=" key, for ease of use (most people are well accustomed to hitting RETURN after data entry, much more so than "="). Also, once you've hit return, all is not lost. You can keep on with operator and number pairs after that.

The calculator will also retain the value in the display between calls to it. However, if you do an assembly, the accumulator number will be lost. HEX, DECIMAL, SIGN, and NOT operations are instantaneous; they affect the accumulator value only, and do not upset pending calculations.

In the upper right-hand corner of the calculator are some prompts for some important help screens. First of all is the ubiquitous ASCII chart. This comes in handy every once in a while (although LISA does handle character constants well, it helps to know what the actual values are if you're doing anything the slightest bit tricky or innovative). Just hit a "T", and the ASCII chart pops up. Press ESC to return back to the main calculator display.

Second, there is a help screen for ANIX equates. Pressing "Q" will bring up the ANIX equates screen. This comes in handy when you are writing programs that will execute under the ANIX shell (new extrinsics, little utilities, etc), and don't want to include the master file of ANIX equates in your small program. For ANIX v2.1 running LISA816 v4.0, this will be a list of absolute equates (since this presumes you are running a //e, or IIGS in emulation mode) for JSR calls; for ANIX v3.0 running LISA816 v5.0, this will be a list of COP parameter values, since ANIX v3.0 calls are made via the COP instruction. Once again, pressing ESC will return you to the main calculator screen.

Third, there is a help screen for ProDOS equates. Pressing "P" will bring up the ProDOS equates screen. This reference will not only show the ProDOS call numbers, but also the parameter list structures for each call. Once again, if you are running ANIX v2.1, this will show ProDOS 8 (which also is applicable to ProDOS 1.1.1) calls, and their parameter lists; if you are running ANIX v3.0, this will show ProDOS 16 calls. The ProDOS equates screen will show the calls by name; pressing the letter next to the name will bring up a further screen showing the parameter list required for that call. Press ESC to exit from an individual parameter list, and ESC from the ProDOS equates screen to return back to the calculator.

Finally, there is a help screen for the CHARIO calls. Pressing "O" will bring up the CHARIO equates screen. This will show you the call numbers for each CHARIO function; the call number is the parameter to CHARIO needed to invoke that function for the installed console driver. Pressing ESC will return you to the main calculator screen.

LISA pseudo-ops

Note: not all of these pseudo-ops are implemented in the share-ware version of LISA816 (LISA v4.0g). Specifically:

```
HEX .DB .LA .LX .SA .SX
LIB PSM LNK RLB ICL
```

Assembly listing control:

```
LST          turns assembly listing on.
NLS          turns assembly listing off.
GEN          prints all object bytes for each source line.
NOG          prints at most 4 object bytes per source line.
EXP          turns assembly listing of macro expansion on.
NOX          turns assembly listing of macro expansion off.
CND          turns assembly listing of conditionals on.
```

```
NLC          turns assembly listing of conditionals off.
PAG          start new page in assembly listing.
TTL "title"  set new title at top of each assembly listing page,
              and start new page.
SBT "sub"    start new subtitle at top of each assembly listing page
              (but does not start new page).
```

Conditional assembly control:

```
.IF {expr}   assembles code to next .EL or .FI if {expr} evaluates
              to TRUE.
IF1          assembles code to next .EL or .FI during pass 1 only.
IF2          assembles code to next .EL or .FI during pass 2 only.
.EL          assembles code to next .FI if previous .IF evaluated
              to FALSE.
.FI          endif clause for the .IF / .EL / .FI construct.
WHL {expr}   repeat assembly of code to .WE while {expr} evaluates
              to TRUE.
.WE          endwhile clause for the WHL / .WE construct.
```

Macro assembly:

```
.MD macro    starts a macro definition with name macro.
.ME          ends macro definition.
```

Program origin control:

```
SEG {expr}   start new SEGMENT with attributes "expr".
ORG expr     defines origin for program code following the ORG.
OBJ expr     specifies where the object code is stored in memory.
PHS expr     starts in-line assembly of code with new ORG address.
DPH          ends in-line assembly and restores to old ORG address.
```

Labels and equates:

```
label EPZ expr  define "label" as ZERO PAGE label with value "expr".
label EPD expr  define label as DIRECT PAGE label (identical to EPZ)
label EQU expr  define label as ABSOLUTE label with value "expr".
label EQL expr  define label as LONG label with value "expr".
label = expr    define label as ABSOLUTE label with value "expr"
                 (the "=" label is re-definable)
label CON expr  define label as CONSTANT label with value "expr".
label SET expr  define label as SET label with value "expr".

FZR label      define label as ZERO PAGE (needed if label used before
                it is defined).
FDR label      define label as DIRECT PAGE (identical to EPZ).
FAR label      define label as LONG (needed if label used before
                definition).
INP label      prompt for assembly-time definition of label.
LCL label      define label as local to specified section (scope
                ends with RLS).
RLS label      marks end of local label scope defined with LCL.
```

Constants and storage:

```
BYT expr, ..  define byte constants of low-order 8 bits of each expr.
HBY expr, ..  define byte constants of mid-order 8 bits of each expr.
BBY expr, ..  define byte constants of high-order 8 bits of each expr.
.DA expr, ..  define byte, word, string constants.
ADR expr, ..  define word constants (usually addresses)
                low byte, then high byte.
DBY expr, ..  define word constants (usually addresses)
                high byte, then low byte.
CSP expr, ..  is JSR followed by byte, word, strings (same syntax
                as .DA)
DFS expr,{e}  define space of expr bytes, optionally initialized to e.
HEX hexdigits define hex string of bytes.
```

| | |
|---|---|
| <p>LONG expr,.. define long (and byte and word) constants</p> <p>String declaration:</p> <p>BYT "string" define string- {'} creates with bit 7=0, {'} creates with bit 7=1</p> <p>DCI "string" define string as in BYT; bit 7 of last char is inverted from normal.</p> <p>RVS "string" define string as in BYT, but with chars generated in reverse order.</p> <p>STR "string" define string as in BYT, with length byte preceding string (PASCAL)</p> <p>ZRO "string" define string as in BYT, with \$00 terminating string (C-string)</p> <p>Control operations:</p> <p>CPU type set CPU to assemble for. type = {6502, 65C02, 65816}</p> <p>.DB declare what bank the DBR (data bank register) is pointing to.</p> <p>.LA declare 16-bit ACCUMULATOR mode.</p> <p>.SA declare 8-bit ACCUMULATOR mode.</p> <p>.LX declare 16-bit INDEX mode.</p> <p>.SX declare 8-bit INDEX mode.</p> <p>END end of source.</p> <p>.TF "file",type declare file to which generated code is saved to, and type (type is defined in HEX).</p> <p>SAV "file" saves memory as binary file.</p> <p>ANX "cmd" send cmd to ANIX shell to be executed as an ANIX intrinsic.</p> <p>CHN "file" chain to next file to be assembled.</p> <p>ICL "file" include source file in assembly.</p> <p>PSM "file" include packed-sym file in assembly.</p> <p>LNK "objfile" include object code in link.</p> <p>LIB "library" extract needed object code from library in assembly.</p> <p>RLB "objlib" include information from Run-Time-Library in linkage.</p> <p>.GO expr jumps to address expr to execute a machine language routine.</p> <p>USR expr parses expr, and jumps to user command.</p> <p>MSG "string" print message to stdout during assembly</p> <p>PAU force assembly error ("PAU encountered")</p> | <p>Catalog (CATALOG {pathname} <<return>>) Displays the listing of a directory file. Abbreviation: "CAT". The pathname is optional; if it is present, ANIX will give the specified directory, and if it is absent, then ANIX will look for the default directory. The pathname must be of a DIR (subdirectory) type file, or a disk (a disk is indicated with ".Dn", where "n" represents a number between 1 and 8).</p> <p>Close (CLOSE <<return>>) Will close any and all open ProDOS files. This command may be useful after a program bombs, in order to make sure all the programs opened by the program are closed properly, and their buffers are freed by ProDOS.</p> <p>Date (DATE <<return>>) This prints the date, in the format "mm/dd/yy"; it will, that is, if you have a ProDOS compatible clock installed. (always the case on a IIGs). Otherwise, this command will print the last date specified with the SETDATE command; and if the SETDATE command has not been used, then "-NO DATE" will be printed.</p> <p>Delete (DELETE <<pathname>> <<return>>) This will erase a file from a disk; the pathname is not optional for this command. It will not erase a file if its "D" attribute flag is turned off (if you don't know what an attribute flag is, wait for the latter part of this section), so it will have to be unlocked before it may be deleted.</p> <p>Exec (EXEC <<pathname>> <<return>>) The EXEC command is used to redirect input from a textfile rather than a keyboard; the pathname is not optional, and must be the name of a TXT type file, a sequential text file. When the EXEC command is executed, ANIX then begins looking for ANIX commands from the named textfile rather than the keyboard.</p> <p>Load (LOAD <<pathname>> {hex address} <<return>>) Loads a BIN or SYS file from disk into memory; a pathname is required, but the hex address is optional. If the optional hex address is not present, then the file is loaded at the location from which it was saved. Example:
LOAD SHORT.PROGRAM</p> <p>Lock (LOCK {-N -R -W -D} <<pathname>> <<return>>) This command and the Unlock command are closely associated, and they share the same syntax. The Lock command will set any or all of four attribute flags: the N (rename) flag, the R (read) flag, the W (write) flag, and the D (Delete) flag. The N (rename) flag, upon being set, will thereafter prevent the given file from being renamed, until the N flag for the file is Unlocked. The R (read) flag will stop anyone from reading a file which isn't meant to be touched. The W (write) flag will prevent someone actually saving a new version of a program with the same name of a version you wish to preserve. Finally, the D (delete) flag will stop the deletion of a file.</p> <p>Online (ONLINE <<return>>) Lists all the volumes currently on-line
The result will be a line for each volume of this form:

s/d volume-name</p> |
|---|---|

ANIX Commands

The format for these commands is given in parenthesis. Unless otherwise stated, these commands are to be followed by a carriage return.

INTRINSIC COMMANDS

| | |
|--|--|
| <p>* (Asterisk) if an asterisk appears in the first column, that is, the first space, in a line processed by ANIX, then the rest of the line will be ignored. The use of this instruction may not be obvious; it is used to insert comments within an EXEC file.</p> <p>Brk (BRK) Transfers control to the Apple monitor at location \$FF/FP65. To return to ANIX, type A000G from the monitor to do an ANIX warmstart.</p> | <p>Online (ONLINE <<return>>) Lists all the volumes currently on-line
The result will be a line for each volume of this form:

s/d volume-name</p> |
|--|--|

In these lines, "s" is the slot number, "d" is the drive number, and volume-name is the name of the volume in the specified slot and drive.

- Prefix (PREFIX {pathname} <<return>>) The pathname is optional. See the discussion of pathnames and prefixes following this listing for an explanation of this command.
- Rename (RENAME <<pathname>>, <<pathname>> <<return>>) Changes the name of a file in a directory. The pathnames are not optional, and they must be the same, except for the ending filenames. Examples:
 - Rename /directoryname1/subdirectoryname2/thisprogram, /directoryname1/subdirectoryname2/thatprogram.
 - Rename Yourfile,Myfile
- Run (RUN <<hex address>> {parms} <<return>>) Runs (calls) the assembly language program at the hex address named; the hex address is required. The optional parameters are for the use of the assembly language program.
- Save (SAVE <<pathname>> <<start addr>> <<length>> <<return>>) This is for saving out an object file. The hex address and length must be included.
- Syssave (SYSSAVE <<pathname>> <<start addr>> <<length>> <<return>>) This is the same as the Save command above, except that it saves a SYS type file rather than a BIN type file.
- Time (TIME <<return>>) Prints the time, assuming there is a ProDOS compatible clock present. If there is no clock, then this command prints the last time set by the extrinsic SETTIME command, or 00:00 if SETTIME has never been used.
- Unlock See LOCK.

```
=====
DOCUMENT little.cmp.peop
=====
```

```
*****
*
* A COMPLETE OWNER'S GUIDE TO CARE OF
*
* AND COMMUNICATION WITH
*
* LITTLE COMPUTER PEOPLE
*
*****
```

MAKING CONTACT

Every time you follow the procedure outlined in this section of the guide you will begin a new research session with your Little Computer Person (hereafter referred to as your LCP).

In your first session, you will be required to enter your name (as well as the date) for your research files. In all subsequent session, you will only be asked to enter the date. When entering the date, use the format MM/DD/YY. Thus, for example if you start a session on March 1, 1986, type: 03 01 86 and then press RETURN. The session number will appear below your name and will increase by "1" each time you start a new session with your LCP.

To change the researcher's name, type: "logon, please" and then press RETURN. Select the program called "NAME CHANGER" by pressing "1" on the keyboard. Then follow the instructions at the top of the screen.

MOVING IN

If this is your first research session, your house will be empty when it appears on the screen. Most LCP's are quite shy and will not readily rush into a new situation. Therefore, it may take several minutes before they actually muster the courage to step inside the new home you're providing for them. On the other hand, LCP's are quite loyal. Once they have moved in, you can expect them to be in their home on subsequent sessions. They rarely move out.

When an LCP enters the house for the first time, he will usually inspect the new home for anywhere from 5 to 10 minutes. They he usually leaves to retrieve his belongings. He will probably return shortly with his suitcase. Most LCP's also bring their dog. DURING THE MOVE-IN SEQUENCE, KEYBOARD COMMANDS ARE NON-FUNCTIONING.

HOW TO MAKE SURE THE LCP IS HEALTHY, HAPPY, AND TOTALLY AT HOME

Although LCP's are basically quite independent, once they move into thmir new home they are, in a sense, living in your world. So they will need help in certain areas. To insure that your LCP is healthy, see that he always has food and water (The dog also needs food). Both hunger and dehydration can make LCP's sick (thy generally turn green and just lie in bed when they are sick).

Also, because they tend to be quite active, they should not be allowed to sleep too much. They would much rather have your attention.

The following is a list of keyboard commands to help you to take optimum care of your LCP:

CARING FOR PHYSICAL NEEDS

[CTRL] F - food is delivered to his front door

[CTRL] W - fills the water tank (in the kitchen on the first floor). Each time you press W, approximately one glass of water is added to the tank.

[CTRL] A - rings the alarm clock

[CTRL] D - leaves dog food at the front door. Your LCP will do the rest.

CARING FOR EMOTIONAL NEED

Addressing the physical needs of your LCP is relatively easy. Simply look to see if his supply of food and water is running low. Addressing his emotional needs, takes more sensitivity and careful study. First of all, you must be aware of his different moods. There are four distinct moods for LCP's as identified by the expression on his face.

Happy

He's probably getting plenty of attention

Content

He's fine but could be better (see MOOD BOOSTERS)

Sad

He needs MOOD BOOSTING immediately

Sick

This happens when he has gone without food or water for a while

MOOD BOOSTERS

There are several ways to elevate the mood of your LCP. Some are more effective than others.

[CTRL] C - a phone call Many LCP's enjoy receiving phone calls - unless they're constantly interrupted to the point of irritation. Who knows what they say or who they talk to.

[CTRL] P - physical contact ("petting") - In order to pet your LCP, he must be sitting in his easy chair in the living room. To call him to the chair, press [CTRL] P and he will know you want to pet him.

[CTRL] R - leaves a record for his stereo at the front door

PLAYING GAMES

This is one of LCP's favorite pastimes, so naturally it makes them feel great. Usually, an LCP will allow you to make the game selection. He will knock on the glass of your TV or monitor to get your attention and ask you to select a game from the list at the top of the screen. Type in the number of the game you want to play.

1. CARD WAR

This is the standard game of WAR where each player is dealt 26 cards. You both draw the top card from your pile. The LCP will show you his card first. To show your card press "A" as indicated by the command menu in the upper right corner of the screen. Whoever has the higher card wins the hand and both cards are added to the inner's stack. When a WAR occurs (both of you have cards of equal value showing), the LCP will deal 4 more cards to each of you face down. He will turn over his last card; press "A" to show your last card. Whoever has the higher card wins the hand and all of the cards on the table are added to his stack. After the last card dealt reveals another WAR, then 4 more cards are dealt to each hand and play continues as above until he WAR is broken. If at any time you wish to quit before either of you has won all 52 cards, just press "D".

2. ANAGRAMS

The LCP will be the one to think of the word and you will be the one to unscramble it. A scrambled version of the word he's thinking of appears in big type on the screen. You type in what you think is the correct

word and he will tell you whether your guess is right or wrong. He'll let you guess 8 or 9 times before he tells you the word.

If you need a hint, press "1" which will cause a letter to assume its correct place in the scrambled word. An LCP will not give you two hints in a row.

3. 5-CARD DRAW POKER

Standard poker rules apply. You each start out with 200 poker chips as displayed at the top left of the screen. Your number of chips is below his. Bets are limited to 20 chips apiece.

Press "A" to ANTE UP one poker chip. The LCP will deal you 5 cards (yours are face up) and ask if you want to bet any chips. Here are your choices:

A - Bet one poker chip

B - enters your bet

C - lets you PASS if you don't want bet or CLEARS your bet if you decide to bet a different amount

After you make a bet or pass, the LCP will either match your bet or pass. When the LCP asks if you want cards, press any combination of numbers from 1 to 5 (corresponding to the cards from left to right) on the keyboard to discard the cards that you don't want. Now press "A" to DRAW replacements or if you didn't want any, press "B" to stay. Your LCP then follows your steps himself. You now have the following above options (A,B, or C) to make another bet. At this point the LCP can raise his bet and gives you two choices:

A - lets you match his bet.

B - lets you fold, losing your bet.

Choosing option A gives you three more choices:

A - raise the bet even higher

B - enters your raise

C - stops betting for the hand and lays the cards down on the table to determine who has won.

After each hand you have the option of quitting by pressing "D".

RECREATION AND RELAXATION

Most LCP's are very good at entertaining themselves. They are good pianists and can play compositions from classical to jazz. They also like collecting records. So give them records often to please them. LCP's also exercise frequently, enjoy playing with their computers, or sitting down in their easy chairs with the newspaper. You may even be able to talk them into building a fire in the fireplace (see KEYBOARD COMMUNICATION)

KEYBOARD COMMUNICATION

You communication with LCP's by typing sentences in the form of questions, suggestions, or requests. This will evoke a wide range of responses and reactions from the LCP. Here are a couple of suggested requests:

Please type a letter to me Please light a fire

LCP's are especially responsive to good manners. So remember to incorporate the words "please" and "thank you" into your requests.

-END-

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DOCUMENT 111

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LABELS

LABELS

LABELS

Introduction

What is Labels, Labels, Labels?

L.L.L. is a program which allows you to design and print fancy labels using Print Shop graphics, borders, fonts. L.L.L. allows you to:

- o Print color labels on supported color printers.
- o Use multi-color graphics like those found on the IIGS version of Print Shop and the IIGS Sampler Edition.
- o Load graphics, borders, and fonts from DOS 3.3 or ProDOS disks.
- o Design custom sized labels
- o Load and save label designs
- o Preview labels on screen
- o Merge AppleWorks database records with fancy labels

L.L.L. can be used as a stand alone program, but it is designed to be used with AppleWorks, Print Shop, Print Shop GS, The Print Shop Companion, Print Shop Graphic Libraries, and MiniPix.

Compatibilities

What you will need

Apple][+, //e, //c, IIGS, Laser 128 or Laser 128EX
Disk Drive (preferably two)
At least 64K of memory, 128K for color printing
Monitor or TV
Dot Matrix Printer - Appendix C for list
Printer Interface - Appendix D for list

Using L.L.L. with Print Shop

Some graphics, fonts, and borders have been included with L.L.L. , but many others are available. L.L.L. is designed to work with "Print Shop" graphics, fonts, and borders. These are found on the "Print Shop" program disk, the Print Shop Companion, and The Print Shop Graphics Libraries. Elements from The Print Shop Companion and The Print Shop Graphics Libraries can be used without modification. Using elements from The Print Shop program disk requires placing them on a standard data disk. For graphics, this can be done with the Graphic Editor on the Print Shop program disk. Fonts and borders can be saved to a standard data disk by using the Font Editor and Border Editor on the Print Shop Companion disk. See Appendix A for more details. Print Shop is a trademark of Broderbund Software.

GS Print Shop

L.L.L. works with multi-color graphics like those found in the GS version of Print Shop. These can be printed in color on a color printer or with gray shades on a B/W printer. L.L.L. does not use multi-color borders.

MiniPix

L.L.L. can use graphics found on the MiniPix program by Beagle Bros Software. MiniPix is a trademark of Beagle Bros.

Newsroom Clip Art

Newsroom Clip Art can be converted to a Print Shop compatible graphic with the PS Lovers's Utility Set (P.L.U.S.), available from the Big Red Computer Club. It may then be used with L.L.L.

Using Labels, Labels, Labels

Making a Backup Copy

L.L.L. is supplied on a ProDOS formatted disk and is not copy protected. You can make archive copies for your own personal use with the ProDOS Filer or System Utilities disk or other disk copying program.

Hard Disk and 3.5" Disk Installation

L.L.L. can be used on a ProDOS compatible hard disk. To install the program on your hard disk, copy all of the files from the L.L.L. program disk to a subdirectory on your hard disk. L.L.L. will not function properly unless all the program files on the L.L.L. disk reside on the same directory.

Starting the Program

Insert the L.L.L. diskette into your disk drive with the label side up. Turn on the computer or otherwise boot the L.L.L. program. This will bring up the LABEL MENU for the program.

Using the Menus

Working with L.L.L. is easy because it is menu driven; that is, your choices appear in lists or menus on the screen. You make your selection by using the arrow keys to highlight your choice and then pressing the RETURN key. Pressing the ESC key returns you to the previous menu.

Remember:

Use the arrow keys to highlight your selection, press the RETURN key to perform the selected function. Press the ESC key to return to the previous menu.

Cancelling Printer Operations

It is possible to cancel all print operations by pressing the ESC key while the printer is working.

Creating Labels

The same procedure is followed for creating each of the standard size labels. Creating a label is a process of choosing a border, graphic(s), a font, and then entering any text to be printed on the label. Users with color printers can also specify different colors for each element of the label.

Choose Size of Label

Begin by highlighting the type of label you want to create from the LABEL MENU and press RETURN. Six standard label sizes are built into L.L.L.:

3-1/2" X 15/16"
3-1/2" X 1-7/16"
4" X 15/16"
5" X 15/16"
5" X 3-1/2"

Other label sizes can be created by selecting Custom Size which is explained in Appendix B.

The next screen asks if you want to create a label or load a previously saved label. When you load a label, it is automatically converted to the size of the label that was selected from the LABEL MENU. Once a label has been loaded, the PRINT MENU is displayed. The loaded label may then be edited or printed.

Select a Border Type

You are first asked to choose a border or part of a border for your label. You can choose: no border; top only; sides only; top and sides; bottom only; top and bottom; bottom and sides; or full border. Highlight your choice and press RETURN. Choosing no border allows more room on your label for text and graphics.

Select a Disk

When you boot the L.L.L. program, it examines your computer to identify all disk drives connected to it. Each time you load a border, graphic, or font, the available drives are displayed by their slot and drive number. To load an element, place the data disk in a drive and select that slot and drive number from the menu. A list of the borders, graphics, or fonts on the disk in the selected drive is displayed and you can select the element that you want to load. The data disk can be either a DOS 3.3 or ProDOS disk.

Place a disk with the desired border in one of your disk drives and choose the appropriate slot and drive from the menu. All of the borders on the disk are displayed on the screen.

Select a Border

Choose one of the borders from the disk by highlighting it and pressing RETURN. When you press RETURN, the border is loaded from the disk. If the disk has been removed or some type of error occurs while reading the disk, an I/O error message will be displayed. If an error occurs, press ESCAPE, correct the problem and try again.

Select a Color

If you have one of the supported color printers, select the color that you would like your border to be printed in. If you have a single color printer, you can choose any color, but it will have no effect on your printer.

Select a Graphic Type

After selecting a border, the next screen asks you to select what type and how many graphics you want to use on your label. The options are: no graphics; one single-color; one multi-color; two single-color; or three single-color. Highlight your selection and press RETURN. Choosing no graphics leaves more room on your labels for text.

Multi-color Graphics

Multi-color graphics are available only on the GS version of Print Shop. However, they may be used with L.L.L. on any Apple][computer.

Select a Disk

Place a disk with the desired graphic in one of your disk drives and highlight the correct slot and drive.

Select Graphics

If you are working with single-color graphics, you can now choose each graphic, a color, and a position for it. If you are using a multi-color graphic, you can now choose one and position it.

Select Position for Graphics

For each graphic selected, you can choose a position to print it on the label.

Graphics may be printed on the left, right, or centered.

Select a Text Format

Once all the graphics have been selected, you are asked to select a text format for your label. The choices are: no text, one line of large, two lines of large, all large, or all small. Highlight your choice and press RETURN.

L.L.L. works with two types of text fonts. "Large Text" refers to Print Shop fonts. Depending on the size of the font, and the size of the label, L.L.L. will allow up to five lines of large text. "Small Text" refers to the normal 10 characters per inch font that is produced by your printer. You may have up to 5 lines of small text on your label, depending on the size of the label and the number of large text lines you select.

Select a Disk

If you choose to have large text on your label, you have to load a font from disk. Place the disk with the font you want in one of the disk drives and select the drive and slot on the screen. A list of fonts on the disk is displayed on the screen.

Select a Font

Highlight the font that you want your large text to appear in and press RETURN. The font is then loaded from disk.

Enter Label Text

If you choose to have text on your label, your screen now displays a blinking cursor. You may now type the text that you want to appear on your labels. The program allows you to use the LEFT ARROW or DELETE key to back up and correct mistakes. Press RETURN after each line is entered. Press ESC to go back up to the previous line.

Editing Commands

Pressing Control-E deletes all text on the line that the cursor is currently on. Pressing Control-C allows you to choose a color for the current line. Control-P allows you to position the current line. Lines can be left, center, or right justified. Lines selected as centered or right justified are not displayed that way on the screen; however, they will appear correctly on your printed labels.

Position and Color Indicators

Indicators on the right side of the screen show the current color and position for each line. Position is indicated by an upper case L, C, or R. Color is indicated by the first letter of the chosen color, such as "g" for green. Black is indicated by a blank.

If you choose a large font, the text is displayed in that font. The size of the label and the size of the font determine how many characters you can get on each line of the label. The program does not allow you to type in more characters than will fit on a line.

If you choose one or two lines of large text, there may be room for 4 lines of small text, depending on the label size. Up to 29 characters can be entered on a line.

When you have entered all the text to appear on the label, the PRINT MENU is displayed.

Print Menu

The PRINT MENU allows you to: Preview the Label, Print in a Single-color, Merge Multi-color, Print Multi-color, Merge Single-color, Merge Multi-color, Save Label, Change Printer Setup, or Exit to ProDOS

Preview Label

When you select to preview the label, a graphic representation of the label is displayed on your screen. This should give you a rough idea of what the printed label will look like. The screen display of the label is coarse since the screen's resolution is much lower than the printer's.

Print Single Color

Choose this to print your label on a single color printer to in a single color on a color printer. When you press RETURN, you are asked to select the number of labels you would like to print. Use the LEFT ARROW key to reduce the number and the RIGHT ARROW to increase it. Press RETURN when you are ready to print. Make sure your printer is on and it is selected (online). Press ESC at any time to stop the printing.

Elements selected to be in color and multi-color graphics are printed using a gray scale when you choose to print them in single-color mode.

Print Multi-color

Choose this option to print labels on a color printer. When you press RETURN, you are asked to select the number of labels you would like to print. Use the LEFT ARROW key to reduce the number and the RIGHT ARROW to increase it. Press RETURN when you are ready to print. Make sure your printer is on and it is selected (online). Press ESC at any time to stop the printing.

Merge Single-color or Multi-color

The merge option lets you merge one of your designed labels with information from an AppleWorks Data Base (ADB) file. L.L.L. uses the AppleWorks Label Format to print your labels and the Selection Conditions to decide which labels to print. You must set up the Label Format and Selection Conditions ahead of time. When you are setting up your Label Format, remember that L.L.L. can print a maximum of 5 lines per label and 29 characters per line.

Number of Copies

When you choose one of the merge selections from the Print Menu, you are first asked to select the number of copies of each label to print. Use the arrow keys to select the number.

Select Slot and Drive for the ADB File

The next screen asks you to select the slot and drive in which your AppleWorks Database file can be found. Choose the appropriate slot and drive, place the disk in the drive and press RETURN.

Select ADB File

Now the list of all the AppleWorks Data Base files on the disk is displayed. Select the one you want to merge with.

Next, a list of the Label Report Formats for the file are displayed. Choose the format you want to use and press RETURN. All labels meeting the Selection Conditions in the Report Format are then printed along with the graph elements for the labels.

Select Label

Use this option if you have created a label you want to use again or if you want to merge a database with this label. When you select Save Label, you are asked to select a slot and drive for the disk to save the label on. The disk must be formatted for ProDOS. Labels cannot be saved on DOS 3.3 disks. Place your disk in the correct drive and press RETURN. It takes about 18 blocks of disk space to save a label.

The screen now displays any labels which have been previously saved on the disk.

The selection "Enter Name For" is also displayed. Choose this selection when you want to enter a new name to save this label under. You may enter up to nine characters for the name of the label file. Once you have selected a file name or entered a new one, L.L.L. saves the label to disk.

Change Printer Setup

In order for L.L.L. to work with your particular system, you need to specify some information about your disk drive and printer. You can do this by selecting the SETUP option from the PRINT MENU. Once you have gone through the SETUP option, L.L.L. remembers your choices and you only have to use SETUP again if your Apple equipment changes. In the SETUP option, you are asked to enter the following information:

Printer

The SETUP program asks you to identify your printer from a list on the screen. Use the arrow keys to make your selection and then press RETURN. If your printer type is not shown on the screen, check Appendix C for a list of printers which are compatible with L.L.L.

Printer Interface Card

Select your interface card from the list on the screen. See Appendix D for a complete list of the interface cards supported.

Printer Interface in Which Slot

Now you need to select which slot your printer is in. This is usually slot 1.

Exit to ProDOS

Selecting this option takes you out of L.L.L. and into the ProDos Program Selector. Your current label will be lost unless you have saved it to disk.

Appendix A

Using Graphics from the Print Shop Disk

Start up your computer with either Print Shop or the Print Shop Companion Program. Select the GRAPHIC EDITOR Program utility from the main menu. Use Control-G to get a graphic from the Print Shop program into the editor. Then use Control-S to save the graphic onto your data disk. The graphic can now be used with L.L.L.

To transfer fonts or borders from the Print Shop program disk to a data disk, you must use the Print Shop Companion program. Select either the FONT EDITOR or the BORDER EDITOR and use the Control-G, Control-S options to transfer the desired files onto your data disk.

Appendix B

Creating Custom Sized Labels

To create custom sized labels in L.L.L., you must specify the size of the label in border elements. Each element of a border is approximately one fifth of an inch wide and 14/72nds of an inch high. The first two screens ask you to enter the width and height of the label in border elements. The last screen asks you to enter an adjustment factor which is the number of 72nds of an inch necessary to line up the next label.

Width

When you choose to create a Custom Size, you are first asked to enter the width of the label in borders. Each border element is approximately 1/5 of an inch wide. Multiply the width in inches times 5 to arrive at the number to enter for the width. So, for a 3" wide label, you would use the arrow keys to change the number to 15.

Height

Now indicate the height of the label by entering the number of borders which will fit vertically on the label. To calculate this number, measure from the top of one label to the top of the next label. Multiply this number by 72. Now divide the result by 14. Enter the integer portion of the result (the part to the left of the decimal point) for the height. Save the first digit of the remainder (the first number to the right of the decimal) for the next screen. If the labels measure 1.5" from top to top, take 1.5 times 72 = 108/14 = 7.7. Enter 7 for the height and 7 for the adjustment.

Adjustment

The next screen asks you to enter the adjustment factor. The adjustment is the number of 72nds of an inch that the printer needs to move down to start at the top of the next label. If your labels are not lining up correctly, you can adjust this number to correct the alignment.

Appendix C

Compatible Printers

The following is a list of printers which are compatible with L.L.L.

- Epson RX80, FX80 and compatibles
- Epson EX800
- Panasonic 1091
- Citizen
- Juki 550
- C. Itoh Prowriter
- NEC 8023
- Apple DMP
- Apple ImageWriter
- Apple ImageWriter II
- Apple Scribe
- Star Gemini 10X, 15X
- Okidata 192, 193

Appendix D

Compatible Interfaces

The following is a list of printer interfaces which are compatible with L.L.L.

- Apple //c Serial Port
- Apple Parallel
- Apple Serial
- Apple Super Serial
- Grafstar or Grappler
- Grappler Serial
- FingerPrint
- CCS 7710A Serial
- CCS 7720 Parallel
- CCS 7728 Parallel
- Pkaso or Pkaso U
- PrinterMate
- Textprint Print-It
- Dumpling 64
- Dumpling GX
- Grappler+ or FingerPrint+
- Microbuffer II
- Videx Uniprint
- Apple IIGS Serial Port
- Pro Grappler set as Apple parallel
- Laser 128 set as //c Serial

Appendix E

Most problems with L.L.L. can be traced to the printer or printer interface card. If the printer doesn't do anything or if it prints out garbage, please follow these steps:

Go back to the PRINT MENU and check the printer setup options.

If everything seems in order in the printer setup, try turning your printer off, pausing a few seconds to let it clear, and then turning it back on.

LLL v1.3 update

The version 1.3 update contains a simple database program for entering lists which can be merged with LLL. The database is a BASIC program and can be accessed by selecting Exit to ProDOS from the Print Menu. Type in /LLL when the screen displays ENTER PREFIX. Press RETURN. Then type BASIC.SYSTEM and press RETURN.

Using the LLL Database

A simple database program is included on your LLL program disk. It is designed specifically to be used with LLL. It allows you to enter up to 200 records in a file. Each record consists of 4 lines of text (25 characters each) and a sort key (5 characters).

The Sort Key

The sort key can be used to arrange the database file in any desired order. The most common entry for the sort key will be Zip Codes, but you could use the first five characters of a last name for an alphabetic sort. The sort key will not be printed on any of your labels.

Using a Data Disk

The program first asks for the location of your data disk. You may select drive 1 or 2 by entering the number or you may select a disk or directory by E)ntering a prefix.

Database Functions

The database program is capable of performing the following functions:

- A)dd a record
- C)hange a record
- D)elete a record
- S)earch for a record

When you run the program, any of these functions can be selected from the main menu by typing the first letter of the command.

A=)0

Searching

When changing or deleting a record, you are asked to input the record number. This number changes as you add or delete records from the file. Use the search function to find the record you want to change or delete. The program uses a substring search so you don't need to enter the entire name to find a match. A=)0

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DOCUMENT llre

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LLRE

Low-Level Resource Editor
Version 1.1

by
Jason Coleman

This program is shareware. To legally use it after a 10-day trial, send the shareware fee of \$25 to:

Jason Coleman
P.O. Box 179
Callahan, FL 32011

Please direct questions regarding LLRE to me at (preferably) my GEnie mailbox, J.COLEMAN13 or to the address above.

Please help support the low-cost distribution of shareware with your \$25 payment.

Introduction to LLRE

LLRE is a program designed to compensate for shortcomings of various Apple IIGS resource editors. LLRE is designed to act as a supplement to resource editors available today. Although LLRE is capable of creating and editing any type of resource, it would be rather tedious to create all of your resources with LLRE. This is because LLRE is not a macro or graphic resource editor like TML Pascal II or Genesys. All resource editing is done either using either hexadecimal numbers or character strings. Given, this can be cumbersome, but it offers flexibility. Any kind of resource can be edited with LLRE, not just a few types. This allows the user to edit all predefined resource types, as well as any custom ones.

LLRE has much more than actual resource editing in its favor, however. LLRE can perform numerous manipulations of resources, their files, and their forks. Perhaps the most useful of these manipulations is the ability of LLRE to help repair a damaged resource file. Some of the most frustrating "programming" of my life came when trying to repair a damaged resource file. Damaged resource maps can lead to disaster. Several times I had to create an entirely new resource file. A utility under the Copy menu in LLRE (Copy resources one-by-one) helps salvage as much of a damaged resource file as possible. This is done by copying each resource in the file one by one into another file. This way, in the new file, a new, correct, resource map is created by the Resource Manager. Then, the new file can usually be easily fixed with the resource editor.

LLRE Features

Here are some of the features of LLRE (they will be explained in detail below).

- Edit any type of resource, not just a few major types
- Edit resources as character strings or hexadecimal numbers
- Automatically edit standard text and string types
- Sophisticated user interface
- Help repair resource files which have become damaged or jumbled
- Import a data fork of a file as a resource
- Export a resource to a data fork
- Easily edit attributes of a resource
- Create new resource files
- Give a non-extended file a resource fork
- Clear the resource or data fork of a file
- Copy the resource or data fork of a file
- Cut, Copy and Paste resources from one file to another
- Delete resources from a file
- Add (combine) resources of one file to the resources of another file

Resource Editing With LLRE

This section explains how to use the major feature of LLRE: the resourceeditor. Other features are available as menu options and are described below.

Opening a resource file- To open a resource file for editing, select the Open item under the File menu. Select the file you wish to edit. Upon opening of this file, a window will appear on the desktop with the title of the file you just opened. Inside the window will be two lists and four buttons.

Resource file information- Clicking on the Info... button in a file window brings up a dialog box displaying the number of resources, number of resource types, and size of the resource fork represented by the window.

Selecting Resources- The first list (on the left) is the list of resource types present in the file. The second list is the list of all resource IDs of the currently selected type (note that when the window is first opened this list will be empty because no type is selected). To select a resource, first click on the type of the item in the first list, and then the ID of the item in the second list. Note that multiple resource IDs can be selected at once (all must be of the same type) by holding down the Apple key while selecting.

Editing Resources- Two types of resource editing are currently supported in LLRE, string and hexadecimal. In other words, each resource can be edited in two ways, as each byte in the resource representing either an ascii character or a hexadecimal byte. Standard text types are automatically edited with LLRE 1.1. These types include Pascal and C strings, and TextBox2 and TextBlock types. Non-text types are automatically edited as a hexadecimal stream. After selecting the desired resource(s) to edit, click on the Edit Resource button (or double-click the resource ID). To edit a resource in the non-standard way (for example, to edit a Pascal string as a hexadecimal stream), click Inverse Edit instead (or hold down the option key while double-clicking the resource ID). An edit window will appear.

Creating New Resources- A completely new resource of any type and ID can be created by clicking the New... button in a file's window. A dialog box will appear asking for the resource type and ID of the new resource. As defaults for the type and ID, LLRE supplies the currently selected type and an unused resource ID. After selecting the type and ID, click the New Resource button to edit the new resource. To edit the resource in the non-standard way, hold down the Option key while clicking the New Resource button.

Edit Windows- After selecting resource(s) to edit, edit window(s) will appear. The title of each window will be the type and ID of the resource, and the information bar in the window will display the name of the file the resource is from and which type of editing is being done.

The main part of the edit window is the large Text Edit box. This is where the editing is done. The resource will be displayed here either as a text string (with each character representing one byte in the resource) or as a string of hexadecimal bytes separated by spaces (Note that there are NO carriage returns in the hex stream. LLRE expects only spaces between each byte). If the editing is done as hexadecimal, LLRE will supply guidelines on the top and left sides of the text box to indicate which byte is currently being edited.

Four buttons also exist at the bottom of the window. From left to right, the buttons are: Import...-- this allows the user to import the data fork of a file into a resource. Export...-- allows the user to export the data in the resource to the data fork of a file. Attributes...-- Displays a dialog box enabling the user to edit the attributes of the resource with check boxes and radio buttons. Save Changes-- Clicking on this button will cause changes you made to the resource to be saved back to disk. If you make an error, simply close the window and don't click this button. Note that standard text editing operations can be conducted in these windows using items in the Edit menu.

Other Features

Following is an explanation of all pull-down menu items in LLRE.

The Apple Menu- This menu contains the About LLRE item and any desk accessories you may have installed. The About... item gives a copyright and shareware notice and allows the user to print a shareware envelope to a printer in slot 1.

The File Menu- This menu contains items which affect resource files. The items are:

Open...- Allows the user to select a resource file to be opened for editing. Once a file is selected, a window is opened bearing the name of this file. Inside the window are lists of the resource types and IDs in the file. See the section on resource editing for more information.

Close- Closes the currently active window on the desktop, whether file, resource, or desk accessory.

Create Resource file... - Allows the user to select a filename and creates a new, empty resource file of that name.

Create Resource Fork...- Allows the user to select an already existing file which is not extended (it doesn't yet have a resource fork) and creates a resource fork for this file.

Clear Data Fork...- Clear the data fork of a file selected by the user. This call works on both extended and non-extended files.

Clear Resource Fork...- Clear the resource fork of a file selected by the user. This call works only on extended files.

Quit- Quits LLRE.

The Edit Menu- The Edit menu serves several purposes under LLRE, according to what kind of window is currently active. LLRE uses two 'clipboards', the public one (for text transfers) and a private one (for resources). Resources are cut, copied, and pasted using this private clipboard. Plain text in editing windows can also be edited. These windows can share information with NDAs. Below is a table illustrating the editing functions according to which type of window is open:

| Item | File Window | Resource Window |
|-------|--|--|
| Undo | Not Supported | Not Supported |
| Cut | Copy selected resource(s) to the private clipboard and remove them from the source file. | Copy selected text to the public (text) clipboard and remove it from the resource. |
| Copy | Copy selected resource(s) to the private clipboard. | Copy selected text to the public (text) clipboard. |
| Paste | Copy resource(s) on the private clipboard into the file of the active window. | Copy text on the public clipboard into the active resource window. |
| Clear | Remove selected resource(s) from the file of the active window. | Remove selected text from the active resource window. |

The Copy Menu- The copy menu contains items related to copying the forks of files.

Copy Data Fork...- This item copies the data fork from one file you select to replace the data fork of another file you select.

Copy Resource Fork...- This item copies the resource fork from one file you select to replace the resource fork of another file you select. The fork is read and written as one chunk of data, just like a data fork. This is the fastest method to copy the resource fork.

Copy Resources One-by-One...- This item is to be chiefly used to repair resource files. This method is a good deal slower than the previous method. The advantage of this method is that it can help repair a damaged or jumbled resource fork. This item copies the resource fork from one file you select to replace the resource fork of another (destination) file you select. The resources in the file are read and written one by one. Resources already in the destination file are erased. If the resources in a file you are using become corrupted, run this copy. This will create a new, uncorrupted resource map in the destination file. The file should be then easily fixable.

Add resources One-by-One...- This item copies the resources from one file you select into another (destination) file. The resources are combined into the destination file. Resources already in the destination file are not removed.

Resource Editing Hints and Tips

I have found LLRE to be extremely useful to me as a programmer (I used early versions of LLRE to help me write this version). Here are some tips and shortcuts you might find helpful in your resource programming:

- Using Icons: Create an icon with an icon editor and then import it into an rIcon resource (\$8001). This method can also be used to supply a custom icon for an Alert String (\$8015).
- Custom resource types: Create a custom resource with an assembler or by other means and import it into a resource.
- Supplying color tables for your windows and controls: Create the tables with LLRE, and then edit the resource template to refer to these resources.
- Resources requiring converters: IMPORTANT: LLRE does not use resource converters (LLRE has no way to tell how to convert a resource). Consequently, the only way to edit these resources is unconverted. So, be VERY sure you know what you are doing

when editing a resource requiring a converter. Code resources can be easily created with LLRE, however, even though they require converters. Create a code resource by first linking the code as a generic load file and then importing it into a code (or CDev code) resource. (Look for a demonstration soon on creating CDevs with LLRE).

- Supplying key equivalents under TML Pascal II: TML Pascal II doesn't handle key equivalents for controls correctly. Edit the control template with LLRE to easily fix this problem.
- Eliminating recompilation: Instead of recompiling a program after making modifications to its resource file, simply copy the resource fork of its resource file into the resource fork of the program.
- Easily edit file attributes with the check boxes and radio buttons

In Conclusion

I have made every attempt to make LLRE as complete and error-free as possible. If you have any complaints, suggestions, or recurring errors, please contact me. Also, thank you for participating in the shareware distribution system. Please copy this program and upload it and give it to everyone you know who is interested.

Apple IIgs is a registered trademark of Apple Computer, Inc.
TML Pascal II is a trademark of TML Systems, Inc.
Genesys is a trademark of SSSI, Inc.

```
=====
DOCUMENT loan.analyzer
=====
```

+++

^ ADJUSTABLE LOAN ANALYZER @
by Furry Programmers, VLtd.

Introduction....

Loan Analyzer is a screen based program written to provide basic loan information on adjustable rate mortgages. It will also provide payment schedules based on the provided loan information. Loan Analyzer is menu oriented; that is, it will provide you with your choices in the form of a menu. To make a choice, just press the key of the letter in parentheses.

---- A COUPLE OF WORDS OF CAUTION ----

Although we have tested Loan Analyzer extensively, both Furry Programmers, VLtd., and UPTIME Magazine, IN NO WAY GUARANTEE THE ACCURACY OF THESE PROGRAMS, AND DO NOT ASSUME ANY RESPONSIBILITY FOR ANY DECISIONS MADE ON DATA FROM LOAN ANALYZER. We suggest that you talk to a loan officer at your bank or savings and loan for the latest rates, points, plans, and other information that will help you make the right decision.

We suggest that if you get an adjustable, or variable, rate loan, you obtain one with a cap on the range on how far the interest rate can climb or fall, and how far it can be adjusted each time. Also, consider a plan that does NOT allow the principle to rise, better known as NEGATIVE AMORTIZATION. Loan Analyzer assumes that you have a loan meeting these requirements.

Using Loan Analyzer....

Before using Loan Analyzer, you should know the loan amount and/or the monthly payment, the prevailing interest rate, the period of the loan in months and/or years, the cap values, and the period between adjustments.

TO ENTER OR CHANGE DATA:

1. From the MAIN screen, press C for Change.
2. Press the key corresponding for what you want to enter or change.
3. Enter the new value.
4. Repeat steps 2 & 3 until done.
5. When finished, press return to accept the changes and go to the compute/generate screen.

If you need to restore the data to the value prior to being changed, press [ESC] to abandon the changes and return to the main screen.

TO COMPUTE A VALUE, OR GENERATE A TABLE:

1. From the main screen, press A for accept.
2. Select your choice by entering a number, then press return.
3. Answer the prompts as required.

NOTE: Computing a missing value will store the value computed, while generating tables does not change any value on the main screen.

Modifying the DEFAULT settings....

THE DEFAULT SETTINGS FOR THIS PROGRAM ARE IN LINES 110, 120, AND 140.

| VARIABLE | USE |
|----------|--------------------------|
| IR | INTEREST RATE IN PERCENT |
| LA | LOAN AMOUNT |
| PY | MONTHLY PAYMENT |


```
=====
DOCUMENT loderunner1
=====
```

```
*/**/**/**/**/**/**/**/**/**/**/**
:
: CHAMPIONSHIP LODE RUNNER HINTBOOK :
:
:           Levels 1-16           :
:
:   Presented by: Bets C.         :
:
*/**/**/**/**/**/**/**/**/**/**/**
```

Another great T-Men file!

```
*/**/**/**/**/**/**/**/**/**/**/**
*           LEVEL 1: HELLO & WELCOME *
*/**/**/**/**/**/**/**/**/**/**/**
```

1] Descend the left ladder and draw the men to the bottom right before they get any chests.

2] Dig down the column of bricks next to the ladder slow enough that the top brick has reappeared when the bottom brick has been dug. Quickly run up the ladder to the top of the column and across the steps for the closest of the two lower chests. When you fall to the bottom, quickly run out before the bottom brick of the column reappears.

3] Climb the ladder halfway, then lure the men into the trap at the bottom. Move them all the way to the left by descending the left ladder again. Then cross over to the right and repeat Step 2. If you move quickly, you'll fall to the ground with the second chest just before the men reach you.

```
*/**/**/**/**/**/**/**/**/**/**/**
*           LEVEL 2: MUSIC MAESTRO   *
*/**/**/**/**/**/**/**/**/**/**/**
```

Keep all the men together!

1] Move to the top right corner. 4 men will proceed up and left and the 5th will climb toward you. Just as he approaches, move left. As soon as he's near you, drop to the bottom, run right and up the ladder to a spot that makes him run left.

2] Stay high to draw all the men to the top left. Collect the chests from the right side and bottom.

3] Draw all the men that are on the bottom to the right side, then up.

4] Go left and down, moving to the left ladder to keep all 5 men on the right side. Now clear the left side.

```
*/**/**/**/**/**/**/**/**/**/**/**
*           LEVEL 3: LADDERS GALORE  *
*/**/**/**/**/**/**/**/**/**/**/**
```

1] Move left, under the first man and over the next.

2] Lure the men individually into the one place on the board where you can dig and get rid of them one at a time.

3] Collect all remaining chests.

```
*/**/**/**/**/**/**/**/**/**/**/**
*           LEVEL 4: DROL HOLE       *
*/**/**/**/**/**/**/**/**/**/**/**
```

1] Use your position on the ladders to move the men left and right, dropping each man past and below you through then center channel before moving up to the next level.

```
*/**/**/**/**/**/**/**/**/**/**/**
*           LEVEL 5: FOUR IS COMPANY *
*/**/**/**/**/**/**/**/**/**/**/**
```

1] Trap the men at the bottom center by moving to the bottom of the far left ladder.

2] Run over their heads and get all the chests on the right (the fifth chest from the right has a trap door under it).

3] Dig away all the bricks to the left of the men, letting one man free.

4] Dig a hole to the left of the man and walk over his head while he's in it, and force him to the right by positioning yourself at the right spot on the ladder.

```
*/**/**/**/**/**/**/**/**/**/**/**
*           LEVEL 6: THE U.N.       *
*/**/**/**/**/**/**/**/**/**/**/**
```

Get the men into strategic "U's" and walk over their heads.

1] Climb either ladder and position yourself at the top so that the men fall into the "U's".

2] Using their heads to stand on, dig and release them after getting the chests. They will drop into other "U's" and you can repeat the action.

```
*/**/**/**/**/**/**/**/**/**/**/**
*           LEVEL 7: PYRAMID TRAPS  *
*/**/**/**/**/**/**/**/**/**/**/**
```

1] Clear the inner pyramid by forcing the men to drop through the top middle bricks into the right and left "U's" underneath.

2] Drop down after them, get the chests and then release the men to the next left and right "U's" below them.

3] Repeat this for all areas.

```
*/**/**/**/**/**/**/**/**/**/**/**
*           LEVEL 8: EIGHT WAS GREAT *
*/**/**/**/**/**/**/**/**/**/**/**
```

1] Go up the ladder toward the left hand corner of the screen. You'll have to duck into one of the diagonal channels and dig to get by one of the men.

2] Pick up all the chests across the top, dropping from diagonal to diagonal by blasting through the bricks.

3] Descend a diagonal to the lower left corner and make your way across the bottom in the same manner, picking up the remaining chests.

```
*/**/**/**/**/**/**/**/**/**/**/**
*           LEVEL 9: ARROWHEAD      *
*/**/**/**/**/**/**/**/**/**/**/**
```

*/**/**/**/**/**/**/**/**/**/**/**/**

Clear the center arrowhead chests first and trap the men in the area.

1] First, dig a hole in floor above the point of the arrowhead (point X). Collect the chests that appear at the center of the arrowhead.

2] Collect as many chests around the arrowhead by digging from point 'X' and circling back.

3] Go to either the bottom right or left of the triangle of ladders above the arrowhead and dig a hole. Get a man to chase you to the top of the pyramid. At this point dig, trap the man, climb down the first ladder on the other side of the pyramid, and he'll eventually drop into the bottom center.

4] After all men are trapped, collect the chests.

*/**/**/**/**/**/**/**/**/**/**/**/**
* LEVEL 10: TEN *
*/**/**/**/**/**/**/**/**/**/**/**/**

1] Don't fall to the bottom. Step right as you pass the first opening.

2] Go up the first ladder and to the top of the first section. Dig your way to the gold chests in the first section in two passes.

3] Climb up the middle ladders and get the chests.

4] The far right section is a matter of timing. At the bottom right ladder, dig the top brick, hesitate, the next brick under it, hesitate, the next brick...as soon as you see the top brick forming, run across the top right to last right brick, dig, drop through, grab the chest and run through the left hole before the bottom brick forms. Repeat procedure for the left side of the ladder.

*/**/**/**/**/**/**/**/**/**/**/**/**
* LEVEL 11: CHAIN REACTION *
*/**/**/**/**/**/**/**/**/**/**/**/**

1] To get to the second and third boxes on either side of the screen, you must cross over a falling man's head from the ladder.

*/**/**/**/**/**/**/**/**/**/**/**/**
* LEVEL 12: CROSS YOUR T *
*/**/**/**/**/**/**/**/**/**/**/**/**

1] Go to the far right & up the ladder.

2] The first, third and fifth cross on on the top row are traps. Get the men to fall in them.

3] Get the last two men together & make them follow you in a circle while you collect the rest of the chests.

*/**/**/**/**/**/**/**/**/**/**/**/**
* LEVEL 13: MAZOLIA *
*/**/**/**/**/**/**/**/**/**/**/**/**

Get the men to bring the chests to you!

1] Collect the chests that aren't near the men.

2] Manipulate the men by moving up and down in the center part of the maze. Get by the leftmost man into the lower central portion of the board.

3] Continue to manipulate the men from this area as you collect the chests.

4] To get the leftmost man to part with his chest in the right place, draw him to the fifth floor on the right and stand at the left of the third ladder. When he's almost upon you, race up the third ladder and he'll race up the second ladder. He may drop the chest in the space between the two ladders. Race down, collect the chest & race back up the ladder.

*/**/**/**/**/**/**/**/**/**/**/**/**
* LEVEL 14: NEW YORK CITY *
*/**/**/**/**/**/**/**/**/**/**/**/**

There's no specific strategy for this level except that by keeping the men together you have a better chance of controlling and getting by them.

*/**/**/**/**/**/**/**/**/**/**/**/**
* LEVEL 15: MAGICAL GOLD *
*/**/**/**/**/**/**/**/**/**/**/**/**

Get the far right chest left.

1] Collect all chests across the top except the far right one.

2] Let the rightmost man out of the hole that he's fallen into and get any chest that may appear.

3] Manipulate as many men as needed to the bottom left of the board and use their heads to climb the far left ladder.

4] Get the last chest.

*/**/**/**/**/**/**/**/**/**/**/**/**
* LEVEL 16: RUNAROUND QUILT *
*/**/**/**/**/**/**/**/**/**/**/**/**

1] Collect some chests from the upper right side of the board.

2] Stay high on the board to attract the men. Then, go down and dig from the second floor from the bottom on the far right ladder and down the 'steps of bricks' to the bottom row of ladders...cross to the left side of the board. Run in circles to avoid the men.

3] Get a man to fall into the hole bottom hole in the center 'circle'. Collect the chests in the middle and get the other men to fall in to get them out of the way.

4] Collect the rest of the chests.

=====

DOCUMENT loderunner2

=====

```

*/**/**/**/**/**/**/**/**/**/**
:
: CHAMPIONSHIP LODE RUNNER HINTBOOK :
:
: Levels 17-32 :
:
: Presented by: Bets C. :
:
*/**/**/**/**/**/**/**/**/**/**
    
```

Another great T-Men file!

```

*/**/**/**/**/**/**/**/**/**/**
* LEVEL 17: SUSPENDE GOLD *
*/**/**/**/**/**/**/**/**/**/**
    
```

1] Use the two upper righthand corner bricks to trap and kill men until they appear at the right side of the board. Then, move down and draw the men onto the floor.

2] Try to trap the men in the bottom 2 holes of the board as you collect the chests.

```

*/**/**/**/**/**/**/**/**/**/**
* LEVEL 18: TRAP FOURTEEN *
*/**/**/**/**/**/**/**/**/**/**
    
```

The main clue is printed on the screen. There are 14 trap doors to look out for and they are all placed so that, if you do the obvious thing, you'll wind up in the pit at the bottom of the screen.

As a general rule for this level, try to approach each gold chest from directly above or from the right side. Don't get ANY of the chests by digging over the ladders to the left.

```

*/**/**/**/**/**/**/**/**/**/**
* LEVEL 19: THE THINKER *
*/**/**/**/**/**/**/**/**/**/**
    
```

All the men are indispensable. Collect the chests from the left side first.

1] Climb to the second ladder on the far right. Dig the first diggable brick to the right of it. When a man falls into the hole, run over his head to the ladder on the right. Climb it, then descend, digging away the first and second bricks to the right of it. Jump through the opening and pick up the chest. There's a diggable brick beneath it. If you move quickly, you can dig it away and drop through before the man catches up with you. He will be trapped.

2] Go back to the wall you dug earlier, dig down and run over the trapped man's head. Dig down and collect the chest on the ledge to the right.

3] Collect the rest of the chests on the left side of the board.

4] To get the chest next to the top middle ladder, climb the ladder and dig the top 2 bricks between the ladder and the gold chest. Don't dig the bottom brick until the top brick starts to form. Then dig the bottom brick, run up the ladder, dig the top brick again, run to the right and drop down onto the chest. You can now dig down and escape onto the bar. Drop through the diggable brick by the ladder onto the next bar below.

5] Fall onto the guard beneath you and while standing on his head, dig away the brick on his left and jump over onto the brick on his right when he starts to move away. When he drops onto the other guard, jump off the block you're standing on. Don't follow the guard, but dig out the rightmost brick instead so you can drop to the bottom and get out the ladder.

6] Climb up the bottom far right ladder and cross over to the left side of the two guards. Dig the brick to the right of the middle bottom ladder. Jump on the man's head, dig right then left, without hesitation and immediately run right. Pick up the chest and exit quickly to the right.

7] Pick up the remaining chests with the exception of the 2 chests in the bottom righthand corner and then work your way down to the lower righthand corner last.

```

*/**/**/**/**/**/**/**/**/**/**
* LEVEL 20: STACK EM UP *
*/**/**/**/**/**/**/**/**/**/**
    
```

Stack the men in the center. Get the men to retrieve the chests across the second from the bottom floor.

```

*/**/**/**/**/**/**/**/**/**/**
* LEVEL 21: TWENTY-ONE *
*/**/**/**/**/**/**/**/**/**/**
    
```

1] Get all the chests in the far left section and end up on the ladder at the middle of the board.

2] After collecting the row of five chests in the left section, dig and use the man's head to step over to the ladder.

3] Dig the middle chunk of bricks to the left of the long middle row (some by standing on the man's head) and release the man into the lower level so that he ends up in the bottom middle hole.

4] Collect the rest of the chests from the right side of the board, leaving the bottom right chest for last.

```

*/**/**/**/**/**/**/**/**/**/**
* LEVEL 22: CRAZE MAZE *
*/**/**/**/**/**/**/**/**/**/**
    
```

Keep the men together.

1] First, collect the chests at the top left as you get 3 men on the left side of the board together.

2] When you have all the chests you can get, release one of the men from the mid-right section by drawing him through the trap doors on the 2nd and 3rd floors on the right and have him join the other 3 men.

3] Release the last man the same way and collect the rest of the chests.

```

*/**/**/**/**/**/**/**/**/**/**
* LEVEL 23: BEST BUNGELINGS *
*/**/**/**/**/**/**/**/**/**/**
    
```

1] After you collect the chests below you, dig the 3 bricks to the right of the 2nd ladder down on the left, go up both ladders and right, up the short ladder and dig to the next chest to the right and go down and through the wall you dug by the ladder.

2] Collect all accessible chests while working your way to the lower right corner.

3] Collect the chests in the upper right corner.

4] Dig the bricks over and right or the 1st short ladder on the left, 2nd floor (from the bottom) and jump down on the chest from the top of the ladder.

5] To get the chest in the lower left corner, dig the brick at the bottom left of the bottom right ladder, then the top 2 bricks on the right of the bottom right ladder, then go back and redig the first brick, then the bottom brick next to the left ladder then the brick above the chest, drop on the chest and leave.

```

**/**/**/**/**/**/**/**/**/**/**/**
*          LEVEL 24: BRODERBUNNY      *
**/**/**/**/**/**/**/**/**/**/**/**

```

Dispose of the 2 guards first, until they reappear in the upper right area. You can't win if either of the men falls down between the rabbits paws.

1] Move halfway up the long ladder until both men fall between the ears.

2] Dig away bricks in the left ear, trapping the men till they reappear in the upper left corner.

3] First, get the chest from the left eye. Dig away enough bricks to remove the 2 bricks to the left of the eye, which will allow you to drop down to his whisker to escape.

4] To get the chest in the right eye, dig all the bricks across the ear to the left of it and continue down to the nose to escape.

```

**/**/**/**/**/**/**/**/**/**/**/**
*          LEVEL 25: BO                *
**/**/**/**/**/**/**/**/**/**/**/**

```

1] Get the men in a position where they won't interfere.

2] To collect the chests, dig from the outside, using the ladders to dig from when needed.

```

**/**/**/**/**/**/**/**/**/**/**/**
*          LEVEL 26: MASK OF THE SUN  *
**/**/**/**/**/**/**/**/**/**/**/**

```

```

#####Y=X#####= Diagram of center of
=#1 * Y=B * 2#=# board.
=#* Z Y=B *:=
### #A#=#BBB ##=
= # #:::: B # =
= ### ### =
= 3 *** =
= ##### =
  *====*
#####

```

1] First, trap 2 men in area 1. Turn to the center ladder and dig brick X, trapping the man. Then dig out the 3 bricks marked Y and move left to position Z. As soon as the guard is released dig brick A, run over the trapped man's head and climb to the top of the ladder. The guard will fall in pit area 1.

2] Attract the 2nd man from the right side of the board and trap him the same way. Now get all the gold in area 1.

3] Draw the last guard from the right side over to the left by pulling him across the tops of area 1 & 2 and dig one brick so you can walk over him. Go down the ladder on the right of area 2 until you find a spot that makes the man move to the left.

4] Get the chests from the middle of area 2 one at a time. Use timed digging to get the "floating" chest. Get the second chest after digging all the bricks marked B, then jump down from the pit to area 3.

```

**/**/**/**/**/**/**/**/**/**/**/**
*          LEVEL 27: SPHINX          *
**/**/**/**/**/**/**/**/**/**/**/**

```

1] Collect all the chests from the bottom 2 rows first, gaining access by jumping on a falling man's head.

2] Use a man's head to get to the short left ladder. Using the same method, gain access to the top level and collect the remaining chests.

```

**/**/**/**/**/**/**/**/**/**/**/**
*          LEVEL 28: FALLING STAR    *
**/**/**/**/**/**/**/**/**/**/**/**

```

1] Destroy the 2 men at the lower left to get time to collect the chests at lower left corner of the board. Release the first man while hanging from the bars. Then dig holes until he is destroyed. Repeat the process for the 2nd man.

2] Destroy the men, the run to ledge to the right of the long middle bar. Fall on a man's head to collect the last chest.

```

**/**/**/**/**/**/**/**/**/**/**/**
*          LEVEL 29: TRINGOR'S LAIR  *
**/**/**/**/**/**/**/**/**/**/**/**

```

Don't let men that have chests fall into the bottom traps. Ladders are safer than bricks to walk on.

1] Start by getting the bricks in the top right section, getting the chest to the left of the sections left ladder last.

2] Use the trap doors in the middle section to dispose of the men while you get the chests.

3] In getting the rest of the chests, use the ladders and avoid the traps. Don't let a man with a chest fall to any of the bottom traps.

```

**/**/**/**/**/**/**/**/**/**/**/**
*          LEVEL 30: MANIPULATION    *
**/**/**/**/**/**/**/**/**/**/**/**

```

Don't let any men with chests fall into the bottom middle holes. Get the bottom

center chest last.

1] Get all the available chests except the center chest. Use the men to get the chests at the tope of the left and right towers. Be sure to keep track of chests being carried by men

2] When you're sure you have all the chests, fall onto the center tower and a ladder will appear to give you a way out.

```

**/**/**/**/**/**/**/**/**/**/**/**
*          LEVEL 31: PACHINKO        *

```

*/**/**/**/**/**/**/**/**/**/**/**/**/**/**/**

- 1] Go up the left ladder to the trap under the second bar.
- 2] Dig left after falling through and continue left down the trap dorrs. You'll fall right onto the chest.


```

*/**/**/**/**/**/**/**/**/**/**/**/**/**/**/**
*   LEVEL 32: INVERSE PYRAMID   *
*/**/**/**/**/**/**/**/**/**/**/**/**/**/**/**

```
- 1] Get the top left chest first. Dig the brick to the right of the short ladder and get the top man to rrun left into the brick as it reappears.
- 2] Dig down to the next section and get the far right chest. Dig to the left of the ladder, run to the right ladder and force one man into the reappearing brick.
- 3] Trap the last 2 men in the pit under the bar being careful that they don't take any chests with them.
- 4] Dig down to the ladder below and get the chests.
- 5] Go down to the next level and get the remaining chests.

```

=====
DOCUMENT lodrunner3
=====

```

```

*/**/**/**/**/**/**/**/**/**/**/**/**/**/**/**
:
: CHAMPIONSHIP LODE RUNNER HINTBOOK :
:
:           Levels 33-50           :
:
:   Presented by: Bets C.         :
:
*/**/**/**/**/**/**/**/**/**/**/**/**/**/**/**

```

```

*/**/**/**/**/**/**/**/**/**/**/**/**/**/**/**
*   LEVEL 33: RORSCHACH TEST   *
*/**/**/**/**/**/**/**/**/**/**/**/**/**/**/**

```

- Get all the men to the lower left corner.
- 1] Attract all the men to the bottom left corner (you can do this from the bottom right corner) and collect all the chests.
 - 2] If any chest is picked up by a man, try to get him to drop it for you toward the bottom middle of the board.

```

*/**/**/**/**/**/**/**/**/**/**/**/**/**/**/**
*   LEVEL 34 SPLIT SECOND     *
*/**/**/**/**/**/**/**/**/**/**/**/**/**/**/**

```

- 1] As the man starts down the second long ladder from the left after you, dig the brick to the right of the first short ladder. Get him to follow you through and exit down the ladder to the left, then back up the long ladder. This gets you past the man.
- 2] Get all the chests in the left section, taking one at a time, and each time escaping back through the brick left of the top short ladder.
- 3] Get the chest in the middle section by shooting holes to the ladders below the middle short ladder and always escaping back through your starting point.
- 4] Get all the chests in the right section and escape.

```

*/**/**/**/**/**/**/**/**/**/**/**/**/**/**/**
*   LEVEL 35: BARREN BOARD     *
*/**/**/**/**/**/**/**/**/**/**/**/**/**/**/**

```

The only important thing to know about this level is to spend as much of your time as possible on the second row from the top. The men will bring you many of the chests and you can drop down to the ground level to pick up others after you've caught all of the men in the pits.

```

*/**/**/**/**/**/**/**/**/**/**/**/**/**/**/**
*   LEVEL 36: BI-PLANE CLIMB  *
*/**/**/**/**/**/**/**/**/**/**/**/**/**/**/**

```

Trap the men in the upper 2 chambers by leading them over the outer edges. Then collect the rest of the chests being careful you can always escape via the center ladders.

```

*/**/**/**/**/**/**/**/**/**/**/**/**/**/**/**
*   LEVEL 37: CREEPY CASTLE   *
*/**/**/**/**/**/**/**/**/**/**/**/**/**/**/**

```

Follow the man through the traps using him like an elevator to the first chest on the upper right. Collect the rest of the chests by clever digging.

```

*/***/***/***/***/***/***/***/***/
*          LEVEL 38: BROTHERHOOD      *
*/***/***/***/***/***/***/***/***/

```

Try to keep the men together. Get the first left chest in the ledge first.

1] First, get the first left chest in the ledge, using a man's head to step on.

2] Run to the bottom of the far right ladder on the floor and get all the men on the ladder to the left of you. Go to the top of your ladder to force the men to the top of their ladder. Collect as many chests as you can.

3] Use traps between the 2 ladders to get to the bottom of the board, and run quickly to the far left bottom ladder and climb.

4] Collect as many chests as you can while keeping the men together on their ladder.

5] To keep them together and get past them, wait at the bottom of the far left bottom ladder, drawing them over and, at the last second, climb up and run for their ladder. The men will return to their ladder from below, but too late to interfere with you.

6] Collect the rest of the chests by repeating step 5.

```

*/***/***/***/***/***/***/***/***/
*          LEVEL 39: OMEGA WABBIT      *
*/***/***/***/***/***/***/***/***/

```

1] Trap a man in the brick at the bottom right of the long left ladder. Use this ladder to force the man left when he climbs out of the hole - he'll then fall into the chamber allowing you to get the chest in the center of the chamber.

2] Get the chest in the rabbit's left nostril, while you lead the men behind you.

3] Collect the rest of the chests.

```

*/***/***/***/***/***/***/***/***/
*          LEVEL 40: TAX MAN           *
*/***/***/***/***/***/***/***/***/

```

1] Lure the man into the left center pit, but don't get stuck there yourself.

2] Dig a column between first 2 rows of short ladders on the right to get the right bottom chest.

3] Repeat step 2 on the left side. Dig the brick left of the bottom left chest. If you move to the short ladder across from it the man will get the chest and when the brick refills, he'll be destroyed along with the chest.

```

*/***/***/***/***/***/***/***/***/
*          LEVEL 41: HOMICIDE          *
*/***/***/***/***/***/***/***/***/

```

1] Destroy the men repeatedly until they trap themselves in the 3 single holes across the top.

2] Collect the rest of the chests, leaving the bottom left chest for last.

3] When you get the last chest, the men will be released. To escape through the ladder that appears, run over the men's heads, from left to right to short right ladder on the 4th floor.

```

*/***/***/***/***/***/***/***/***/
*          LEVEL 42: ETCH A SKETCH     *
*/***/***/***/***/***/***/***/***/

```

1] Dig the 4 bricks to the right of the 4th ladder from the left, using timed digging as done in previous levels, to get to the chest beneath.

2] To get to the first chest on the right, start digging at the top of the top right ladder. Dig your way to the chest, leaving an exit path out to the left of the bricks to the right of the 4th ladder from the right.

3] Work your way to the left side of the board by exiting through the brick to the left of the short middle ladder.

4] Use timed digging on the bricks to the right of the far left ladder to get to the first left chest.

5] Dig the 3 bricks down the left side of the 8th ladder from the left. Dig down to the brick over the 7th ladder from the left. Run back up the ladder, drop down on the brick to the left of the 9th ladder from the left, dig it and get the chest and exit by digging the brick under it and dropping to the floor.

6] Work your way back to the left side of the board.

7] SURPRISE! The man trapped in the lower left chamber has a chest! You must release him and then trap him in order to get the chest from him.

```

*/***/***/***/***/***/***/***/***/
*          LEVEL 43: STACK ATTACK      *
*/***/***/***/***/***/***/***/***/

```

Stack the men on top of each other in the left and right ledges (second floor from the bottom) so that the top man can get at the seemingly unreachable gold chests on the left and right sides. Repetitive digging is required.

```

*/***/***/***/***/***/***/***/***/
*          LEVEL 44: CAN OF CORN      *
*/***/***/***/***/***/***/***/***/

```

1] Collect the left chest by descending then centermost of the 4 ladders that reach the top of the screen. Then dig away the brick to the left of the ladder's base. Drop in that hole and descend to the ladder beneath it, digging the 2 bricks to the left of the ladder as you descend. Then move left and dig away the brick immediately to the right of the gold chest. Race back up the ladders until you are standing just above and to the left of the first brick you dug. Go left and drop straight down onto the gold chest. Climb back to the top of the board before the bricks fill in.

2] The 2nd gold chest is easy to get to however, getting back to the top of the board is difficult since there's only one way. You'll have to travel the bottom bar to the leftmost ladder, climb up, and then work your way back to the right by digging in order to get out.

P.S. The ladder that appears at the far right after you collect the

second gold chest is a red herring.

```

*/**/**/**/**/**/**/**/**/**/**/**
*      LEVEL 45: TENEMENT LIFE      *
*/**/**/**/**/**/**/**/**/**/**/**

```

You must use timed digging on the row of bricks to the right of the 2nd ladder from the left.

1] Dig the top brick, pause, dig the 2nd brick, pause until the top brick reappears, then dig the 3rd brick. Now run to the top of the ladder and all the way to the right. Dig and drop down onto the chest that is floating in the air, then run left until you have regained the safety of the ladder.

2] Don't stop for breath. Before the 3rd brick fill in, dig out the 4th. Then go back up the ladder and dig out the 1st and 2nd bricks again. Descend and dig out the 5th brick from the top. When the 4th brick reappears, dig out the 3rd and the 6th brick. Run right (across the top of the 4th brick) and dig out the brick just over the short ladder. Then back up one brick and dig out another brick. Jump down in the hole and, standing on the ladder, dig out the 2 bricks that form a wall to the left of the ladder. Then drop down to the chest below the short ladder and run left. The floating chest is left up to you.

3] Your exit is at the bottom of the bottom of the long ladder. There are 2 clever parts to the right side. In the top part, you'll need to stand on the head of a falling man to pick up the leftmost chests. The most difficult part is the bottom.

```

4] =A##DC#### This is a diagram of the bottom right
   =B =E *# section of the board
   =F###IH###
   =G J= *#
   #####

```

Use timed digging, first to reach the top chest (digging bricks in the order A,B,C,D,E) then starting over and getting the bottom chest (Dig A,B,C,D,E,F and G). Run up and over brick A, which will have reappeared. Then drop down through brick D and dig H, I and J).

```

*/**/**/**/**/**/**/**/**/**/**/**
*      LEVEL 46: MINE IS YOURS      *
*/**/**/**/**/**/**/**/**/**/**/**

```

```

##### ## Diagram of right side
= - B *-##### of long middle ladder
=#*#=#A###=#
=#:::##=##### = = ladder
= *C :: * * = * = chest
=#:#T#####:### = # = brick
=:F*T## D*#: *:: = : = solid
=#-###:##### = T = trapdoor
=:*G * *#=
:::~:~: #####:##
= #####-#*E *#
#: ##### =# # #####

```

1] Get the top 2 men to fall into the 2 trap doors (marked T) by dropping to point A when a guard is at point B. Then you can clear up the left side of the board in peace.

2] Be sure to pick up chest C by following the 2 guards you have trapped and running over their heads back to the middle ladder. Then dig your way to the right part of the board by blasting through the bricks to the right of point A and immediately cutting through to chest D.

3] Dig your way to the short ladder marked E and descend it to bring the last free man toward you and trap him in the hole to your right. Now clean up all the remaining chests on the board except for chests F and G.

4] You can get to chest F and G by digging the brick to the left of the 2 men stuck in the trap doors and jumping in the hole (the second brick down is also a trap door so you'll be able to walk out of it to chest F). Pick up chest G and run over the other 2 men's heads until you're back on top of ladder E.

5] If the pit to the right of ladder E hasn't been filled with a ladder, then one of the 2 men at the bottom is carrying a chest. You'll have to kill them to fill the pit and free yourself. You can do this by digging the block to the left of ladder E, staying at the top of the ladder until the brick is about to fill in, and then descending to draw the guards toward you.

```

*/**/**/**/**/**/**/**/**/**/**/**
*      LEVEL 47: TEMPLE OF TOMBS    *
*/**/**/**/**/**/**/**/**/**/**/**

```

1] Move to the left and get the 4 men trapped into holes. Run over their heads and go to the ladder on the left.

2] Dig down to the 1st 4 chests at the bottom left rows.

3] Next, position yourself just to the right of the rightmost man. Dig the 2 bricks to the right of him, working right to left (you'll have to dig the 2nd brick while standing on his head). Take one step to the left as you finish digging the 2nd brick so you won't fall when the man starts to move.

4] After he drops into the hole in the next row, jump in after him, run to the right, and repeat the process as you proceed to collect the top and then the bottom chests on the diagonal.

```

*/**/**/**/**/**/**/**/**/**/**/**
*      LEVEL 48: AZTECA              *
*/**/**/**/**/**/**/**/**/**/**/**

```

1] Begin by digging at the bottom of the board to kill the men. Keep doing that till they fall through the 4 traps at the top of the screen into the holes.

2] Fall on the man's head, get the chests, dig and release the man and continue recovering the chests (same technique as level 47).

```

*/**/**/**/**/**/**/**/**/**/**/**
*      LEVEL 49: 4:30 AM            *
*/**/**/**/**/**/**/**/**/**/**/**

```

```

=A###C=      Diagram of top middle
=T T=        section.
=#B*C#=
=#####
#####
# T* #
##### #
#####

```

This level makes extensive use of a little known capability-it is possible to blast bricks in the normal manner while standing inside a trap door.

1] Dig brick A and jump in. You'll fall into the trap door below brick A. Wait for brick A to reappear, then dig brick B, exit left to the

ladder and cross over to brick C, where you repeat the process. Once bricks B and D have been removed, you can enter the central room, recover the chest and dig down to the rooms underneath.

2] Many of the other bricks in this level play off the same trick-you stand inside a trap door and dig an adjacent brick.

```

*/**/**/**/**/**/**/**/**/**/**/**/**
*      LEVEL 50: YOU ARE A CHAMP      *
*/**/**/**/**/**/**/**/**/**/**/**

```

1] If you've gotten this far, you're a pretty good Lode Runner player, so you're going to have to figure out this level with the help of just one minor clue...

Here's the hint. Just as level 49 hinged on being able to dig from within a trap door, level 50 hinges on your ability to dig bricks while falling on the head of a man.

Good luck!

```

=====
DOCUMENT longplay
=====

```

LongPlay v2.0.1

Copyright 1991
by
David Huang

```

=====
What is LongPlay?
=====

```

LongPlay is a program that plays digitized sound files. However, what makes this program different from the rest is its ability to play sound files of any size, even if they are larger than available RAM.

```

=====
How to use LongPlay
=====

```

LongPlay can be run from any GS/OS program launcher (Note: LongPlay requires System Software 5.0.2 or later). When the LongPlay icons are installed, it can also be run by double clicking on a .SND file from the Finder.

After LongPlay has been launched, you will be presented with three menus: Apple, File, and Edit.

The Apple menu contains "About LongPlay" and any New Desk Accessories you may have installed. "About LongPlay" gives general information on LongPlay.

The File menu contains the items Open..., Close, Edit file attributes, Compress sound file..., Expand sound file..., and Quit. Open allows you to select a sound file to play. Normally, it will only show files with type BIN, but if you hold down the Option key while selecting it, all files will be available for selection. In addition to the list of files, there are two radio buttons and a editline type box. If the radio button labelled "Use default" is selected, the sound will be played at the speed stored in the auxtype of the file if it is a raw binary file. If the file is in the Applied Engineering sound format, the sound will be played at the speed stored in the file. However, if "Enter own speed" is selected, the sound will be played at the speed that is typed into the editline box. If the file is a Sonic Blaster stereo file, you will be asked which channel you want to play. After a file has been selected, the sound will be played. To stop the sound before it is finished playing, hold down the Open-Apple key and press "." (period). Since the sound is loaded from the disk while it is being played, you should not remove the disk from the drive. Also, the sound will not be played properly if the sound is being played faster than the drive can read it. The same problem will occur if the file contains any \$00 bytes (normally, a GS sound file shouldn't have \$00s in it).

The Close item in the File menu is used only to close any NDA windows that may be open.

The Edit file attributes item can be used to change the filetype, auxtype, or access bits of any file. Normally, invisible files will not be displayed, but they can be displayed by holding down the Option key while selecting the menu item. After a file has been selected, you are allowed to enter a new filetype or auxtype, or toggle the access bits. Filetypes may be entered by their three letter mnemonic or as a "\$" followed by a two digit hexadecimal filetype. Auxtypes must be entered in hexadecimal. Clicking in the check boxes will toggle the access bit. However, the "Needs Backup" bit cannot be changed with this program, clicking on it will not change its state. Clicking the

Apple II Computer Info

"OK" button will save the changes to the disk. Clicking "Cancel" will cancel the operation and the file will not be modified.

Compress sound file allows you to compress a sound file so it takes less disk space. Note that LongPlay can't play compressed sound files, they must be expanded first. After selecting the compress menu item, you will be presented with a dialog box asking what format you want to store the compressed file as. Selecting the "Same as original" button will cause LongPlay to store the compressed file in the format equivalent to the original file. I.e. if the file was originally a raw binary file, it would be stored as a type \$CD ACE file. If the file was originally an AE file, it would be stored as a compressed AE file. The other two buttons are more or less self-explanatory. Another set of buttons let you select the compression ratio. 8:4 compresses a file to half its original size, while 8:3 compresses a file to 3/8ths its original size. The drawback to the higher compression ratio is that files usually come out with a little more static than with the 8:4 compression. After clicking OK, pick the file you want to compress, then type in the name that you wish to store the compressed file as. LongPlay will then proceed to compress the file. If it can't find the correct volume, it will prompt you to insert the disk. At this point, you may either cancel the operation or insert the disk and continue. However, for some strange reason, clicking Cancel once usually doesn't work. Be persistent... click Cancel again and the box should go away.

The Expand sound file item lets you expand a compressed sound file so it can be played by LongPlay. Again, you will be presented with a dialog box asking in which format you want to store the expanded file. Again, "Same as original" stores the expanded file in the original's equivalent. A \$CD ACE file will be converted to a raw binary file, while a compressed AE file will be expanded into an uncompressed AE file. After clicking OK, select the file you want to expand and type the name that you want to store the expanded file as. After this, things are about the same as the compress sound file option.

Of course, selecting the Quit item exits the program.

The items in the Edit menu are not used by LongPlay. They are provided so they may be used by NDAs.

Note about the icon file: you need to use an icon editor to set the pathname of LongPlay for double clicking on a .Snd file to work.

This program is ShareWare. Please distribute it as widely as possible. Although this program is publicly distributable, the author retains all copyrights to it.

If you like it, please send \$5 to:

Dave Huang
3501 Lake Austin Blvd., Lot #64
Austin, TX 78703

If you have any questions, comments, or bug reports, please send them via electronic mail to one of these addresses:

America Online: DrWho29
Internet: daveh@ccwf.cc.utexas.edu
UUCP: ...!ut-emx!ccwf.cc.utexas.edu!daveh

Special thanks to Drew Benson and Andy Kress for beta testing and info on Applied Engineering format files. Cool LongPlay icons by Andy Kress. Pitiful LongPlay small icons by me :-)

=====
Revision History
=====

Version 2.0.1 (20 Mar 91)

Made "Needs Backup" checkbox dimmed.

Version 2.0 (19 Mar 91)

Added support for Sonic Blaster files, ACE compression and expansion, option to enter the playback speed, and the Edit file attributes item. Also included icon file and support for double clicking on a sound file.

Version 1.0 (5 Feb 91??)

Initial release.

```
=====
DOCUMENT ls.6.0.watson
=====
```

```
=====
WATSON DOCUMENTATION
=====
GENERAL DESCRIPTION
```

WATSON is a powerful assistant to THE INSPECTOR disk and memory utility. Like THE INSPECTOR, WATSON is permanent-- either on an EPROM to be simply plugged into socket D0, or on disk ready to be merged with Int Basic for loading on boot. WATSON augments many of THE INSPECTOR's commands--making them handier, more automatic, more complete. For instance, you can now increment or decrement buffer locations with a single key-stroke. The disk map now also displays free space remaining on the disk. You can even reconstruct a VTOC automatically.

But WATSON brings along a whole new bag of tricks his very own. A Disassembler that displays ASCII, an instant hex/decimal/signed decimal converter, the ability to EOR the buffer with any value, lock-out or free-up specific sectors on a disk, follow a file sector-by-sector automatically, and much more. Browse through all the new commands in this manual. You can now call for a jump to any of the nine of your own subroutines. If you enjoyed working with the INSPECTOR you'll love WATSON. When you quit WATSON, you can take a single-stroke Screendump along with you back into Basic. Or an automatic inverse display of all control characters. Together, WATSON and THE INSPECTOR give you by far the most complete disk and memory utility for your Apple.

SYSTEM REQUIREMENTS

INSPECTOR
1 DRIVE
RAM CARD

ACCESSING WATSON

WATSON is always in memory and available for use, WATSON can be used in a number of different APPLE configurations. Since each is slightly different there are a number of distinct procedures to be used depending on the computer configuration you are using. To access WATSON proceed as specified for the Apple configuration which you are using.

A. APPLE II STANDARD (INT VERSION)

| FROM | TO | TYPE |
|-----------|--------|--------------------|
| INTEGER | WATSON | CALL-12288 |
| MONITOR | WATSON | C081 D000G |
| APPLESOFT | WATSON | CALL-151 C081 D00G |

B. APPLE II+

| FROM | TO | TYPE |
|-----------|--------|--------------------|
| INTEGER | WATSON | CALL-12288 |
| MONITOR | WATSON | C080 D00G |
| APPLESOFT | WATSON | CALL-151 C080 D00G |

WARNING!!!!!! GOING DIRECTLY FROM APPLESOFT TO INTEGER WILL DESTROY THE APPLESOFT PROGRAM IN MEMORY (HOPE YOU KNEW THAT ALREADY). TO PREVENT THIS GO FROM APPLESOFT TO MONITOR AND THEN WATSON.

| FROM | TO | TYPE |
|------|----|------|
|------|----|------|

| | | |
|-----------|--------|------------|
| INTEGER | WATSON | CALL-12288 |
| MONITOR | WATSON | CTRL-Y |
| APPLESOFT | WATSON | & |

SCREEN DISPLAY

The screen display is the same as the INSPECTOR except for the version #. When first accessed the version number is different from the INSPECTOR's. This makes it easy to tell which program you are using. The second difference will not be seen until the first sector is read from the disk. The version number will be blank, and a 4 digit HEX number will appear in the upper right corner of the display. This number is a checksum for the current buffer. This checksum is dependent not only on values in the buffer, but also the order of the bytes. This means that if either the values or the order of the bytes is different, the checksum will be different. Using this checksum, it is very easy to compare sectors to see if they are the same.

COMMANDS (FINALY)

+ = CONTINUOUS SCAN FORWARD

Causes WATSON to start scanning forward sector by sector. When any key is pressed, scanning will stop.

- = CONTINUOUS SCAN BACKWARD

Same as above except backward.

.(period) = INCREMENT BUFFER

Increments the Buffer location by 1 page in memory. For example, if the buffer is currently set to \$0800, pressing this key will change the buffer to \$0900.

,(Comma) = DECREMENT BUFFER

Same as above.

CTRL-E = EOR BUFFER

This command will EOR the entire buffer with any entered value. Certain programs encode information by using this method, causing the information to be unreadable. By using this command, these may be decoded. To use the command do the following:

1. Press CTRL-E. The cursor will move to the upper left.
2. Enter value to EOR with and press return.

CTRL-D = DISASSEMBLE WITH ASCII

Disassembles instructions starting at the Buffer Location. The ASCII values of memory will be displayed in the right column. This is very convenient for looking at data areas in Machine language programs.

1. press "B"
2. select memory location
3. press ctrl-D
4. press any key to stop scrolling
5. press any key to start scrolling

6. press (RETURN) to exit

CTRL-B = BUFFER TEST PATTERN

Fills buffer location with the values \$00-\$FF. Used to display character sets, or testing.

C = CONVERT HEX-DEC & DEC-HEX

1. PRESS "C"

2. ENTER NUMBER TO CONVERT. REMEMBER SIGN (\$,-)

3. NUMBER WILL BE DISPLAYED IN THREE FORMS.

4. PRESS RETURN TO EXIT

M = MAP WITH FREE SPACE

This command is in THE INSPECTOR, but has been modified slightly. after pressing "M", a map will be displayed, an "M" will appear in the upper left-hand corner of the map, and the free space on the disk will be displayed at the bottom of the map, in the form of "F=xxx"

CTRL-T = DISPLAY ALL TRACK/SECTOR LISTS

Causes the disk to be scanned, and all sectors which could possibly be Track/Sector Lists will be displayed on a map. This is very convenient when trying to reconstruct a blown VTOC. To use this feature you should follow these steps.....:

1. Set the number of the track and sector you wish to begin scanning from.

2. Press "CTRL-T". The screen will clear below line 3, and a blank map will be displayed, containing a "T" in the upper left-hand corner. As WATSON scans the disk, sectors which may possibly be Track Sector Lists will be displayed on the map.

3. pressing any key will halt the scan.

4. After the last sector is read on the disk, the scan will stop.

CTRL-R = RECONSTRUCT VTOC

Reads the VTOC from a disk, then rebuilds the Track Bit Map from the Catalog Track. This is especially useful when a catalog is reconstructed from a blown disk, or a file is undeleted.

1. Insert the disk that you wish to be reconstructed in the drive 2. Press ^R. The Catalog Track will be read in the map. All files will be displayed as they are relocated 3. after the disk has stopped. The new VTOC may be saved to disk by pressing ^W

NOTE:DISK MUST HAVE A READABLE VTOC. IF NOT COPY ONE FROM ANOTHER DISK.

CTRL-K = KILL DOS ON DISK

Frees tracks 1 and 2 .

CTRL-V = VERIFY THAT DISKS ARE ALIKE

This command may be used to compare two or more disks, and display a map of any sectors which are not the same. The first disk that is read will be placed in memory with sector checksums. As further disks are compared, their checksums will be compared to the previous disk, and any differences will be displayed on a map.....

1. insert disk

2. Set track and sector to start

3. Press ^V, map will be displayed if this is the second disk differences will be displayed on map.

4. Stop by pressing any key.

CTRL-F = FILE FOLLOWER

Allows a file to be scanned sector by sector automatically, both forward and backward. This is accomplished by reading the Track/Sector List for a file, which is then used by WATSON to read tin each sector of the file.

--> = Read next sector in file

Increments sector. Is used with ^F to follow file. The apple will beep when you reach end of file.

<-- = Read previous sector in file

same as --> but it decrements.

CTRL/SHIFT-N = TEST OVERRIDE

Pressing this will put WATSON in override mode. Normally for the File Follower, WATSON checks to ensure that the Track/Sector list read in is valid. This mode ignores that test, in case the Track/Sector list is partially bad. Using this command, it is still possible to partially use the file follower command.

Z = SET UP \$300 TO TURN ON PRINTER

In THE INSPECTOR documentation, it was explained how to install a routine at \$300 to turn on the printer when ^Z is pressed. This is used for the Hex/Ascii and nibble dump commands. By pressing z a routine will be setup automatically to perform this function. \$2BA contains printer slot.

CTRL-S = SCREEN DUMP Performs a screendump when pressed. Anytime a printout of the WATSON display is desired, pressing this will perform a screendump.

CTRL/SHIFT-M = PRINTER ECHO STATUS.

If your printer doesnt need carriage returns this is used.

CTRL-P = EXIT AND SETUP SCREEN DUMP

This command works much like the normal Screendump command, only it may be used from outside WATSON. After pressing ^P WATSON will return to DOS. Normal commands and programs can be run at this time, and a Screendump will be performed whenever a ^Z is pressed.

CTRL-O = EXIT AND OUTPUT CONTROL CHARACTERS

Exits WATSON, and causes all control characters displayed on the screen to appear in inverse. This will owork with DOS and normal programs. This is helpful to find hidden ctrl characters.

ESC 1-9 = USER FUNCTIONS

Just as ^Z command will perform any jump to a subroutine located at \$300, ESC 1 through ESC 9 will perform jumps to user subroutines. These jumps are specified by the bytes located at \$3BE through \$3CF (lo/high)

Well I hope that helps all of you have needed WATSON docs.

-END-

===== DOCUMENT ls.6.boot.trace =====

----- Locksmith 6.0 Automatic Boot Tracer Soft-docs -----

by
The Ghost

GHOST NOTE: This is exactly from the hard docs of Locksmith 6.0, and I have done this section first for those of you that can't wait for the full docs to get started with this feature. I'm not sure whether I will be doing the complete soft docs or not.

----- Introduction to ABT -----

[A] BOOT TRACER

The Automatic Boot Tracer is intended for use by the more experienced Apple programmer. It is actually a sophisticated debugger which can simulate the operation of the 6502 in the Apple. Because disk reading is simulated, it is possible to actually "boot" a disk (whether protected or not) under control of this debugger, and trace the boot code of the program.

Boot tracing, a normally manual and very tedious technique which is used by the most sophisticated "hackers", can be performed automatically under control of the Locksmith Automatic Boot Tracer.

To invoke the boot tracer, key 'A' from the main menu. You must have a RAM card of at least 16K on your system for ABT to work. If you have an Apple //e or Apple //c, the "built-in" 16K RAM will work.

Locksmith ABT will prompt you for the slot numbr of the RAM card. Key in a digit from 0 to 7.

The ABT will be installed on the RAM card you choose, and the ABT will be entered.

Note that in this manual, the ABT (automatic boot tracer) is also referred to as the debugger and the simulator, since it actually simulates the operation of the 6502, ad can be used as a powerful debugger.

The screen will clear and a line of inverse text will appear on the top line of the display. The ABT is now operating.

If you press reset at any time, you will be placed in the Apple monitor and can reboot another disk by entering the slot number followed by control-P. Be careful not to reboot a disk which will automatically load over the ABT on the RAM card you selected.

INFORMATION LINE

The top line of the screen which appears in inverse text is a one-line status display which appears initially as follows:

FA62 CLD A=00 X=00 Y=00 P=34 S=FD

The first 4 characters are the program counter (FA62 in this example). The 6502 opcode at the program counter is also displayed (CLD in this example). Next, the values of the A,X,and Y registers are displayed. The "P=" value is the processor status register contents, and the "S=" value is the stack pointer.

At this time, press the R key followed by a key from A through X. Notice that

the information line disappeared and moved to another line of the screen. You can put the information line on any line of the screen that is convenient for the software you will be debugging / tracing. If you don't want the information line displayed, you can place it on row Y or Z (which are off the screen).

IDLE MODE

The simulator is in "idle" mode at this time. That is, the program to be simulated is not currently running, but is stopped at the address displayed by the program counter.

Press control-C at this time to enable the processing of 65C02 instructions. This is necessary if you are running on an Apple //c or an enhanced Apple //e.

Press the S key to start execution under control of the simulator. The ABT is now running simulated 6502 code. The simulator is now in "running" mode. Note the rapidly changing program counter. The "beep" you hear from the speaker may sound a bit different than the Apple "beep" which you are used to, but that is only because under control of the simulator it is slowed down considerably and sounds lower.

To stop the program being executed, press [control-Z]. You are now again in "idle" mode. Control-Z is the default character to stop execution of the simulated program, but it can be set to a different "stop" key if you need to be able to use control-Z with the software you are tracing. To change the stop key, first stop the program being executed and return to "idle" mode by pressing control-Z. Then press control-X followed by any other key, and the other key will be used for the "stop" key.

To reset the "stop" key to control-Z, enter idle mode and press control-X, control-Z.

Enter idle mode. Now press the space bar and watch the information line. The space bar is used in idle mode to single step one instruction. A "+" or "-" will appear after each conditional branch instruction, depending on whether the branch will be taken ("+") or will be taken ("-").

While in idle mode, enter control-Y. You are placed in the system monitor, and can enter any monitor commands such as "L" (to disassemble 6502 code). To re-enter the simulator, press control-Y, RETURN. Before placing you in the system monitor, the simulator saved low memory pages 00 to 07 on its RAM card. After re-entering the simulator, this memory was "refreshed", insuring that no memory was inadvertently changed while in the system monitor.

To review the idle mode commands we have already learned:

Space-bar single steps one instruction. It can also be used to "single-cycle" (see below).

"R" moves the information line to rows A through X.

"S" starts the simulated program running and enters "running" mode.

Control-Y enters the system monitor. To re-enter the simulator, press control-Y again, followed by the Return key.

Control-X is used to change the program "stop" key, which stops the program and enters idle mode.

Other idle mode commands:

"T" (trace subroutine) executes the simulator program until a JSR or RTS instruction is fetched.

Control-R causes a "simulated" reset to occur. The program counter is fetched from \$FFFC.

Control-I causes a "simulated" IRQ interrupt.

Control-F turns off the "simulated" IRQ pending flag.

Control-N causes a "simulated" NMI interrupt.

Control-Q quits the simulator and returns to the system monitor.

Control-RESET also exits the simulator.

"1" is used to get single-cycle mode. In single-cycle mode, the space bar cycles one 6502 processor cycle at a time, instead of an entire instruction step.

"0" is used to set instruction-step mode. It is valid only when on an instruction boundary (not on a cycle in the middle of an instruction).

"D" turns the "beep" flag on and off. The beep is sounded when idle mode is entered.

"C" turns the "click" flag on and off. The click is sounded for every keystroke when not in "running" mode.

Control-C turns the 65C02 flag on and off. The default value for this switch is "off". If 65C02 instructions are to be simulated, this flag must be on. The Apple //e (enhanced version) and Apple //c both contain 65C02 processors in their resident ROM code. Note that the simulator itself does not use 65C02 instructions. You can therefore run 65C02 instructions on a normal 6502 processor.

"K" will take the next key pressed and place it in the keyboard character register. When instruction stepping through code that reads the keyboard, this key allows a convenient way to enter a keystroke to the program being traced, without entering the keystroke in "running" mode.

"ESC" is used to enter the simulator control menu. The simulator control menu is used to display and change internal simulator control information.

SIMULATOR CONTROL WINDOW

Press the "ESC" key while in idle mode. The simulator control window is displayed, and the cursor appears in the upper left of the window.

Use the RETURN key, and the left and right arrow keys to move the cursor around the simulator control window. These keys only move the cursor and do not change any information in the window. To change data anywhere in the window, simply position the cursor over the value to change and re-enter the desired value. To exit from the simulator control window and return to idle mode, press the ESC key again. If you wish to cancel any changes made in the simulator control window, you may press control-C instead.

Let's look at the control window in detail.

The top line looks very much like the information line in idle mode, except that the program counter appears to be further to the right and no instruction is disassembled on the line. The number on the left of the line is used for single-byte reading, single-byte writing, and memory editing. Enter an address value followed by 'R' to read, 'W' to write (also specify value to write), and 'E' to edit, using the memory edit window.

To change display modes for the simulator program (text, graphics, hi-res, low-res, page 1, page 2, fullscreen, mixed), key in the address to toggle (\$C050-\$C057) and enter 'R'. When tracing a program in graphics mode, it is useful to put the information line on rows U,V,W, or X, and toggle mixed mode graphics. The simulator will display the information line on either text page 1 or 2, whichever is selected by the program being simulated.

Enter an address, followed by 'E' to enter the memory edit window.

While in the memory edit window, the memory is displayed in both hex and ASCII text. The cursor can be moved with the RETURN key and arrow keys. To change data, simply key in a new value in the appropriate address. The ESC key returns to the simulator control window, saving all changes to memory. If the changes made in the memory edit window are not to be made, enter control-C.

The second line of the simulator control window contains:

```
RU=65 0=I 1=I 2=I 3=S 4=I 5=I 7=I
```

"RU=65" This value (decimal 101), the "register update" value, represents the number of instructions that are simulated before the registers and program counter are updated on the screen, when in "running" mode. If this number is set small (01 for example), the registers will be updated after every instruction. This however causes the simulator to run less efficiently, because of the overhead involved in updating the information line.

SLOT SPECIFICATIONS

The rest of the second line displays the slot numbers and how they are to be used. Because the simulator resides on a RAM board (indicated by 'S' in the slot display, for "SYSTEM"), it must know about all other RAM boards and firmware boards if it is to correctly simulate their operation. Initially, the slots will be set to 'I' (invalid). Any reference by the simulated program to these invalid slots will cause the simulated program to stop and control is passed to idle mode. Valid slot specification values are:

- 'S' system (simulator) slot
- 'I' invalid
- 'D' floppy disk drive
- 'A' RAM card of 16K or 32K
- 'B' RAM card of 64K or more
- 'F' Firmware card or ROM card
- 'T' transparent

If the specification for a slot is "transparent", any commands for the device in that slot will be given without any checking or conversion by the simulator.

Transparent mode should be used for:

Any devices such as RAM and ROM cards that bank select memory into the address range D000 to FFFF, which is used by the simulator.

Any devices such as disk drives which are timing dependent, as the simulator runs much slower than the 6502 in native mode.

Any devices that may use DMA (direct memory access) to modify memory from addresses \$0000 to \$07FF, as this memory is used by the simulator with a copy of the user's memory actually residing on the simulator's RAM board.

ADDRESS COMPARE STOP

The third line of the simulator control window starting with "PC" is the "PC compare stop" line. Up to four program counter values for "compare stops" can be specified. If the simulated program's PC equals one of these values, the simulator immediately enters idle mode. In addition, one "PC compare stop range" can be specified. To enter program counter stop values or a range, change the number (initially "0") to the number of stop addresses to be entered and then enter the addresses in the space provided.

To disable PC compare stop, set the number back to "0".

The "MR" line of the simulator control window is the "memory read address compare stop" line. Like the "PC compare stop" line, up to four addresses and one range can be specified. Whenever the simulated program attempts to read one of these addresses, either by direct addressing, indirect addressing or stack fetch, the simulator enters idle mode.

The "MW" line of the simulator control window is the "memory write address compare stop" line. Idle mode is entered whenever the simulated program attempts to write to one of the addresses specified here.

PROGRAM COUNTER SWAP

The "PCSW" area of the simulator control window is the "program counter swap" control area. Up to four address pairs can be specified here. If the simulated program's PC equals the first value of a pair, the PC is immediately set to the second value, and execution continues. This is very useful for eliminating slow timing loops, which are unnecessary in the simulator. Initially 3 pairs of PCSW values are given. They are:

FCA8 FCB3 - This nullifies the monitor wait routine.

BA00 BA10 - This nullifies the DOS 3.3 seek delay routine.

BD9E BDAB - This nullifies the DOS 3.3 motor-on wait routine.

PROGRAM COUNTER TRACE TABLE

The bottom eight lines of the simulator control window contain the PC trace table. The last 64 values of the program counter are kept here, so that when the simulated program is halted, a history of the last 64 instructions can be examined.

PROGRAM HALTS

A program running under control of the simulator halts and the simulator enters idle mode whenever one of the following conditions is met:

The "stop" key is pressed by the user.

An invalid 6502 or 65C02 opcode is encountered. "???" is displayed in the information line where the opcode is normally displayed.

A JSR or RTS instruction is fetched while running with the "T" (trace) command.

A read or write to the device select addresses of a slot marked as "I" (invalid) in the slot table.

A compare stop occurs for PC, MR, or MW, while running.

An attempt is made to write to the floppy disk.

An attempt is made to reference certain I/O addresses. Among these are \$C060 and \$C068 for either read or write.

Note that in the case of a compare stop for MR or MW or an invalid device select reference, that idle mode is entered with the PC containing the address of the instruction <after> the one that caused the compare stop. Look at the last address in the trace table to find the correct address.

INTERNAL OPERATION NOTES

A few notes on the internal operation of the boot tracer / simulator / debugger:

Floppy disk reading is simulated by reading in an entire track of nibbles and

passing them one at a time to the simulated program requesting them. Each time the simulated program requests a nibble, the next nibble in the buffer is returned. The simulated program never has to wait for a nibble by polling the high-order bit of the disk register. Because of this, framing bit timing is not reserved. In addition, the track is not synchronized to any other track upon reading. Floppy disk writing is not supported.

When reading a floppy disk, the simulator maintains the nibbles of the most current track on the simulator's system RAM card. This track image is valid until either the slot or drive number is changed or reselected, or the read/write head is stepped to a different track. Only if the current track image is invalid will the real floppy disk be read again. Therefore, if the user performs a "CATALOG" operation while under control of the simulator and then changes the diskette and performs another "CATALOG" operation, the catalog information from the first disk will still be displayed because the catalog (located entirely on track \$11) did not cause the head to change tracks and invalidate the track buffer. To manually invalidate the track buffer, change the slot specification to 'I' and back to 'D' while in the simulator control window.

The simulator has code for "sector assist" built-in. This means that when the simulated program requests a nibble followed by testing for disk register ready and compare for \$D5, the simulator immediately finds the next \$D5 in the track buffer and returns it to the simulated program, instead of requiring the program to ignore each nibble until the value \$D5 is found.

The paddle I/O addresses (\$C064-\$C067 and \$C06C-\$C06F) are correctly simulated if the code that accesses the I/O addresses is similar to the monitor routine at \$FB1E (PREAD). If the reference is not similar to the monitor routine, idle mode will be entered.

-END-

```
=====
DOCUMENT ls.6.main.pgm
=====
```

```
*****
* Locksmith 6.0 *
* Documentation by Mr. Wiz *
*****
```

System requirements:

Apple II, Apple II+, Apple //e, Apple //c, or compatible.
48K RAM and 1 disk drive minimum.
Optional RAM - 16K, 32K, 48K, 64K, 128K, 256K.

Common Locksmith Control Keys:

These keys can be typed at any time while in Locksmith.

CTRL-Z - Will print text screen to printer. Printer slot assumed to be in slot 1, but may be changed by parameter PRT.SLOT.

ESC - Will abort current function and return to an earlier menu. Repeated pressing will return to main menu.

RESET - Will exit Locksmith and reboot system.

Note: Locksmith (LS) uses extensive memory overlays while performing tasks. Keep the LS disk in the boot drive until instructed to remove it.

The top 7 lines of the display show the status of the current operation. Tracks are number 0-23 (hex) corresponding to 0-36 (decimal). Quarter tracks are also allowed.

Main Menu:

Booting the LS disk will result in the main menu appearing. The body of this menu displays the keystrokes (inverse) which you enter to perform certain functions. Briefly, they are:

(B) BACKUP/COPY - Backup protected software using LS standard copy functions.

(F) FAST BACKUP - Quickly create copies of unprotected software. Will utilize all additional memory in the computer for a copy process taking as little as 8 seconds.

(/) CLR STATUS - Clears the track status display at the top of the screen.

(N) DISK EDITOR - Formerly, the Nibble Editor. Allows manual reading, searching, changing, etc. of data in a sector format or nibble format. Can also be used to edit data in RAM.

(L) LOAD RAM CD - Will load slot 0 RAM with 12K of data found on tracks 12, 13 and 14 (hex) of LS disk. Useful for loading Inspector or Watson. Pressing I will invoke these functions once they are in memory.

(*) PARAMETERS - Allows display and changing of current LS operating parameters by name.

(T) TEXT EDITOR - Used to edit files containing LS Programming Language (LPL), which can be loaded and saved on the parameters disk. The BACKUP function allows automatic backup of protected software after specifying the name of the software.

(R) RAMCD UTILS - Can be used to test RAM cards in your Apple. Will test any size cards, and two tests are provided: a basic test and an extensive test. The test can be performed continuously or just once to help isolate intermittent errors. In addition, the contents of any 16K bank of the RAM card can be dumped to main memory, edited with the disk editor and re-loaded to RAM cards.

(Q) SCAN DISK - Allows you to examine on the hi-res screen an overall "picture" of the disk, track by track. This is useful in determining which tracks are actually used.

(A) BOOT TRACER - A sophisticated debugger which can simulate the operation of the 6502 in the Apple. Because disk reading is simulated, it is possible to actually "boot" a disk (whether protected or not) under control of the debugger and trace the boot code of the program.

(C) CERTIFY DISK - Writes a special pattern to each track of a disk and verifies the integrity of the disk surface.

(U) 16-S UTILS - Brings up a second menu of 16 sector utilities.

(D) DOS3.3 UTIL - Brings up a second menu of DOS 3.3 utilities.

(X) DSK RECOVER - Will read a difficult or impossible to read disk and write a good copy to another disk. Useful in transferring disks that were written in an improperly aligned machine.

(S) DISK SPEED - Allows speed adjustment of disk drives.

(E) ERASE DISK - Will partially or completely erase a disk.

(I) INSPECTOR - Invokes Inspector or Watson utilities if loaded with the "L" menu item.

Backup/Copy Disk:

Pressing 'B' will invoke the standard default copy method for copying protected disks. This will work with most protected software.

Pressing 'F' will invoke the high-speed copy process. This only works for unprotected software and utilizes as much memory as you have available. The following commands are used in Fast Backup:

```

12 Copy drive 1 to drive 2
21 Copy drive 2 to drive 1
11 Copy to and from drive 1
22 Copy to and from drive 2
1 Read verify drive 1
2 Read verify drive 2
10 Copy drive 1 to memory
20 Copy drive 2 to memory
01 Copy memory to drive 1
02 Copy memory to drive 2
V Toggle verify flag after each operation
    
```

(SPACE or RETURN) to start operation

In addition to these commands there are several parameters which can be modified to allow read and write sector oriented protected disks, and set internal parameters. The following parameters apply:

0007=00 Requested output volume # or 0, if same as input volume.

0008=00 Begin track to process.

0009=22 End track to process.

0010=08 Maximum read retry count. Retry number is 1-9 for first 9 revolutions of disk, A-Z for next 26. After that the display will not change.

0011=03 Maximum verify after write retry.

0012=10 Motor On delay for read. 7F maximum.

0013=10 Motor On delay for write. Maximum is 7F.

0014=80 Seek Off delay to read. DOS uses FF, the longest value. A delay of 00 is satisfactory and will reduce overall copy time by about 1 second.

0015=80 Seek Off delay for write. Do not change to any number less than 80 or drive may begin writing before the seek mechanism has settled.

0016=0B Number of self-sync before address field, expressed in excess-5 notation. The default value will write 16 self-sync nibbles and the value of 01 will write 6 self-sync nibbles. Setting this value very low will cause over-writing of the subsequent address field, too high will not allow all 16 sectors to fit on a disk.

0017=08 Number of self-sync before data field. (See 0016.)

0018=00 Alternate writing to drive 1 and 2. Setting to FF will cause alternate writing between 2 drives allowing very fast and efficient disk copying and use of memory.

To change any parameter, enter the 4-digit address and press RETURN. The current value will be displayed, enter a new value if you wish to change it.

Clear Track Status Display:

The track status display is not cleared after each LS function. Pressing '/' will manually clear this display.

Disk, Nibble, and Memory Editor:

Pressing 'N' will enter the Disk Editor (formerly Nibble Editor).

Cursor Movement-I,J,K,M diamond or arrow keys on //e or //c. '<' and '>' will page forwards and backwards through memory. ',' and '.' will scroll continuously through the buffer.

Display Control-'A' will toggle ASCII display on/off. 'B' will toggle between byte and nibble modes. In nibble mode, self-sync bytes are inverse.

Control Keys-CTRL-R will read a track into buffer. CTRL-W will write track from buffer to disk. (IF NO ANALYSIS WAS DONE TO TRACK TO SET TRACK START AND END, LS WILL ATTEMPT TO WRITE ENTIRE BUFFER.) CTRL-V will verify track start. Place cursor over nibble you wish to start verification process. CTRL-I will insert nibbles into the current buffer starting to the right of the nibble your cursor is on. CTRL-D will delete nibbles. CTRL-F will find a pattern of nibbles. Pressing RETURN will search for string defined in parameter PATO, 'L' will prompt you for a length (1-F). CTRL-B moves cursor to track start, CTRL-E to track end. '(' sets track start to current cursor, ')' sets track end. 'S' sets nibble under cursor to self-sync, 'N' sets nibble to normal. 'C' enters change mode. 'H' will display buffer on hi-res screen, 'HG' will print hi-res screen if your printer is capable of graphics output. The printer initialization string is defined in parm GR.CHARS. 'G' from text mode will display a picture of buffer using text characters. A period (.) means all nibbles in string are normal, an inverse (#) means self-sync, (+) means a combination of normal and self-sync. 'D' is the 16 sector address decode command. The first 4 numbers are the buffer address, next is the letter 'V' with a hex number (the volume), a two digit number with (/) another 2 digit number for track/sector. Following that is either '?', 'CS', or '***'. A '?' means either the check sum or trailer are incorrect. 'CS' means data field check sum is incorrect. '***' means data field info is incorrect or the disk is 13 sector. Pressing '#' prints the current track in the buffer from '(' to ')'. CTRL-S will process the analysis portion of the current track procedure used after reading to analyze the nibble data and set pointers for later writing.

Framing Bit Analyzer:

Framing bits (sync bits or timing bits) are the zero bits which occur between nibbles of data on the disk. These nibbles are called self-sync bytes. 16 sector disks use 10-bit self sync or 2 framing bits. The analyzer performs statistical analysis using precise timing loops and reports the timing relationship of the nibble data. The analyzer is entered by pressing '\$' from the disk editor and reading in a track.

An example: Get into the disk editor and CTRL-R to read a track of nibbles. Place the start '(' pointer to the start of the address field (D5 AA 96). Move the cursor down about 10 lines and set the end pointer ')'. Now move the cursor back up to the DE AA after the start of the address field.

The analyzer uses the data from the start pointer to the nibble immediately before the cursor as a "key". If you placed '(' before the D5 nibble and the cursor on the DE nibble, the key length would be \$0B nibbles.

Enter the analyzer by pressing '\$'. The display shows the data being analyzed on the left with statistics on the right.

The following commands control the framing analyzer:
 SPACE temporarily stops so you can examine statistics.
 RETURN start again.
 < and > allow scrolling.
 T switches from nibble to timing stats.

The info on the right of the screen might look like the following:

```
R=0007
F=07
??
-- ++
0 02
1 00 25
2 25 03
3 02 00
4 01 01
5 00 18
6 0B 00
7 00 07
8 03
```

The R= value is the number of reads which occurred. The F= value is the number of reads in which the "key" of the data was found on the track. Because of limited buffer space, if a large data length is specified, it is possible that the buffer may not fully contain the data specified.

The table of numbers represents the count of the differences of the data read with the "ideal" values of 10, 20, 30, etc. These error differences range from -7 to +7, with 00 being ideal. For example, in the table above, the count for +1 is 25 (hex). This means that there are 25 occurrences of nibbles with timing values of one greater than the ideal value (11, 21, 31, etc.). The "8" count of 03 indicates 3 occurrences of timing values exactly halfway between ideal values. This indicates that more examples are needed. The "??" is displayed when the values for the +- 6,7, and 8 counts are non-zero, and indicates that more examples are needed.

When nibble data is displayed on the left side, the inverse/normal mode of each nibble indicates the number of framing bits after the nibble. Normal text indicates no framing bits. Both digits are inverse if 2 framing bits while only one digit means 1 framing bit. A flashing value is 3 or more framing bits.

If the nibble data has the high order bit turned off, this indicates that at least one read occurred where the data after the key did not match. This could have been caused by a loss of sync while reading or by the key being specified as too short which caused a non-unique part of the track to be analyzed instead of the desired part.

Load RAM Card:

Pressing 'L' from the main menu will cause tracks \$12, \$13, and \$14 to be read into memory addresses \$D000-\$FFFF of a RAM card in slot 0 (or the top 16K of a 64K //e or //c).

If you have Inspector or Watson you can load it into RAM as follows:

1. Boot Inspector or Watson.
2. Enter Inspector or Watson, insert your LS disk and press the following:
 B D 0 <return>
 T 1 2 <return>
 CTRL-W
3. Then press CTRL-I 15 times.

This will write Inspector or Watson you your LS disk.

Your LS disk normally contains a copy of Integer Basic and the monitor on tracks \$13 and \$14. Inspector/Watson will go on track \$12.

Parameters:

Pressing '*' will allow display and modification of parameters using their LS Programming Language variable names. To display the value of a parameter, enter the keyword "SHOW" followed by the parm name. For example, to display the current value of the parameter SLOT, enter SHOW SLOT. To change the value, enter the parm name and new value, SLOT 4. If you make an error, LS will beep and ignore your request.

The following patch is useful in reading sectors from a disk that reads unreliably. This patch to RWTS will defeat the head recalibration routine after an I/O error and try to read again: BDCC 4C C1 BD. To reset the normal value, use BDCC 10 F3 AD. To restore parms to their original values, just reboot LS.

Backup Using Custom Parameters:

The text editor function is used to automatically select a parameter file to be used to back up a disk. To enter this function, press 'N' for NEW (clears the buffer) followed by 'B' for Backup.

If the parm disk is not in the drive, you will be prompted to insert it. A list of directory entries will be displayed. Move the "light bar" using the arrow keys to the proper selection (or CTRL-K, CTRL-J). CTRL-N and CTRL-P will move by pages. If you know the name, just type the first letter to find the proper selection quickly. Pressing RETURN will enter your selection.

Loading A Parameter File:

Pressing 'L' will prompt you to load a parm file from the parm disk. Follow the directions under Backup Using Custom Parms.

Saving A Parameter File:

'S' will save a parameter file to the parm disk. You may create your own, or transfer one from one disk to another.

New - Create Edit Work Area:

'N' will clear the text editor and start a new parm file entry.

Text Editor:

To enter the text editor, press 'E'. ESC will exit the text editor and return to the edit menu. 'N' clears the text editor for a NEW file.

The text editor is a line numbered editor. All lines entered are given sequential line numbers, which are displayed in inverse on the left of the screen. Line numbers are displayed in hex, and only those referring to a portion of a file with the ".I" directive refer to LPL (Locksmith Programming Language).

Lines are displayed one line at a line with 2 positions for the line number and 38 positions for the entry (40 characters). If it is necessary to continue an LPL statement on another line, the minus (-) sign as the last character of the first line is needed.

There are 2 cursors used in the editor. If the line number is flashing, the cursor is on the line. If a single character is flashing, the cursor is within the line at the cursor position. This is important for insert and delete operations. Characters can be inserted at the current cursor position with CTRL-I, CTRL-D will delete characters.

Use 'X' for Syntax Checking after you have entered your text.

RAM Card Utilities:

RAM card utilities are selected with 'R'. They are self-explanatory and include a helpful RAM card test feature as well as being able to dump the contents of the ram card to and from main memory 16K at a time to locations 2000-5FFF as follows:

```
2000-2FFF RAM card pages D0-DF alternate
3000-3FFF " " DO-DF
4000-4FFF " " EO-EF
5000-5FFF " " FO-FF
```

Scan Disk:

'Q' will help you to determine what tracks are in use on a disk you are trying to copy. This utility will scan a disk for valid data. The display is hi-res and

runs from bottom to top of the screen. The first time you run this utility, you should use a normal DOS 3.3 disk for comparison purposes. First try tracks 0-22 in whole increments. This will show what a normal good disk looks like. The series of dots above each track number are the gaps of self sync bytes between each sector. Normally, on a 16 sector disk there will be 16-17 of these dots. A 13 sector disk will have 13-14 dots. On a 16 sector disk, one of the dots will be a little longer than the others, relating to self sync bytes before track 0. You will notice that the dots will either move up or down as you move from track to track. This is due to the time it takes to move the disk drive head from track to track.

Now try scanning from .5 to 22.5 in increments of 1. You will see very long white lines with no particular pattern. This means there is no valid data on that track. Some evidence of valid data such as short bursts of dots is cross-talk between adjacent half tracks.

Spiral tracking or 1/4 tracking will show as a long band of white with a pattern of black between the white.

Automatic Boot Tracer:

The Automatic Boot Tracer (ABT) is intended for the more experienced Apple programmer, but may be the greatest utility on the LS disk. It essentially simulates the 6502 processor in your Apple in a very slow speed so you can boot trace disks, copy protected or not.

Pressing 'A' invokes the ABT function and requires a RAM card of at least 16K to work. The upper 16K in a //e or //c works fine. LS will prompt you for the slot of your RAM card, normally you select 0. ABT will be installed and then entered. (ABT will sometimes be called the simulator or debugger in this discussion.)

The screen will clear and an inverse line of text will appear on the top of the screen indicating ABT is now operating. Pressing <reset> now will enter the ABT and you can boot a disk with 6CTRL-P. Unfortunately, a disk that boots into the RAM card area will destroy the simulator function.

Information Line:

The top line in inverse normally starts out as:

```
FA62 CLD      A=00 X=00 Y=00 P=34 S=FD
```

The first 4 characters are the program counter address followed by the opcode to be executed. Next are the A, X, and Y registers, the processor status register contents and the value of the stack pointer.

At this time press 'R' followed by any key from A to X. This moves the inverse status line to another location on the screen. Y or Z will move the line off the screen.

Idle Mode:

The simulator is in idle mode at this time. The program is running but all activity has ceased at the address shown.

Press CTRL-C at this time to enable the 65C02 instructions, especially if you have the enhanced //e or //c.

The 'S' key will start execution under control of the simulator. The ABT is now running. The display will rapidly change as the boot is started. The "beep" you hear from the speaker will be slightly different than the normal Apple beep.

To stop the simulator, press CTRL-Z putting you into the idle mode. This is the normal stop key but can be changed if you need CTRL-Z in your program. To change it, stop the program with CTRL-Z, press CTRL-X followed by whatever key you want to assign to the stop function.

Enter the idle mode and press SPACE to single step the program. A "+" or "-" will appear after each conditional branch depending on whether or not the branch will be taken (+) or not (-).

While in idle mode, CTRL-Y will place you in the monitor where you can use 'L' to disassemble the code. To reenter the simulator, press CTRL-Y <RETURN>. Before placing you in the monitor, the simulator saved low memory pages 00 to 07 in the RAM card. After reentering the simulator, this memory was refreshed, insuring that no memory was changed.

Other idle mode commands are:

T - Trace subroutine until a JSR or RTS is fetched.

CTRL-R - Cause a simulated reset to occur. The program counter is fetched from \$FFFC.

CTRL-I - Causes a simulated IRQ interrupt.

CTRL-F - Turns off IRQ pending flag.

CTRL-N - Causes simulated NMI interrupt.

CTRL-Q - Quit simulator and go to monitor.

1 - Set single-cycle mode, using SPACE to cycle one 6502 processor cycle at a time, instead of an entire instruction.

0 - Set instruction mode, valid only when on an instruction boundary (not in the middle of an instruction).

B - Toggle beep flag on/off.

C - Toggle click flag on/off.

CTRL-C - Toggle 65C02 flag on/off.

K - Take next keypress and place it in the keyboard register. When instruction stepping through code that reads the keyboard, this key allows a way to enter a keyboard command without entering run mode.

ESC - Enter simulator menu.

Simulator Control Window:

Press ESC while in the idle mode. The simulator control window is displayed, and the cursor appears in the upper left of the window.

Use the RETURN key, and the left and right arrows to move the cursor around the window. To change data anywhere, position the cursor over the value to change, enter the change. To exit and return to idle mode, press ESC again. CTRL-C will cancel any changes you made.

The top line of the simulator control window appears very much like the idle mode window, except the program counter is more to the right and no instruction is disassembled. The number on the left is used for single byte reading, writing, and memory editing. Enter a number followed by 'R' to read, 'W' to write, and 'E' to edit.

To change display modes for the simulated program (text, graphics, hi-res, lo-res, pagel, page2, fullscreen, mixed) key in the address to toggle (\$C050-\$C057) and enter 'R'. When tracing a program in graphics mode, place the information line on rows U, V, W, or X and toggle mixed text-graphics mode.

To edit, enter 'E' and the memory is displayed in both hex and ASCII text. Move the cursor with the arrows and RETURN.

The second line of the window contains:

```
RU=65 0=I 1=I 2=I 3=S 4=I 5=I 6=D 7=I
```

"RU=65" (decimal 101) is the register update value, representing the number of instructions that are simulated before the registers and program counter are updated on the screen, when in "running" mode. If the number is set too small, the registers will be updated after every instruction. This causes the simulator to run less efficiently, because of overhead involved in updating the information line.

Slot Specifications:

The rest of the second line displays the slot numbers and how they are to be used. Because the simulator resides on a RAM board (indicated by 'S' in the slot display for "SYSTEM"), it must know about all other RAM boards and firmware boards if it is to correctly simulate their operation. Initially, these locations are set to 'I' (INVALID). Any reference to these invalid slots will cause the simulated program to stop and control is passed to idle mode. Valid slot specification values are:

S - system (simulator) slot
I - invalid
D - floppy disk drive
A - RAM card of 16K or 32K
B - RAM card of 64K or more
F - Firmware card or ROM card
T - transparent

If the specification for a slot is "transparent", any commands for the device in that slot will be given without checking or conversion by the simulator. Transparent mode should be used for:

Any devices such as RAM or ROM cards that bank select memory into addresses \$D000-\$FFFF, which is used by the simulator.

Any devices such as disk drives which are timing dependent.

Any devices which use direct memory access to modify memory from addresses \$0000-\$07FF, as this memory is used by the simulator.

Address Compare Stop:

The third line of the simulator window starting with "PC" is the "PC compare stop" line. Up to 4 program counter values for "compare stop" can be specified. If the simulated program's PC equals one of these values, the simulator immediately enters idle mode. In addition, one compare stop range can be specified. To enter program counter stop values or a range, change the number (initially 0) to the number of stop addresses to be entered and then enter the address. To cancel, reenter 0.

The "MR" line is the "memory read address compare stop" line. Again, up to 4 stops and 1 memory range can be set. Whenever the simulated program attempts to read one of these addresses, either by direct addressing, indirect addressing, or stack fetch, the simulator will enter idle.

The "MW" line is the "memory write address compare stop" line. It follows the same conventions as the MR line.

END OF LOCKSMITH 6.0 DOCS - PART 1 of 2 PARTS

Locksmith 6.0 Docs - Part 2
by
Mr. Wiz

Program Counter Swap:

The "PCSW" area of the window is the "program counter swap" control area. 4 address pairs can be specified here. If the PC equals the first value of the pair, the PC is immediately set to the second value, and execution continues. This is useful in eliminating slow timing loops, which are unnecessary in the simulator.

Initially 3 pairs of PCSW values are given:

FCA8 FCB3 - nullifies monitor wait routine
BA00 BA10 - nullifies DOS 3.3 seek delay routine
BD9E BDAB - nullifies DOS 3.3 motor-on wait routine

Program Counter Trace Table:

The bottom 8 lines of the window contain the PC trace table. The last 64 values of the program counter are kept here, so that when the simulator is halted, a history of the last 64 instructions can be examined.

Program Halts:

A program running under control of the simulator halts and the simulator enters idle mode whenever one of the following conditions are met:

The stop key is pressed.

An invalid 6502 or 65C02 opcode is encountered. ??? will be displayed where the opcode should be.

A JSR or RTS instruction is fetched while running in "T" (trace) mode.

A read or write to the device select addresses of a slot marked as "I" (invalid) in the slot table.

A compare stop occurs for PC, MR, or MW while running.

An attempt is made to write to the floppy disk.

An attempt is made to reference certain I/O addresses. Among these are \$C060 and \$C068 for either read or write.

Internal Operational Notes:

A few notes about the internal operation of the boot tracer/simulator/debugger: Floppy disk reading is simulated by reading an entire track of nibbles and passing them one at a time to the simulated program requesting them. Each time the simulated program requests a nibble, the next nibble in the buffer is returned. The simulated program never has to wait for a nibble by polling the high-order bit of the disk register. Because of this, framing bit timing is not preserved. In addition, the track is not synchronized to any other track upon reading. Floppy disk writing is not supported.

When reading a floppy disk, the simulator maintains the nibbles of the most current track on the simulator's system RAM card. This track image is valid until either the slot or drive number is changed or reselected, or the read/write head is

stepped to a different track. Only if the current track image is invalid will the real floppy disk be read again. Therefore, if the user performs a CATALOG operation while under control of the simulator and then changes the disk and performs another CATALOG operation, the catalog information from the first disk will still be displayed because the catalog did not cause the head to change tracks and invalidate the track buffer. To manually invalidate the buffer, change the slot specification to 'I' and back to 'D' while the simulator is running.

The simulator has code for "sector-assist" built in. This means that when the simulated program requests a nibble followed immediately by testing for disk register ready and compare for \$D5, the simulator immediately finds the next \$D5 in the track buffer and returns it to the simulated program, instead of requiring the program to ignore each nibble until the value \$D5 is found.

The paddle I/O addresses (\$C064-\$C067 and \$C06C-\$C06F) are correctly simulated if the code that accesses the I/O addresses is similar to the monitor routine at \$FB1E (\$SPREAD). If the reference is not similar, idle mode will be entered.

One final note about ABT. It is not fast! A typical disk trace took over 40 minutes just to simulate a typical 30 second game boot. However, the results and information gained were outstanding. Be patient!

LOCKSMITH PROGRAMMING LANGUAGE:

Locksmith Programming Language (LPL) is a user tool to specify how LS is to perform certain functions. With it, you can set up certain procedures to backup difficult to copy disks, search for information, repair damaged disks, etc. LPL commands, or statements, are collected into a file that can be entered from the keyboard and saved to a parm disk.

The .I (Include) Command:

Files are saved under their own names. For example, if a file called "BRODBUND" exists on a parm disk and it contains LPL statements you wish to use in the current file, use the following statement in your LPL file:

```
.I BRODBUND
```

The .I must appear as the first characters on the line, followed by a space and the name of the file. To include part of a file, specify the starting and ending line numbers:

```
.I TESTFILE,4-1F
```

would include only lines 4 through 1F of the TESTFILE. There is no limit to the number of .I statements you can use, except that the total number of lines cannot exceed \$FF.

Each line in an LPL file is given a line number (in hex and inverse). Line numbers are really unimportant except for reference purposes. Lines cannot exceed 38 characters in length. The following is an example of an LPL line:

```
FIND D5 AA 96
```

This is an example of a single LPL statement. Multiple statements are allowed separated by a colon (:). Example:

```
SLOT 6 : IN.DRIVE 1 : OUT.DRIVE 2
```

Spaces before and after colons are not necessary. If a line will exceed 38 characters it can be continued on the next line by coding a "-" as the last character on the line:

```
DEPOSIT (DF) (F4) (DF) (D4) (FF) -
```

```
D5 AA 96 AA AA
```

You may insert remarks or comments if proceeded by an asterisk (*). Examples:

```
* SET SLOT NUMBER : SLOT 6
```

```
SLOT 6 : * SET SLOT NUMBER
```

Both lines are equal, valid statements after a colon will be acted upon.

LPL Statements:

LPL statements consist of "tokens" which can be thought of as words in a sentence. Tokens are separated by blanks. The first token used in a statement determines the type of the statement. A token can represent variable names or parameter names, a constant, or a processing routine name. Statements can be grouped into the following categories:

Comment or blank line

Statement label

Assignment statement

Processing

Any statement may have a statement label preceding it. Statement labels are optional and are used for branching within the LPL file with the GOTO statement. A statement label begins with the keyword "LABEL", and is followed by a name. Label names can be of any length, and are any sequence of alphanumeric characters or any period, with the first character alphabetic. Examples:

```
LABEL READ.TRACK.AGAIN :
GOTO READ.TRACK.AGAIN

LABEL A2:ERROR:PRT "LENGTH ERROR"
GOTO A2.ERROR
```

Types of Constants:

Several types of constants are used in LPL. They are described herewith.

Single byte constant (hex):

```
D5
6
00
(FF) single bytes in parentheses indicate self-sync
```

Multiple byte constant (hex):

```
(FF) D5 AA 96
00 10 20 30 40 50 60 70 80
```

Double byte constant (hex):

1A70 Double byte constants usually represent addresses or lengths.

Track value constant (hex):

```
12.5
1A.75
11.0
0.
Track value constants contain a decimal point.
```

Single byte character constant:

```
"X"
'X' Note that either single or double quotes are used.
```

Multiple byte character constants:

```
"DON'T FORGET TO COVER NOTCH."
If a quote is to appear in the constant, use the other
quote to delimit the string.
```

Multiple byte constants can consist of a mix of hex and ASCII:

```
89 'GRD' 8D
```

Special constants:

? - represents a "don't care" value when used in a search pattern.

Flag constants:

```
YES
NO
ON
OFF
These are equivalent to 0-FF, but are preferred because of their
readability.
```

Types of Variables:

Variable names within LPL usually have a specified use for each name, although some general purpose names have been provided for the user. Several types of variable names are provided within LPL:

Single byte variable:

```
SLOT
IN.DRIVE
OUT.DRIVE
```

Multiple byte pattern/string variables:

```
GR.CHARS
PAT1
```

SYNC.PAT

Pattern/string variables are variable length, and have a one byte length as the first byte of a variable. Although pattern/string variables have a variable length, each is allowed a maximum length of 15 (decimal).

Multiple byte variable:

```
RD.NIB.TRANS
SEC.TRANS
SELECT.TAB
These variables refer to multiple-byte areas of memory of fixed
length, such as lookup tables.
```

If you have a need to refer to a byte within a multiple byte variable, you can code a plus sign followed by the displacement into the table:

```
NIB.TRANS +2F
```

Double byte pointer variable:

```
START
END
LEN
CURSOR
PTR.W
PTR.X
Double byte pointer variables can also represent length.
```

Track variable:

```
BEGIN.TRK
END.TRK
INCR.TRK
SYNC.TRK
Track variables can represent integral track values or 1/4,
1/2, or 3/4 tracks.
```

Flag variable:

```
SYNC
COUNT
SHOW.ADDR
```

Flag variables are single byte variables that contain a flag of YES/NO, ON/OFF, or FF/0 and act as switches which can be set and tested. Values other than these may have unpredictable results.

The Assignment Statement:

Used to assign a value to a variable. The variable can be assigned the value of a constant or another variable. The variable and the constant to which it is assigned must be of the same type. For example, a pointer variable can only be assigned to another pointer variable. Examples:

START CURSOR - Set the variable START (start of track data) to CURSOR (current cursor location).

CURSOR 2040 - Set variable of CURSOR to point to 2040.

SLOT 6 - Set one-byte var SLOT to value of 6.

BEGIN.TRK 12.5 - Set track var BEGIN.TRK to value of 12.5

COUNT YES - Set flag var to flag value of yes.

```
PAT4 D5 AA 96
```

PAT4 PAT7 - Both examples are valid.

GR.CHARS 89 'GRD' - Set string var GR.CHARS to 4 byte string consisting of hex 89 (CTRL-I) followed by ASCII 'GRD'.

DF.HDR3 B4 : AF.HDR3 DD - Set the third data field header byte to B4 (normally AD) and third address header byte to DD.

AF.TRL1.TEST IGNORE.TRL
 AF.TRL2.TEST IGNORE.TRL
 DF.TRL1.TEST IGNORE.TRL
 DF.TRL2.TEST IGNORE.TRL - Assignment statements patch RWTS to ignore the trailer nibbles of the address and data fields.

AF.TRL1.TEST NORM.TRL1
 DF.TRL1.TEST NORM.TRL1 - Patch RWTS back to normal trailer nibble checking.

AF.CSUM.TEST IGNORE.CSUM
 DF.CSUM.TEST IGNORE.CSUM
 AF.CSUM.TEST NORM.AF.CSUM
 DF.CSUM.TEST NORM.DF.CSUM - Used to patch RWTS to ignore or to use address field and data field checksum.

AF.HDR1 D5
 AF.HDR2 AA
 AF.HDR3 96
 AF.TRL1 DE
 AF.TRL1 AA
 DF.HDR1 D5
 DF.HDR2 AA
 DF.HDR3 AD
 DF.TRL1 DE
 DF.TRL1 AA - Set default header and trailer values for address fields and data fields used for reading.

DF.HDR1.WRT D5
 DF.HDR2.WRT AA
 DF.HDR3.WRT DD
 DF.TRL1.WRT DE
 DF.TRL2.WRT AA
 DF.CSUM.SEED.WRT 00 - Set header and trailer nibbles to be used when writing a data field. The last statement sets the seed to be used for the calculation of the checksum for writing the data field.

Processing Routines:

LPL processing routines (algorithms in earlier versions of LS) are routines that the user can invoke on demand using LPL. Some of the routines are complex and are driven by many variables, while others are simple and operate using only one or two variables. Some routines use parameters consisting of constants or pointers passed to them and some accept no parameters at all. The valid syntax of each processing routine is described in an addendum, but we will describe some of the routines here and give some examples of their use. The Parm disk has excellent examples of routines.

ABORT "DATA NOT FOUND" - Abort current operation and return to LS main menu.

PAUSE "ENTER 1,2 OR 3:" - After a keypress, the value of the key is placed in the single-byte variable KEY.IN

PRT "DISK MUST BE WRITE/ENABLED" - Prints message on screen. If last character is blank, cursor remains on same line.

SHOW SLOT - Print value of variable named slot. If flag variable SHOW.ADDR is YES or NO, the address of the variable SLOT is also printed.

GOTO READ.AGAIN - Branches to lable READ.AGAIN elsewhere in LPL.

FIND D5 AA 96 - Search from current cursor position until END pointer, searching for D5 AA 96.

FIND PAT4 - Same as previous example, except search for the contents

of string var PAT4.

ERROR '5' - Causes the character '5' to be placed in the current track of the status display area.

PAT4 D4 DD FF
 PAT5 D5 AA 96
 CHANGE PAT4 PAT5 - Changes all occurrences of first string to second string for entire range of START to END.

ERASE - Causes track to be erased on the output drive.

FORWARD TRK.LEN
 BACK TRK.LEN - Cause CURSOR to be moved forward or back by the length determined by variable TRK.LEN. These routines can also be coded with a 2-byte constant: FORWARD 024E or BACK 0042

CODE AD CUR.TRK 0A 0A 0A 0A 60 - CODE processing routine is provided for 6502 M/L programmer. Parns supplied are decoded, placed in a contiguous area of memory, and given control with a JSR instruction.

PRT "ASCII TEXT TO PRINT" - The PRT routine prints data on screen. If last byte is blank, no new line is started. Example:
 PRT "TRACK INCREMENT IS " : SHOW INCR.TRK

Some processing routines function slightly differently depending on whether in "nibble-mode" or "byte-mode". If the last read or write command was NREAD or NWRITE, the nibble-mode is used. If last read or write is SREAD, SWRITE, TREAD or TWRITE then byte-mode is used.

The routines which function differently depending on whether in nibble or byte mode are FIND, VER, and CHANGE.

In nibble mode, a zero value in the pattern specified acts as a "don't care" value. It can be either coded as "?" or "0".

In byte mode (used when reading or writing sectors), the zero value in a pattern is significant. Example:

NREAD : FIND D5 00 96

Performs a nibble-read of the current track, and places the CURSOR on the first occurrence of a D5 value, followed by any value, followed by a 96 value.

The following processing routines accept either string vars or multiple byte constants:

FIND
 VER
 REP
 DEPOSIT

The nibble or byte mode can be changed manually by setting the flag variable BYTE.MODE to YES if byte mode is desired, or NO if nibble mode is desired.

Track Procedures:

A track procedure is a sequence of LPL statements that are to be executed for each track that is being copied. The track procedure is defined with the BEGIN.PROC and END.PROC statements. The procedure is then later invoked for each track to be processed, by the processing routine which will invoke the track procedure. There is currently only one procedure to invoke this processing, the COPY procedure. The "current" procedure is the last one to be defined. If no procedure is defined, then the default LPL procedure will be used. For example:

BEGIN.PROC
 ...
 ... track procedure A
 ...

```

END.PROC

COPY 12 18 2

BEGIN.PROC
...
... track procedure B
...
END.PROC

COPY 1 9 2
COPY 13 19 2
    
```

-END- PART 2 OF 2 PARTS

In this example, the first 2 copy procedures will use track procedure A, the second two will use procedure B.

The LPL statements within the track procedure can be used to process a track in one of two modes. Either in nibble-mode or sector-mode. Nibble processing routines are NREAD, NWRITE, NVERIFY, which process a track in the form of nibbles. Sector-mode processing routines are TREAD, TWRITE, TVERIFY which process a track in the form of 16 separate sectors.

The format of a COPY command is: COPY <begin track> <end track> <track increment>. The values are stored in the variables BEGIN.TRK, END.TRK, and INCR.TRK.

If tracks are to be synchronized or nibble counting is to be used, set track variables SYNC or COUNT to YES. The SYNC and COUNT keywords are not set to YES as in LS version 5.0.

LPL Error Codes:

During execution of the LPL program, some errors may be encountered which cannot be checked for during syntax checking. If an error is found, processing stops and the following message is displayed on the screen:

LPL CODE ABORTED

ERROR CODE xx

where xx is one of the following:

- 01 GOTO statement encountered without finding the matching LABEL statement.
- 02 BEGIN.PROC statement encountered while already within a track procedure.
- 03 END.PROC statement encountered while already outside a track procedure.
- 04 COPY statement encountered within a track procedure. The COPY statement invokes a track procedure and cannot occur within one.
- 05 USE.DEFAULT.PROC encountered while within a track procedure.

Data Field Nibble Encoding Table:

The following translate table is used for calculating data field checksums. It is described in the chapter on the disk editor describing the 'D' command.

| | | | |
|-------|-------|-------|-------|
| 00:96 | 01:97 | 02:9A | 03:9B |
| 04:9D | 05:9E | 06:9F | 07:A6 |
| 08:A7 | 09:AB | 0A:AC | 0B:AD |
| 0C:AE | 0D:AF | 0E:B2 | 0F:B3 |
| 10:B4 | 11:B5 | 12:B6 | 13:B7 |
| 14:B9 | 15:BA | 16:BB | 17:BC |
| 18:BD | 19:BE | 1A:BF | 1B:CB |
| 1C:CD | 1D:CE | 1E:CF | 1F:D3 |
| 20:D6 | 21:D7 | 22:D9 | 23:DA |
| 24:DB | 25:DC | 26:DD | 27:DE |
| 28:DF | 29:E5 | 2A:E6 | 2B:E7 |
| 2C:E9 | 2D:EA | 2E:EB | 2F:EC |
| 30:ED | 31:EE | 32:EF | 33:F2 |
| 34:F3 | 35:F4 | 36:F5 | 37:F6 |
| 38:F7 | 39:F9 | 3A:FA | 3B:FB |
| 3C:FC | 3D:FD | 3E:FE | 3F:FF |

=====

DOCUMENT lucifers.realm

=====

```

  //          //
  //          //
  // UCIFER'S \ EALM
  //          //
  //          //
    
```

By:The Incognito

<:-> The 202 Alliance <:->

Prologue:

Imagine you helping Lucifer. But it's for a good cause.

It's a saga of the good guys vs. the bad gays... and the bad guys dont come any worse or badder. Hitler, Mussolini, Reverend Jim and Satan himself. You must foil Hitler's sinister plot to overthrow Lucifer. You aren't doing Lucifer any favors. It's the only way to get the heck out of HELL. You have to go against some of the biggest bullies in history. This is your chance to make 'em pay.

Introduction to Lucifer's Realm

=====

Your hear the doctor telling the nurse "he will die very soon". You go to the wrong place, but amazingly enough, Satan, for the first time since humanity gives you an option to go to Heaven.

If it was easy, Satan would have done it himself, and since eternity is a pretty long time, he knows it will take a long time to complete the adventure.

You should be warned: If it was easy, it wouldn't be any fun. In "Lucifer's Realm", commands don't always work as on earth, also, you must be forwarned that even if Satan allows you to go to Heaven, you must get permission to go.

Moving Around Lucifer's Realm

=====

Remember, you are in hell. "Lucifer's Realm" recognizes two word cammands to be input as verb followed by a noun. You must type in the full words, no abbreviations. In Hell, Directions can be different, try many combinations.

You will find that in "Lucifer's Realm" you have to do a loft of back-tracking (going back from room to room) in order to achieve the desired result.

// End of Line \\

=====

DOCUMENT macdown

=====

--[MacDown 1.0 Copyright 1988 Jason Harper]--

MacDown is a utility for converting some downloaded Macintosh files into formats usable on Apple II-series computers. It will run on any Apple II that supports ProDOS (in other words, at least 64K memory), but the screen displays will probably not be readable on an Apple][or][+, even with a lower-case adapter. The program is freeware, meaning that it is a copyrighted work but I give users the right to freely distribute it and upload it to computer services.

=> Why Mac files are a bit difficult to work with. The Macintosh has a very unusual file system: its files, instead of being a single sequence of bytes as most computer's files are, consist of two completely separate sequences of bytes plus a substantial amount of information about the file, such as the format of data it contains and the program that created it. The two components of a Mac file are referred to as the 'data fork' and the 'resource fork': the data fork contains arbitrary data much as other computer's files do, and the resource fork contains a series of discrete data items ("resources") such as icons. A Mac file may be missing one or both forks: document files tend to be mainly data, while program files tend to be mainly resources. This file arrangement makes it impossible to simply send a Mac file via modem: there must be some way to recreate the two forks and the file's directory information. Early Mac communication programs actually transmitted files in three pieces which were glued back together at the receiving end: this works when connected directly to another Mac, but non-Mac host computer systems generally are not prepared to handle such files. So, a standard was developed to allow all the parts of a Mac file to be appended into a single data stream, with imbedded information to allow the original file to be recovered unchanged...

=> The MacBinary standard. All current Mac communication programs now automatically convert transmitted files into MacBinary format, and rebuild received MacBinary files into an exact copy of the original file. The format is quite similar to the Binary II format used for transfer of files between Apple II computers (which was based on MacBinary): the transmitted data starts with a 128-byte header containing the file's directory information and the length of the two forks, followed by the data fork (if any) rounded up to a multiple of 128 bytes, followed by the resource fork (if any) also rounded up. There are provisions for tacking on additional information at the end, but this is seldom (if ever) implemented. Using MacBinary files downloaded on an Apple II isn't very difficult: since most Mac files that are meaningful on other computers contain only data and no resources, just stripping off the first 128 bytes of the file is sufficient. This can be done (on files at most 32K long) from ProDOS Basic with the commands:
 BLOAD mac.file,Ttxt,A\$1000
 BSAVE mac.file,Ttxt,A\$1080
 replacing 'mac.file' and 'txt' with the downloaded file's actual name and filetype. The process gets much more complicated with longer files, and there are other problems to worry about...

=> Compressed files.
 Mac files tend to be pretty large, so it is a common practice

to apply some sort of compression to them. There are two compression methods in current use: PackIt and StuffIt. Such files can be easily identified because their names will end with .PIT or .SIT, respectively. Another advantage of using these schemes is that related files (a program and its documentation, for example) can be packed into one file for transmission: unlike Binary II, the current implementation of MacBinary does not allow for multiple files. StuffIt is the more recent and more efficient of the two formats: unfortunately, its author has not seen fit to release enough information on the format to allow decoders to be developed for other computers. PackIt is, however, publicly defined and MacDown will allow you to decompress such files for use on an Apple II.

=> Mac file formats.

Mac files are identified by a 4-character filetype code and a 4-character creator code: for example, a MacPaint picture has filetype=PNTG and creator=MPNT. A MacPaint-format picture generated by some other program will still have a filetype of PNTG but will have a different creator. Some common types:

- * PNTG: MacPaint picture. MacDown will allow you to view these in HiRes graphics. If you have an Apple IIgs, see my SHRConvert utility which will convert these files directly into several IIgs SuperHiRes formats.
- * TEXT: plain text. Usable with any Apple II program that deals with text, although some Mac characters (accented vowels, for example) will not translate properly.
- * APPL: application program. Totally useless on a II.
- * PIT : PackIt-format compressed file.
- * SIT!: StuffIt-format compressed file: currently unusable.

There are numerous other Mac file formats, such as word processor documents, that could be used on an Apple II if someone would write a converter for them (hint hint).

=> Using MacDown.

MacDown is a ProDOS SYStem program, so you can run it from Basic by typing "-MACDOWN" (without the quotes, of course). The program should be fairly easy to use: it is controlled entirely with the arrow keys (to move the highlighted selection up or down), Return (to accept the current selection), and Escape (to go back to the previous menu). The trickiest part is the file selector routine used in various parts of the program: I'd suggest that you put an unimportant disk in a drive, select 'ProDOS commands' from MacDown's main menu, and play with it for a while. Pay close attention to the [set prefix here] option at the top of each directory listing: you must use that command at some point to select where you want converted Mac files to go. If you're trying to put converted files on a different disk, both disks must be online at the same time: disk swapping is not allowed. All downloaded Mac files should first be processed with the 'Extract MacBinary' command. If the file is PackIt-compressed, you should then use 'De-compress PackIt' on the extracted file. You can then use 'MacPaint => hires' to display any picture files. For each file produced by the conversion process, you will be presented with some info about the file, and given options to save or not save each fork. You generally won't want to save the resource fork of any file, since it is not meaningful on an Apple II. Data forks will be saved with the closest ProDOS equivalent to the original Mac filename: resource forks will be saved with the same name with '.R' appended. If a name conflict arises, you will be given options to cancel, save with a different name ('.N' will be added to the name), rename the existing file ('.O' will be added), or delete the existing file. Note that PackIt files will take a long time to process, even if you aren't saving either fork.

=> The end.

Thanks to George Photakis for beta-testing this program. Please send any questions, comments, bug reports, gripes, or suggestions (or large sums of money, for that matter) to:

Jason Harper
CompuServe: 76703,4222 (preferred)
GEnie: JR.HARPER
1480 Michelle Ct. #A
Colorado Springs, CO 80916


```
=====
DOCUMENT magic.window.ii
=====
```

```
+=====+
-- MAGIC WINDOW II CONTROL CODES --
-- ENTERED BY THE KNIGHTS --
+=====+
```

KEY FUNCTIONS:

```
A TABULATE KEY
B TO ENTER CTRL KEY ON SCREEN
C TO END OF TEXT
D DELETE CHARACTER
E TO BEGINNING OF TEXT
F INSERT CHARACTER
G GLUE BELOW TEXT AT CURSOR
H LEFT <-
I INSERT LINE ABOVE CURSOR
J JUSTIFY LINE AT CURSOR
LEFT-MOVES TEXT AT CURSOR TO LEFT
RIGHT-MOVES TEXT AT CURSOR TO RIGHT
CENTER-MOVES TEXT AT CURSOR TO CENTER
EXPAND-EVENLY SPACE TEXT AT CURSOR
PACK-REMOVE EXCESS SPACES IN TEXT AT
```

CURSOR

```
SKIP-MOVE TO NEXT LINE FOR JUSTIFICATION

K KILL LINE
L LEFT OF CURSOR DELETE
M RETURN TO NEXT LINE
N NEXT TEXT, DOWN AND RIGHT
O DELETE LINE
P PAGE
Q UP
R RECALL DELETED TEXT
S TABULATE RIGHT
T TEXT INSERT LEFT OF CURSOR
U RIGHT ->
V RIGHT AND COPY ABOVE TEXT
W UP BY 12 LINES
X DOWN BY 12 LINES
Y AUXILARY FUNCTIONS
EXIT TO EDITOR - RETURNS TO EDITOR
ASSIGN SEARCH STRING SEARCHES FOR - SPECIFIED CHARACTER
ASSIGN TITLE LINE - TITLES PAGE
CLEAR ALL TAB STOPS - CLEAR TAB STOPS
KEY SET ONE ^]/
KEY SET TWO ^]/

Z DOWN
@ SUBSYSTEM MENU
EDITOR SUBSYSTEM - TO EDITOR
FORMAT SUBSYSTEM - TO CHANGE FORMAT
FILER SUBSYSTEM - TO DISK DRIVES
PRINTER SUBSYSTEM - TO PRINTER
CONFIGURATION SUBSYSTEM - TO CHANGE CONFIGURATION
RETURN TO BASIC - END SESSION

^ SET TAB AT CURSOR
] CLEAR TAB AT CURSOR
```

=====

DOCUMENT mario.brothers

=====

MARIO BROTHERS SOFTDOCS

=====

BY: THE DRAGON LORD

=====

AS YOU ALL KNOW THIS IS THE NEW, AMAZING GAME BY ATARISOFT.

WHEN THE FIRST TITLE PAGE APPEARS USE THESE KEYS:

CONFIGURATION

=====

- [S] - TOGGLES SOUND
- [K OR J] - FOR KEYBOARD OR JOYSTICK
- [1 OR 2] - FOR 1 OR 2 PLAYERS, IF PLAYING 2 PLAYER ONE IS CONTROLLED BY JOYSTICK AND PLAYER 2 IS CONTROLLED BY THE KEY BOARD.
- [C] - THE WILL ALLOW YOU TO CHANGE THE CURRENT CONFIGURATION OF THE KEYBOARD.
- [<- ->] - THE ARROWS WILL CHANGE THE STARTING LEVEL, UP TO 25
- [SPACE BAR] - PRESS SPACE WHEN ALL DONE

STARTING OUT

=====

THE OBJECT OF THE GAME IS TO KILL ALL THE MONSTERS BEFORE THEY KILL YOU, SIMPLE ENOUGH. TO KILL A MONSTER HIT THE MONSTER FROM THE BOTTOM, AFTER THEY ARE ON THEIR BACKS RUN OVER THEM. ANOTHER WAY OF KILLING THEM IS TO HIT THE POW IN THE MIDDLE OF THE SCREEN. SOME MONSTERS [THE CRABS] HAVE TO BE HIT TWO TIMES, WHILE OTHERS JUST ONCE.

ENEMIES

=====

THERE ARE MANY ENEMIES IN THIS GAME, ALL OUT TO KILL YOU:

TURTLES:

=====

MOVEMENT: SLOW UNTIL ONE LEFT

TYPE OF MOVEMENT: WALKING

OF HITS TO DIE: ONE

CRABS:

=====

MOVEMENT: MEDIUM UNTIL ONE LEFT

TYPE OF MOVEMENT: WALKING

OF HITS TO DIE: TWO

FIREFLIES:

=====

MOVEMENT: MEDIUM UNTIL ONE LEFT

TYPE OF MOVEMENT: BOUNCING

OF HITS TO DIE: ONE

FIREBALL [2 TYPES, BOTH THE SAME]:

=====

MOVEMENT: MEDIUM, UNLESS KILLED ONCE ALREADY.

TYPE OF MOVEMENT: FLOATING IN MID-AIR

OF HITS TO DIE: ONE

GLACIER:

=====

MOVEMENT: NONE, FORMS ON THE CEILING, THEN DROPS.

TYPE OF MOVEMENT: DROPS PRETTY FAST

OF HITS TO DIE: CAN KILL WHEN IT IS JUST FORMING BY HITTING IT.

ICEBALL THINGYS:

=====

MOVEMENT: MEDIUM

TYPE OF MOVEMENT: SLIDES ALONG GROUND WHEN IT STOPS IT FREEZES TO THE FLOOR.

OF HITS TO DIE: ONE

POINT SYSTEM:

=====

KNOCKING MONSTER OVER.....10
 RUNNING OVER THE FIRST MONSTER...800
 RUNNING OVER THE SECOND MONSTER...1600
 RUNNING OVER THE THIRD MONSTER...2400
 RUNNING OVER THE FOURTH MONSTER...3200
 RUNNING OVER THE SPINNING DISKS..800
 KILLING THE ICE BALL THINGY.....500
 KILLING THE GLACIER.....0
 KILLING FIREBALL [THE ORANGE]...1000
 [THE BLUE].....200

CONTROLS:

=====

JOYSTICK CONTROL MOVEMENT [OBVIOUSLY] AND THE KEYBOARD CONTROLS ARE:

RIGHT: ==>

LEFT: <==

JUMP: SPACE BAR

BONUS ROUND:

=====

THE OBJECT IS TO GET ALL THE SPINNING DISKS BEFORE THE TIMER RUNS OUT, EACH IS WORTH 800 POINTS. IF YOU GET THEM ALL YOU GET AN ADDED 8 THOUSAND BONUS.

WHEN PLAYING

=====

CTRL Q - [START OVER]

CTRL O - [GOTO THE OPTION SCREEN]

CTRL S - [TOGGLE SOUND]

ESC [PAUSE ON/OFF]

EXTRA MEN:

=====

YOU START OUT 5 MEN AND GET ONE MORE AT 20000.

SPECIAL:
=====

TRY THIS:

]BLOAD MARIO BROS.
]CALL-151
*806G

[COURTESY OF: THE DRAGON LORD]

```
=====
DOCUMENT medevl.war
=====

-----
----- MEDIEVAL WAR GAME -----
-----
```

For a one player version of the Battle of Agincourt, just run AGINCOURT.1PLR (it is a SYS16 type file). The file MEDEV.LWAR.2PLR (also a SYS16 type file) is the two player version master program for MEDIEVAL WAR. The file GAMEDATA is a TXT file containing the data for a generic sample version battle for this game. Please rename GAMEDATA to SAMPLE.GAME and then rename either AGNCRTDATA.2PLR or CRECYDATA.2PLR to GAMEDATA to play either the two player version of the Battle of Agincourt or a two player version of the Battle of Crecy.

This is now the first real version, one in that it is the first two player version I have released and two in that I think all of the obvious problems have been worked out. I will say from the start that I am not happy with both players having to use the same mouse for input, but until I find a better solution it will have to do (any suggestions are most welcome). This is also my first attempt at a wargame and I need some feedback from other gamers as to what is right and what needs changing. So don't be afraid to send me some criticism, that's why I sent this version. The game also needs some additions, better graphics, easier user interaction, etc. Unfortunately, I don't have a hard drive and only have one 3 1/2 drive (which is supposed to be too little to use APW). The program is as large as I can produce with the work-arounds I use. I am planning on getting the Harddrive before I produce the final version (in a few months or so hopefully).

**This info is included for those interested, if you are also curious about Crecy there are many good books on the subject of medieval warfare. Sorry I am too lazy to write about both battles. The battle already named GAMEDATA is just a fictional battle between two evenly matched sides on terrain demonstrating all the types of terrain. **

This was the info included with the one player version.

The battle of Agincourt was chosen because it seemed to be an easy game for a one player version (plus it is a favorite of mine). Here is a little background on the battle (those that know the history of the Hundred Years War will please forgive the liberties I took with the game, most are due to my lack of finding a way to incorporate the into the game). In 1415, an English armada carrying Henry V and 8000 archers and 2000 men-at-arms toward France. The English landed in Normandy, near to the port of Harfleur. The Kings plan was to take the port and then march on Paris. This plan was changed after a month long siege in which the English won but lost over a third of their men. King Henry decided that attempting Paris was foolish, so he decided to march across northern France to Calais. They of course did as much damage as possible in the process. To make a long story short, after a long and gruelling march the french trapped them into a fight. Much to the frenchmens' misfortune they chose a plowed and muddy field just outside of the town of Agincourt. The field was bounded by woods and the field was sloppy with deep mud. There wasn't nearly enough room on the field to spread out the french men-at-arms and in their heavy armor they were virtually immobile in the mud. Henry V arrayed his men with archers interspersed with men-at-arms and protected by sharp stakes planted in the mud in front. The French arrayed into three major lines, the first and second were men-at-arms on the flanks they had mounted men-at-arms and inbetween were crossbowmen. The back row was mostly mounted men-at-arms. Most of the morning was spent staring at each other across the field until finally King Henry decided that if he didn't do something he and his exhausted would lose by default (the odds were against them, 5000 archers, 1000 men-at-arms against 60,000 Frenchmen). He called an advance and the line advanced to within bow range and the English

longbows began a deadly rain on the French front line. The French attempted to counterpunch with cavalry charges but the french cavalry was destroyed on the stakes. Then the front line of french men-at-arms advanced into the arrows and they were virtually decimated before they even reached the English line. And the English knights destroyed what was left. Those that fled were trampled by the advancing second line which met the same fate. What was left, other than a few colorful incidents, was for the French to flee the field defeated by the English longbow.

This is hopefully the first in many battles I will upload (as well as a program to produce any game you want). This version is designed for ancient combat, but will produce a modern version soon also. So send suggestion for battles (both modern and ancient). I will try to briefly explain how to play the game, please send me a message with any questions you have.

The screen is divided into three parts: top row - lists each sides morale, score, and the time. The English morale is the leftmost number (50 to start). Next to this is their score. In the middle is the time and to the right of the the time is the french score and morale in that order. All the way over on the right side is a blue square which is the exit button to end the game.

Middle map - The map and units. the following types of terrain are possible (the number following them is the number put into the battle file).

| | | | | |
|-------|------------------|------------------|--------------------|-----|
| clear | - 1 upslope east | - 2 upslope west | - 3 upslope n or s | - 9 |
| hedge | - 3 woods | - 4 water | - 5 ford | - 6 |
| ditch | - 7 town | - 8 | | |

Each area(which is five pixels square) also has an elevation level 0 to 4 (0 lowest), a movement rating 0 to 9 (0 being easiest to move over, the highest movement rating is 5 for cavalry so any rating above that will act as a five rating. Later versions of the game will probably have more unit types so it may become applicable.), a combat rating from 0 to 9 (0 being worse ground to fight from and 9 the best defensive terrain around. I do not recommend a number higher the 5 or so because a unit should be about invincible). several things to think about are that a unit gets the benefit of the spot under the center of its symbol. The combat section takes many things into account, a unit at a higher elevation has an advantage as well as the type of terrain. In the battle files I have created, for example the hedge terrain type. The Hedge is near the west edge of the map and one side(the red side) will probably use it for defense. So I made the combat rating of all terrain to the west side of the hedge for 15 pixels a higher number. That way when a red unit is sitting right behind the hedge, the hedge will increase their strength as it would in reality. The same is try beside all slopes, the areas at the top have higher combat numbers so a unit at the top will have an advantage and the movement numbers on the slope are higher so moving up the slope is slower(the slowest a unit can move is 1 pixel per turn so a unit moving at 1 will move the same speed over all terrain. You can really see the affects when you send out cavalry at 5. The only terrain affect on archery is elevation(firing down on a unit is a big advantage). For more info read the section on the battle file.

The unit types are - A unit with two lines is men-at-arms(ie infantry). Units with one diagonal line are mounted men-at-arms(ie Cavalry). And units with a dot in them are archers (ie artillery). The units have a dot on the side that they are facing. To command a unit(the english are the only side you can play right now) you point the mouse arrow at the unit and click. the command region will appear and you can give the unit its orders.

To exit out of command mode and restart the battle (the game is in suspense while you are using the command screen) just click in the lower region not in a button.

Lower command/message region - during play messages will appear in this

area. These messages are anything from what a unit is doing to the death or injury of a leader. when you click on a unit the main command screen will appear. this will be described in detail later. Other screens that can be called up are the unit info screen which tells you strength and morale and other info on the unit and the leader screen which lists leader and their condition. to exit a screen click in the command screen not in a button (there are no buttons on the message, leader, and unit info screens)

COMMANDS - Different commands that can be given are:

movement - to command a unit to move just click where you want the unit to move and make sure the unit is facing that direction. units will not move any direction except forward. Movement is affected by terrain and other units zones of control.

facing - turning a unit is done by clicking in one of the triangles on the left side of the command screen. the top triangle will turn a unit counter-clockwise, the other triangle clockwise. a unit can't turn when in another units ZOC (zone of control).

speed - the speed will be shown in the speed box in the lower left side. the maximum for units is: cavalry - 5 infantry - 2 archers - 3

clicking on the number lowers it by one, and clicking on zero changes it to the fastest speed. A unit with a movement of zero will not move.

formation - the formation affects speed and combat effectiveness. you can change the formation by clicking on the present formation which is displayed in the box. some of the formations are line, wedge, march. March is best for free movement but terrible for combat. Wedge is good for defence but then not as good for offensive. Line is best for attacking but not as easy to defend. sometimes because of combat a unit is disorganized. you cannot affect a disorganized unit until its leader gets control of it and gets it organized. this is done automatically, you just have to wait (if there is no leader though the unit will never get organized so just use it as best you can).

charge/fire - To use this click on the charge/fire button (the button will invert) then click on the unit you want to charge or fire at (then the button will be outlined). Cavalry and infantry can charge, archers fire arrows at the chosen unit. A cavalry unit charging another unit can do lots of damage with the charge and can quickly disorganize them. but can also take lots of damage if the unit is set and ready for the charge. Once a unit contacts its target it will stay and fight until you give it another command or the unit is destroyed. Archers fire at the designated target until given other orders or the unit is destroyed or the unit is out of range. The range of archers in the Agincourt version is approximately 1/5 the width of the screen. If you order archers to fire at units outside their range they will just stand still.

defend/spike - this is the defensive mode for when a unit is expecting to stand for an enemy unit charge. for cavalry or infantry this is a defensive stance, for archers however it means they set their stakes in the ground in front of them. this takes some time, so the button will not turn until the stakes are set.

retreat - is just what it says, the unit will retreat towards the home edge(the left edge for the English). sometimes because of loses in combat a unit will become demoralized and begin to retreat on its own. you can't change this until the leader gets control (this is not the same as disorganization where you just can't change formation - this is where the unit is completely out of control. If the leader can't get control before the unit flees off the map the unit is considered destroyed).

patrol - (probably not named right) this is the same as charge/fire except that it is not directed at any particular unit. by giving this command a unit will sit until an enemy unit moves within range, which is 1/5 of the screen width. cavalry and infantry will charge the first unit to move

within there range, archers will fire at the enemy unit.

red rectangle - will bring up the unit info screen.

green rectangle - will show the leader screen.

BATTLE FILE - The battle is loaded when you click on the initial screen. The game loads the file GAMEDATA from the directory the game is in. I have uploaded a game already called GAMEDATA, and two historical battles - AGINCOURT.WAR and CRECY.WAR. To use either of those or any file you create just rename it GAMEDATA.

If you would like to create your own battles just create an ascii text file of the format of the ones I uploaded.

section 1 is one line. the line is all numbers these are:
2 digits - the number of red units
2 digits - the number of blue units
2 digits - reds morale at start
2 digits - blues morale at start
2 digits - reds score at start
2 digits - blues score at start
1 digit - tens digit of hours at the start of game
1 digit - ones digit of hours
1 digit - tens digit of minutes
1 digit - ones digit of minutes
1 digit - tens digit of hour for game to end
1 digit - ones digit of hour for game end

section 2 is the map. there are four lines per row on the map. since there are thirty rows to the map there will always be 120 lines. there are 66 digits to each line, one for each column on the map. The first line is the type of terrain, the second is the column movement rating, the third line is the combat rating, and the fourth is the terrain level. Then you start over again and do the four lines for the next map row.

section 3 is the leader list. Each unit starts with five leaders so the number of lines in this section is 5*(number of red units + number of blue units). each line has 2 digits and the leaders name. The first digit is the leaders value (1 to 5). The second digit should always be a 3 because that means the leader is alive and leading the unit. The last is a string. The program reads the string(no quotes necessary) until the first blank space or the end of the line. If you wish blanks in the name put '*'s in place of the blanks and the program will replace them with blanks.

section 4 is the list of units. there will be one line for each unit in the game(ie. red units + black units) the red units should ll be first and the black units second, other than that the order does not matter. The numbers are:

3 digits - x coordinate(ie side to side) the screen is in 320 mode so anything outside the 0 to 320 range will immediately be destroyed (leaving the map destroys a unit) a units coordinates are for the upper left corner of the unit so if you give it a coordinate of 320 it will actually be drawn of the map.

3 digits - y coordinate(ie. top to bottom) the limits are 10 to 160.

1 digit - unit type(right now there are 3 types possible). 0 - cavalry 1 - infantry 2 - archers

2 digits - units strength (1 to 99)

1 digit - initial facing 1 - north 2 - northeast 3 - east 4 - southeast 5 - south 6 - southwest 7 - west 8 - northwest

1 digit - units initial speed setting (units are not moving at the start but it is annoying to have to change the setting of each one at the

start) the maximums are: cavalry - 5 infantry - 2 archers - 3

3 digits - the distance the units bows will reach if they are archers(the 3 digits must still be there even if the unit is not archer type) I have made the scale about 70 for longbows down to 30 for crossbows, but this will depend on the scale of the game you create.

1 digit - units morale to start (1 to 5)

1 digit - not used now - so just put any digit in. It will be used later when I have added AI to the game to play either side and when I have added group commands string - this can be of just about any length, it reads until the first blank so use '*' in place of blanks, the program will remove them. No quotes are needed, just put the string.

section 5 - this section is not used now, it will be used later when I have added group commands and AI to run one of the sides. Just have ten rows with 99 in them(see one of the files included).

I recommend you just copy one of the files and change things, that seems to be the easiest way. Be careful, there are not many checks in the program yet. One digit wrong and the game can bomb(if that happens watch how far the program gets and you can tell which section has the problem. If it draws the map and then crashes before the units are drawn you may be missing a leader line or the number in the first section may have the wrong number of units listed, etc.)

GAME CONSIDERATIONS - All factors are used in figuring results (terrain, state, morale, facing, etc.) Each unit is roughly equivalent in size, however matching archers against men-at-arms is not very smart. a well timed charge can break a lines organization, but poor charges will destroy your cavalry. these and other common sense tactics must be followed. The English won by intelligent use of the longbow, this is a must for a win (but remember that your men are tired and their moral won't holdout for that long). Speaking of moral, it is far and away the most important item in the game. pay close attention and remember the only way to increase it is by doing some damage to the enemy.

=====

DOCUMENT merlin.docsl

=====

THE ASSEMBLER

The assembler documentation is broken into three main sections:

- 1) Preliminary Definitions
- 2) Assembler Syntax Conventions
- 3) Assembler Pseudo Opcode Descriptions

The type of operand for almost all of Merlin's pseudo ops and the 6502 and 65C02 microprocessors can be grouped into one of the four categories:

- 1) Expressions
- 2) Delimited Strings (d-strings)
- 3) Filenames or Pathnames

ASSEMBLER SYNTAX CONVENTIONS

A line of source code typically looks like:
 label opcode operand ;comment

The maximum allowable label length is 13 characters, but more than 8 will produce messy assembly listings. A label must begin with a character at least as large, in ASCII value as the colon and may not contain any characters less in ASCII value than the number zero. Note that periods (.) are not allowed in labels since the period is used to specify the logical OR in expressions.

A line may contain a label by itself. This is equivalent to equating the label to the current value of the address counter.

Source Opcode and Pseudo Opcode Conventions

The assembler examines only the first 3 characters of the OPCODE (with certain exceptions such as macro call and the Sweet 16 POPD). For example you can use PAGE instead of PAG (because of the exception, the fourth letter should not be a D). The assembler listing will not look well with an opcode longer than five characters unless there is no operand

Operand and Comment Length Conventions

The maximum allowable combined OPERAND + COMMENT length is 64 characters. You will get an operand too long error if you use more than this. A comment line by itself is also limited to 64 characters.

Number Format

The assembler accepts decimal, hexadecimal and binary. Hex numbers must be preceded by \$ and binary by % thus the following four numbers are all =

100 \$64 %1100100 %01100100

As indicated by the last binary number, leading zeros are ignored.

Immediate data vs addresses

In order to instruct the assembler to interpret a number as immediate data the number must be prefixed with a # (LDA #\$64)

A number not preceded by # is interpreted as an address (LDA \$64) Loads the accumulator with number in loc \$64

Primitive Expressions

Expressions are built up from primitive expressions by use of arithmetic and logical operations. The primitive expressions are:

- 1) A label
- 2) A number (dec ,hex or binary)
- 3) Any ASCII character preceded or enclosed by quotes or single quotes)
- 4) The character * (standing for the present address)

All number formats accept 16-bit data and leading zeros are never required. In case 3 the value of the primitive expression is just the ASCII value of the character. The high bit will be on if a " is used, and off if a ' is used.

Arithmetic and Logical Operations in Expressions

The assembler supports the 4 arithmetic operations + - / and *, It also supports the three logical operations: ! (Exclusive OR), . (or), and & (AND).

Building Expressions

Expressions are built using the primitive expressions defined above, either with or without arithmetic and/or logical operations. This means that expressions can take the form of primitives or primitives operated on by other primitives using the arithmetic and logical operations.

Some examples of legal expressions are:

```
#01            (primitive expression =1)
#$20          (primitive expression = 32 dec)
label         (primitive expression of a label)
#"A"          (primitive expression of letter "A")
*             (primitive = current value of PC)
```

The following are example of more complex expressions

```
LABEL1-LABEL2 (LABEL1 MINUS LABEL2)
2*LABEL+$231  (2 TIMES LABEL PLUS HEX 231)
1234+%10111  (1234 PLUS BINARY 10111)
"K"-"A"+1    (ASCII K MINUS ASCII "A" PLUS 1)
"O"!LABEL    (ASCII "O" EOR LABEL)
LABEL&$7F    (LABEL AND HEX 7F)
*-2          (PRESENT ADDRESS MINUS 2)
LABEL.%100   (LABEL OR BINARY 100)
```

Parentheses and Precedence in Expressions

Parentheses are not normally allowed in expressions. They will not modify the precedence of expressions evaluations. All arithmetic and logical operations are evaluated left to right.

Parentheses are used to retrieve a value from the memory location specified by the value of the expression within the parentheses, much like indirect addressing. This use is restricted to certain pseudo ops, however. For example DO (\$300) will instruct the assembler to generate code if the value of memory location \$300, at the time of assembly is non-zero.

Example use of Assembler Expressions

The ability of the assembler to evaluate expressions such as LAB@-LAB!-1 is very useful for the following type of code:

```
COMPARE    LDX    #EODATA-DATA-1
LOOP        CMP    DATA,X
            BEQ    FOUND            ;found
            DEX
            BPL    LOOP
            JMP    REJECT           ;not found
DATA        HEX    CACFC5D9
EODATA      EQU    *
```

With this type of code you can add or delete some of the data and the value which is loaded into the x index for the comparisons will be automatically adjusted.

IMMEDIATE DATA SYNTAX

For those opcode such as LDA, CMP & etc, which accept immediate data (numbers as opposed to addresses) the immediate mode is signaled by preceding the expression with #. Like LDX #3.

```
#<expression produces the low byte of the expression
#>expression produces the high byte of the expression
#expression    also gives the low byte (the 6502 does not accept 2-byte
data)
#/#expression is optional syntax for the high byte of the expression
```

6502 addressing modes

The assembler accepts all 6502 and 65C02 opcodes. It also accepts BLT(Branch if Less Than) and BGE (Branch if Greater or Equal) for BCC and BCS respectively.

Special non zero page addressing

Merlin provides the ability to Force non zero page addressing. Add anything (except "D") to the end of the opcode

```
LDA $10        assembles as zero page (2 bytes)
LDA: $10       assembles as non zero page (3 bytes)
```

Also in indexed indirect modes only zero page expressions are allowed.

65C02 and 65802 opcodes

The assembler will assemble 65C02 source code as well as 65802 source code. The XC pseudo opcode activates these features. This opcode is discussed in the Pseudo ops section.

Will save the current object code. Acts same as the EXEC mode but it can be done several times during assembly. Together the PUT and SAV make it possible to assemble very large files.

ASSEMBLER PSEUDO OPCODE DESCRIPTIONS

DIRECTIVES

EQU (=)
Label EQU expression

EXT (EXtErnal label)
Label EXT [Label is external labels name]
PRINT EXT [define PRINT as external]
This pseudo op defines a label as an external label for use by the Linker.

ENT (ENTry label)
label ENT
PRINT ENT [define PRINT as entry label]
This pseudo op will define the label in the label column as an ENTRY label. An entry label is a label that may be referred to as an EXtErnal label by another REL code module. The true address of an entry label will be resolved by the LINKER. The REL code module being written or assembled may refer to the ENT label just as if it were an ordinary label.

ORG (set ORiGin)
ORG expression
Establishes the address at which the program is designed to run. It defaults to \$8000. If more than one ORG is used the first establishes the Bload address and the second the orgin. You cannot use ORG*-1 to back up the object pointers as is done in some assemblers. This must be done instead by DS-1.

REL (RELocatable code module)
This instructs the assembler to generate code files compatible with the relocating linker.

OBJ (set OBject)
OBJ expression
This is accepted only prior to the start of the code, it only sets the division line between the symbol table and object code read in memory(which defaults to \$8000). IF the REL opcode is used then OBJ is disregarded.

PUT (PUT a text file in assembly)
PUT filename
PUT reads the named file and inserts it at the location of the opcode. There are two restrictions on a PUT file. One there cannot be MACRO definitions inside a file which is PUT, they must be in the main source or in a USE file. Second a PUT file may not call another PUT file with the PUT opcode. OF course linking can be simulated by having then main program just contain the macro definitions and call in turn all the others with the PUT opcode.
Any variable may be used as local variables.

USE (USE a text file as a macro library)
USE filename
This works like PUT but the file is kept in memory. It is intended for loading a macro library that is USED by the source file.

VAR (setup VARiAbles)
VAR expr;expr;expr
VAR 1;\$3;LABEL [set up VAR's 1,2 and 3]
This is just a convenient way to = the variables]1 -]8. VAR 3;\$42;LABEL will set]1=3]2=\$42 and]3 = LABEL. This is designed for use just prior to a PUT. IF a PUT file use]1 -]8, except in PMC (or >>>) lines for calling macros, there must be a previous declaration of these.

SAV (SAVe object code)
SAV filename

TYP expression
This sets the file type to be used by DSK or SAV. The default is BIN. Valid file types are 0,6,\$F0-\$F7 and \$FF (no type, BIN, CMD, user defined, SYS)

DSK (assemble directly to disk)
DSK filename (or pathname)
DSK will direct the assembly directly to disk.

END (END of source file)
This rarely used opcode instruct the assembler to ignore the rest of the source.

DUM (DUMmy section)
DUM expression
This starts a section of code that will be examined for value of labels but will produce no object code.

DEND (Dummy END)
This ends a dummy section and reestablishes the ORG address to the value it had upon entry to the dummy section

Sample useage of DUM and DEND

```

1          ORG  $1000
2
3 IOBADRS  EQU  $B7EB
4
5          DUM  IOBADRS
6 IOBTYPE  DFB  1
7 IOBSLOT  DFB  $60
8 IOBDRV   DFB  1
9 IOBVOL   DFB  0
10 IOBTRACK DFB  0
11 IOBSECT  DFB  0
12          DS  2
13 IOBBUF   DA  0
14          DA  0
15 IOBCMD   DFB  1
16 IOBERR   DFB  0
17 ACTVOL   DFB  0
18 PREVSL   DFB  0
19 PREVDR   DFB  0
20          DEND
21
22 START    LDA  #SLOT
23          STA  IOBSLOT
24 * And so on
    
```

FORMATTING PSEUDO OPS

LST ON/OFF
LST ON [turn listing on]
LST OFF [turn listing off]
LST [turn listing on]
This controls the assemblu listing to be sent to screen (or other output device). If the LST is off the object code will be generated much faster, but this is recommended only for debugged programs. Note: CONTROL D from the keyboard toggles this flag during the second pass.

EXP ON/OFF/ONLY (macro EXPand control)
EXP ON [macro expand on]
EXP OFF [print only macro call]
EXP ONLY [print only generated code]
EXP ON will print an entire macro during the assembly. The OFF condition will print only the PMC pseudo-op. EXP defaults to ON. This has no effect on the object

code generated. EXP ONLY will cause expansion of the macro to the listing omitting the call line and end of macro line. (if the macro call line is labeled it is printer). This mode will print out just as if the macro lines were written out in the source.

LSTDO OR LSTDO OFF (LIST the DO OFF areas of code)
 LSTDO [LIST THE DO OFF AREAS]
 LSTDO OFF [don't list DO OFF areas]
 This opcode causes the listing of DO OFF areas of code to be printed in listing or not to be printed.

PAU (PAUse)
 On the second pass this cause assemblu to pause until a key is hit. This can also be done from the keyboard by hitting the space bar. This is handy for debugging.

PAG
 This sends a formfeed to the print.
 AST (send a line of ASTerisks)
 AST 30 [send 30 asterisks to listing]

SKP (SKip lines)
 SKP 5 [skip 5 lines in listing]
 This sends expression number of carriage returns to the listing. The number format is the same as in AST.

TR ON/OFF (TRuncate control)
 TR ON [limit object code printing]
 TR OFF [don't limit object code print]
 TR ON or TR (alone) limits object code printout to three bytes per source line, even if the line generates more than three. TR OFF resets it to print all object bytes.

DAT (DATE stamp assembly listing) (ProDos only)
 This prints the current date and time on the second pass of the assembler.

CYC (calculate and print CYCLE times for code)
 CYC [print opcode cycles & total]
 CYC OFF [stop cycle time printing]
 CYC AVE [print cycles & average]
 This opcode will cause a program cycle count to be printed during assembly. A second CYC opcode will cause the accumulated total to go to zero. CYC OFF causes it to stop printing cycles. CYC AVE will average in the cycles that are undeterminable due to branches, indexed and indirect addressing. The cycle times will be printer to the right of the comment field and will appear similar to any one of the following:

```
5 ,326      5' ,0326      5'' ,0326
```

The first number displayed is the cycle count for the current instructions. The second number displayed is the accumulated total of cycles in decimal.
 A single quote after the cycle count indicates a possible added cycle, depending on certain conditions the assembler cannot foresee. If this appears on a branch instruction then it indicates that on cycle should be added if the branch occurs. For non-branch instructions, the single quote indicates that one cycle should be added if a page boundary is crossed.

A double quote after the cycle count indicates that the assembler has determined that a branch would be taken and that the branch would cross a page boundary. In this case the extra cycle is displayed and added to the total.
 The CYC opcode will also work for the extra 65C02 opcodes in Merlin. It will not work with for the additional 65C02 opcodes present in the Rockwell 65C02.

STRING DATA PSEUDO OPS

General notes on String Data and String Delimiters
 Different delimiters have effects. Any delimiter less than (in ASCII value) the single quote ' will produce a string with the high bits on, otherwise the high bits will be off.

All of the opcodes in this section except REV also accept hex data after the string. Any of the following syntaxes are acceptable:

```
ASC "STRING",878D00
FLS "STRING",878D00
DCI "STRING",87,8D,00
STR "STRING",878D00
INV "STRING",878D00

ASC (define ASCII text)
ASC "STRING" [negative ascii string]
ASC 'STRING' [postive ascii string]
ASC "Bye,Bye",8D [ negative with added hex bytes]
```

DCI (Dextral Character Inverted)
 DCI "STRING" [neg ascii except for the G]
 This is the same as ASC except that the string is put into memory with the last character having the opposite high bit to the others.

```
INV (define INVerse text)
INV "STOP" [negative ascii, inverse on printing]
This puts a delimited string in memory in inverse format.
```

```
FSL (define FLaShing text)
Same as INV but for flashing text
```

REV (REVerse)
 This puts the d-string in memory backwards: Example REV "DISK VOLUME" gives EMULOV KSID . Hex data may not be added after the string terminator.

```
STR (define a STRing with a leading length byte)
STR "/PATH/" [pos ascii, (ProDos pathname?)]
STR "HI" [result= 02 C8 C9]
STR 'HI',8D [result= 02 48 49 8D]
```

This puts a delimited string into memory with a leading length byte. Otherwise works same as ASC. NOTE: the following HEX bytes if any are not counted in the length. This is mainly intended for use with ProDos which uses this type of data extensively.

DATA and STORAGE ALLOCATION PSEUDO OPS
 DA OR DW (Define Address or Define Word)
 DA \$FDF0 [results: F0 FD in memory]
 DA 10,\$300 [results: 0A 00 00 03]
 DW LAB1,LAB2 [example of use with labels]
 This stores the two byte value of the operand usually an address in the object code, low byte first. These two pseudo ops also accept multiple data separated by commas (such as DA 1,10,100)

```
DDB (Define Double Byte)
DDB $FDED+1 [ results: FD EE in memory]
DDB 10,$300 [ results: 00 0A 03 00]
As DA but places high byte first.
```

```
DFB or DB (DeFine Byte or Define Byte)
DFB 10 [results: 0A in memory]
DFB $10 [results: 10 in memory]
DB >$FDED+2 [results: FD in memory]
DB LAB [example of use with label]
This puts the byte specified by the operand into the object code. It accepts several bytes of data, which must be separated by commas and contain spaces. The standard number format is used and arithmetic is done as usual.
```

```
HEX (define HEX data)
HEX 0102030F [results: 01 02 03 0F in memory]
HEX FD,ED,C0 [results: FD ED C0 in memory]
This is an alternative to DFB which allows convenient insertion of hex data. Unlike all other cases the $ is not required or accepted here.
```

```
DS (Define Storage)
```



```
=====
DOCUMENT merlin.docs2
=====
```

MISCELLANEOUS PSEUDO OPS

KBD (define label from KeyBoard)
 label KBD [get value of OUTPUT from kbd]
 label KBD d-string [prompt with the d-string for the value of OUTPUT]
 This allows a label to be equated from the keyboard during assembly. Any expression may be input, including expressions referencing previously defined labels, a bad input error will occur if the input cannot be evaluated.

LUP
 LUP expression (LOOP)
 --^ (end of LUP)
 The LUP pseudo opcode is used to repeat portions of source between the LUP and then --^ expression number of times. An example of this is:

```
LUP 4
ASL
--^
which will assemble as:
```

```
ASL
ASL
ASL
ASL
```

and will show that way in the assembly listing with repeated line numbers.

Perhaps the major use of this is for table building. As an example

```
]A = 0
LUP $FF
] = ]A+1
DFB ]A
--^
```

Will assemble the table 1, 2, 3, ..., \$FF

The maximum LUP value is \$8000 and the LUP opcode will simply be ignored if you try to use more than this. NOTE: the above use of incrementing variable in order to build a table WILL NOT work if used within a macro. Program structures such as this must be included as part of the main program source.

CHK (place CHecKsum in object code)

This places a checksum byte into object code as the location of the CHK opcode. This is usually placed at the end of the program and can be used by your program at runtime to verify the existence of an accurate image of the program in memory.

```
ERR (force ERRor)
ERR $80-($300) [ error if $80 not in $300]
ERR *-1/$4000 [error if PC>$4100]
ERR \ $5000 [ error if REL code address exceeds $5000]
```

ERR expression will force an error if the expression has a non zero value and the message break in line ??? will be printed.

NOTE for REL Files: The ERR\expression syntax gives an error on the second pass if the address pointer reaches expression or beyond. This is equivalent to ERR *-1/expr, but if when used with REL files it instructs the linker to check that the last byte of the current module does not extend to expressions or beyond (expression must be absolute). If the linker finds that the current module does extend beyond expression, linking will abort with a message Constraint error

SW (SWeet 16 opcodes)

This enables sweet 16 opcodes.

```
XC (eXtended 65C02 and 65802 opCodes)
XC [enable the 65C02 option]
XC [two in a row enables the 65802 option]
```

This does not enable the extended BIT opcodes used on the Rockwell 65C02 chip. There is a macro library file included on the Merlin disk that can be USED to implement these additional code.

```
DS 10 [zero out 10 bytes of memory]
DS 10,$80 [put $80 in 10 bytes of mem]
DS \ [zero mem to next memory page]
DS \,$80 [put $80 in mem to next page]
```

This reserves space for string storage data. It zeros out this space if the expression is postive. DS 10, for example will set aside 10 bytes for storage.

NOTES for REL files and Linker

The \ options are intended for use mainly with REL files and work slightly different with these files. Any DS\ opcode occurring in a rel file will cause the linker to load the next file at the first available page boundary.

```

MX (long status Mode of 65802)
MX %00 [ M & x 16 bit modes on]
MX %10 [ M mode on X mode off]
MX %01 [ X mode on M mode off]
MX 3 [ M & X 16 bit modes off]

```

This is used to inform Merlin of the intended status of the long status of the 65802 processor. The assembler cannot determine if the processor is in 16 bit memory mode (M status bit=0) or 16 bit index register mode (X status bit =0). The purpose of the MX opcode is to inform the assembler of the current status of these bits.

This opcode must be used when using Merlin's 65802 capabilities to inform the assembler of the proper mode to use in order to insure proper assembly of immediate mode commands.

USR (USer definable op-code)

USR expression [example depend on definition]
 this does a JSR \$B6DA. This location will contain an RTS on boot. To set up a routine you should BRUN it from the EXEC command after catalog. The following flags and entry points may be used by your routine:

```

USRADS = $B6DA must have a JMP to your routine
PUTBYTE = $E5F6 see below
EVAL = $E5F9 see below
PASSNUM = $2 contains assembly pass number
ERRCNT = $1D error count
VALUE = $BB value returned by EVAL
OPNDLEN = $BB contain combined length of operand and comment
NOTFOUND = $FD see discussion of EVAL
WORKSP = $280 contains the operand and comment in postive ASCII

```

Your routine will be called by the USR opcode with A=0, Y=0 and carry set. To direct the assembler to put a byte in the object code, You should JSR PUTBYTE with the byte in A. Put your routine at \$300-\$3cf or \$8a0-\$8ff. You must not write to \$900.

CONDITIONAL PSEUDO OPS

```

DO (DO if true)
DO 0 [ turn assembly off]
DO 1 [ turn asseembly on]
DO label [ if label<>0 then on]
DO l1/l2 [ if l1<l2 then off]
DO l1-l2 [ if l1=l2 then off]

```

This along with ELSE and FIN are conditional assembly ops. IF the operand evaluates to zero then assembler will stop generating object code (until it sees another conditional). Except for macro names, it will not recognize any labels in such and area of code. If operand evaluates to a non zero then assembly will proceed as usual.

This is useful for sources to designed to generate slightly different code for different situations. For example in a program with text, you may wish to have one version for Apples with lower case adapters and one for those without. By using conditional assembly modification of such programs becomes much simpler, since you do not have to make the modification in two separate versions of the source code.

Every DO should be terminated somewhere later by a FIN and each FIN should be preceded by a DO. AN ELSE should occur only inside such a DO/FIN structure. DO/FIN structures may be nested up to eight deep (possibly with some ELSE's between). IF the DO condition is off (value 0) then assembly will not resume until its corresponding FIN is encountered, or an ELSE at this level occurs. Nested DO/FIN structures are valuable for putting conditionals in Macros.

ELSE

This inverts the assembly condition (on become off and off become on) for the last DO

IF (if so then do)

```

IF char,var
IF (,l1 [if first char of l1 is ( then assemble following code
IF ",]TEMP [if first char is ' assemble]
IF "="l1 [ alternate use with =]

```

This checks to see if char is the leading character of the replacement string for lvar. Postion is important the assembler checks the first and third characters of

the operand for a match. If a match if found then the following code will be assembled. As with DO this must be terminated with a FIN, with optional ELSE's between. The comma is not examined, so any character may be used there. For example IF "=]l could be used to test if the first character of the variable l1 is a double quote " or not perhaps needed in a macro which could be given either an ASCII or a hex parameter.

FIN (FINish conditional)

This cancels the last DO or IF and continues assembly with the next highest level of conditional assembly, or ON if the FIN concluded the last (outer) DO or IF.

MACRO PSEUDO OPS

MAC

Label MAC
 This signals the start of a macro definition.

EOM (<<<)

This signals the end of the definition of a macro

PMC (>>>) (macro-name)

PMC macro-name
 This instructs the assembler to assemble a copy of the named macro at the present location.

VARIABLES

Labels beginning with] are regarded as VARIABLES. They can be redefined as often as you wish. The designed purpose of variables is for use in MACROS, but they are not confinded to that use.

Forward reference to a variable is impossible with correct results, but the assembler will assign some value to it. It is possible to use variables for backward branching, using the same label at numerous places in the source. This simplifies label naming for large programs and uses much less space than the equivalent once used labels.

FOR example

```

1 LDY #0
2 ]JLOOP LDA TABLE,Y
3 BEQ NOGOOD
4 JSR DOIT
5 INY
6 BNE ]JLOOP ;BRANCH TO LINE 2
7NOGOOD LDX #-1
8]JLOOP INX
9 STA DATA,X
10 LDA TBL2,X
11 BNE ]JLOOP ;BRANCH TO LINE 8

```

LOCAL LABELS

A local label is any label beginning with a colon. A local label is attached to the last global label and can be referred to by any line from the global label to the next global label. Example of local labels.

```

1 Start LDY #0
2 LDX #0
3 :LOOP LDA (JUNK),Y
4 STA (JUNKY),Y
5 INY
6 CPY #100
7 BNE :LOOP
9 LOOP2 LDY #0
10 LDA (STUFF),Y
11 INY
12 CPY #100
13 BNE :LOOP
14 RTS

```

Local labels cannot be used inside macros. You cannot label a MAC, ENT or EXT with a local label and you cannot EQUate a local label. The first label in a program cannot be a local label.

There are three distinct types of labels used by the assembler. Each of these are identified and treated differently by MERLIN.

Global Labels: labels not starting with] or :
 Local Labels: labels beginning with :
 Variables: labels beginning with]

NOTE: local labels do not save space in the symbol table, while variables do. Local labels CAN be used for forward and backward branching, while variables cannot. Good programming practice dictates the use of local labels as branch points, variables for passing data.

MACROS

Macros represent a shorthand method of programming that allows multiple lines of code to be generated from a single statement. Example of the first type in T.MACRO LIBRARY file are simple means to eliminate repetitive entry of frequently used program segments. Example of more complex macros can be found in the T.FP Macros and the T.RWTS Macros. Macros can be used to simulate unimplemented opcodes or to simulate the Rockwell 65C02.

A macro is a user named sequence of assembly language statements, with general purpose operands. You define the macro in a general way and when you use it via a macro call, you fill in the blanks left when you defined it. EXAMPLE:

```
MAC SWAP ;define a macro named SWAP
LDA J1 ;load accum with variable J1
STA J2 ;store accum in location J2
<<< ;this signals the end of the macro
Would assemble as follows if J1=$300 and J2=$400
LDA $300
STA $400
```

It is very important to realize that anything used in the parameter list will be substituted for the variables. Forward reference to a macro definition is not possible and will result in a not macro error message. A macro must be defined before it is called by NAME, PMC or >>>. The conditionals DO, IF, ELSE and FIN may be used within a macro. Labels inside macros are updated each time the macro NAME, PMC or >>> NAME is encountered. Error messages will usually indicate the line number of the macro call rather than the line inside the macro where the error occurred.

Macros may be nested up to 15 deep. Macro names may be put in the opcode column, without using PMC or >>>. But the macro name cannot be the same as any regular opcode or pseudo opcode such as LDA, STA, etc. IT cannot begin with the letters DEND or POPD. The PMC or >>> is not subject to this.

Special Variables

Eight variables, name J1 through J8 are predefined and are designed for convenience in Macros. These are used in a PMC (or >>>) statement. The instruction >>> NAME.expr1:expr2,expr3... will assign the value of expr1 to the variable J1 and expr to J2 and so on. EXAMPLE

| MACRO DEFINITION | RESULT CODE | EXAMPLE |
|--------------------------|-------------------|--------------|
| TEMP EQU J10 | SWAP.\$6:\$7:TEMP | ; MACRO CALL |
| MAC | | |
| LDA J1 | LDA \$06 | |
| STA J3 | STA TEMP | |
| LDA J2 | LDA \$07 | |
| STA J1 | STA \$06 | |
| LDA J3 | LDA TEMP | |
| STA J2 | STA \$07 | |
| <<< | | |
| >>> SWAP.\$6:\$7:TEMP | | |
| <<< SWAP.\$1000:\$6:TEMP | | |

This segment swaps the contents of location \$6 with that of \$7 using temp as a scratch depository, then swaps the contents of \$6 with that of \$1000.

IF as above some of the special variable are used in the MACRO definition, then values for them must be specified in the PMC (or >>>) statement. In the assembly listing, the special variables will be replaced by their corresponding expressions.

The number of values must match the number of variables used in the macro definition. A BAD VARIABLE error will be generated if the number of values is less than the number of variables used. Macros will accept literal data. Thus the assembler will accept the following type of macro call:

```
MUV MAC
```

```
LDA J1
STA J2
<<<
```

```
>>> MUV.(PNTR),Y;DEST
>>> MUV.#3;FLAG,X
```

with the resultant code from the above two Macro calls being:

```
>>> MUV.(PNTR),Y;DEST ;macro call
LDA (PNTR),Y ;substitute first parm
STA DEST ;substitute second parm
```

and

```
>>> MUV.#3;FLAG,X ;macro call
LDA #3 ;substitute first parm
STA FLAG,X ;substitute second parm
```

MACRO LIBRARIES AND THE USES PSEUDO OP

There are a number of macro libraries on the Merlin disk. These libraries are examples of how one could set up a library of often used macros. The requirements for a file to be considered a macro library are:

- 1) Only Macro definitions and label definitions exist in the file.
- 2) The file is a text file
- 3) If it is a DOS 3.3 library, the file name must be prefixed with T.
- 4) The file must be accessible at assembly time (it must be on an available disk drive or online)

The macro libraries included with Merlin include:

| | ProDos | Macro Library Functions |
|------------|------------|---|
| DOS 3.3 | ProDos | |
| T.FPMACROS | FPMACROS.S | Allow easy access to Applesoft floating point math routines |
| T.MACROS | MACROS.S | Often used macros for general use |
| T.ROCKWELL | ROCKWELL.S | Implements extended bit related opcodes on the Rockwell 65C02 |
| T.SENDMSG | SENDMSG.S | A macro that allows easy printing from machine language |
| T.RWTS | <NONE> | Allow easy access to DOS 3.3's RWTS disk routines |

THE LINKER

The linking facilities offer these advantages

- 1) Extremely large programs may be assembled in one operation over 41000 bytes long
- 2) Large programs may be assembled much more quickly with a corresponding decrease in development time.
- 3) Libraries of subroutines may be developed and linked to any Merlin program
- 4) Programs may be quickly re assembled to run at any address

With a linker you can write portions of code that perform specific tasks, say a general disk I/O handler and perform whatever testing and debugging is required. When the code is correct, it is assembled as a REL file and placed on a disk.

PUT file or Macro USES library don't serve the same purpose. Using a PUT file to add a general purpose subroutine would result in slower assembly. Any label definitions contained in the PUT file would be global within the entire program. With a REL file only labels defined as ENTRY in the REL file (and EXTERNAL in the current file) would be shared by both programs. There is no chance for duplicate label errors when using the linker.

There are three pseudo opcodes that deal directly with relocatable modules and the linking process. These are:

- REL -Informs the assembler to generate relocatable files
- EXT -Defines a label as external to the current file
- ENT -Defines a label in the current file as accessible to other REL files.

There are two other pseudo opcodes that behave differently when used in a REL file, than to a normal file, they are DS and ERR

In order to use the Linker, the files to be linked must be specified. The linker uses a file containing the names of the files to be linked for this purpose.

Pseudo Opcodes for Use with Relocatable Code Files

REL

This instructs the assembler to generate a relocatable code file for use with the relocating linker. This must occur prior to definition of any labels. REL files are incompatible with the SAV op and with the EXEC mode object code save command. To get an object file to the disk you must use the DSK opcode for direct assembly to disk. An ORG at the start of the code is not allowed. Multiplication, division, or logical operations can be applied to absolute expressions but not to relatives one.

Example of absolute expressions are:

An EQUate to an explicit address

The difference between two relative labels

Labels defined in DUMMY code sections

Examples of relatives expression not allowed

Ordinary labels

Expressions that utilize the PC, like LABEL=*

The starting address of an REL file, supplied by the assembler is \$8000, it will be changed by the linker, for this reason no ORG opcode is allowed. There are some restrictions involving use of EXTERNAL labels in operand expressions. No operand can contain more than one external. For operands of the following form: #>expression or >expression where the expression contains an external, the value of the expression must be within 7 bytes of the external labels value.

LDA #>EXTERNAL+8 [illegal expression]

DFB >EXTERNAL-1 [legal expression]

Object files generated with the REL opcode are given the file type LNK under ProDos. This is the type that will show if the disk is cataloged by Merlin. This type is file type \$F8

EXT

label EXT

This defines the label in the label column as an external label. Any external label must be defined as an ENTRY label in its own REL module, otherwise it will not be reconciled by the linker. The EXTERNAL and ENTRY label concepts are what allows REL modules to communicate and use each other as subroutines

ENT

label ENT

Defines label as an ENTRY label. This label can be referred to as an external label. This allows other REL modules to use the label as if it were part of the current REL module. If a label is meant to be made available to other REL modules it must be defined with the ENT opcode. The example of a segment of a REL module will show the use of this opcode:

```
21      STA  POINTER
22      INC  POINTER
23      BNE  SWAP
24      JMP  CONTINUE
25 SWAP  EXT          ;MUST BE DEFINED IN THE
26      LDA  POINTER  ;CODE PORTION OF THE
27      STA  PTR      ;MODULE AND NOT USED
28      LDA  POINTER+1 ;AS AN EQU LABEL
29      STA  PTR+1
30 ETC
```

Note that the label SWAP is associated with the code in line 26 and that the label may be used just like any other label in a program.

DS

```
DS \      [skip to next REL file, fill mem with 0's to next page break
DS \1     [skip to next REL file, fill mem with 1's to next page]
```

When this opcode is found in an REL file it causes the linker to load the next file in the linker name file at the first available page boundary and to fill memory either with zeros or with the value specified by the expression. This opcode should be placed at the end of your source file.

ERR

```
ERR\ $4200 [error if current code passes address $4200]
```

Instructs linker to check that the last byte of the current file does not extend to \$4200 or beyond. You can see how this works by trying to line the PI file to an address greater than \$81C.

LINK

```
LINK $1000 "NAMES" [link files in NAMES]
```

This editor command invokes the linking loader. To link the object files whose names are held in the linker name file called NAMES use above command, this will give it a starting address of \$1000. This is only accepted if there is no current source file in memory, since the linker would destroy it.

The linker name file is a text file containing the file names of the REL object modules you want linked. Write it with the merlin editor and save to disk with the W command. The linker will not save the object file it creates, you must do this.

ProDos linker name files are a specially formatted file contains the pathnames of the LNK files to be linked. Each pathname in the source file should be given the form: STR "pathname",00. Example

```
STR "/MYDISK/START",00
STR "/MYDISK/MID",00
STR "/OTHERDISK/END",00
BRK
```

The break tells the linker there are no more pathnames. The file type used by the object save command is always the file type used in the last assembly. If the file gets saved under a type you do not want delete the file, go to the monitor and change location \$BE52 to correct type, and then resave object code.

It is wise to use a full pathname in operands of the SAV, USES and PUT opcodes, since otherwise the current prefix will be attached to the name and that may not be the prefix you want.

Since Merlin runs under its own interpreter rather than the BASIC interpreter, there is no warm re-entry as with the DOS 3.3 version.
The ProDos volume ?/RAM/ is disconnected by Merlin.

Transferring Source file from DOS 3.3 to ProDos Merlin Pro
There are two methods of transferring files from the DOS to ProDOS. Since ProDOS version of Merlin uses text file only, you could load files into the DOS 3.3 version and write them as text files and then transfer them with Apple's CONVERT program. CONVERT is not a literal transfer, as it will clear the high bits in the file. The ProDOS version will set the high bits again, but the tabbing in the editor will be fouled up by this procedure. But you can type FIX in the editor and resave the source file to fix this problem. Files intended for PUT or USE should be resaved because otherwise, assembly will be slowed.

Another method is to transfer the files as binary files from DOS 3.3 and use the fact that the ProDos version of Merlin has the ability to load binary files (or any type). After loading a binary source file, it should be deleted and save back (as a TXT file). The load command automatically permits loading og TXT and BIN files. Other types of files can be loaded by changing the byte used to designate source file type which is kept in location \$BE5D, this usually holds a 5.

ERROR MESSAGES

BAD OPCODE
Occurs when the opcode is not valid or the opcode is in the label column

BAD ADDRESS MODE
The addressing mode is not a valid 6501 instruction

BAD BRANCH
A branch to an address that is out of range, further than 127 bytes

DUPLICATE SYMBOL
On the first pass, the assembler finds two identical labels.

MEMORY FULL
This is usually caused by one of two conditions: Source code too large or symbol table too large.

UNKNOWN LABEL
Your program refers to a label that has not been defined. Also occurs if you try to reference a MACRO definition by anything other than PMC or >>>/

NOT MACRO
Forward reference to a MACRO, or reference by PMC or >>> to a label that is not a macro

NESTING ERROR
Macros nested more than 15 deep or conditionals nested more than 8 deep

BAD PUT
This caused by a PUT inside a macro or by a PUT inside another PUT file.

BAD INPUT
This results from either no input or an input exceeding 37 characters in answer to the KBD opcodes request for the value of a label.

BREAK
This message is caused by the ERR opcode when the expression in the operand is found to be non zero.

BAD LABEL
This is caused by an unlabeled EQU MAC ENT or EXT, a label that is too long or one containing illegal characters.

BAD ORG
Result from an ORG at the start of a REL file

BAD OBJ
An OBJ after code start or OBJ not within \$4000 to \$BF00

BAD REL
A REL opcode occurs after some labels have been defined.

BAD EXTERNAL
EXT or ENT in a macro or an equate of a label to an expression containing an external, or a branch to an external (use JMP)

BAD VARIABLE
This occurs when you do not pass the number of variables to a macro that the macro expects. It can also occur for a syntax error in a string passed to a macro variable, such as a literal without the final quote.

DOCUMENT merlin.doc3

TECHNICAL INFORMATION

The source is placed at STARTOFSOURCE when loaded, regardless of its original address. Important pointers :

STARTOFSOURCE \$A,\$B [set to \$901]
HIMEM \$C,\$D [\$9853 DOS 3.3 \$AA00 IN ProDos]
ENDOF SOURCE \$E,\$F

HIMEM does not change unless a USER routine changes locations \$73,\$74. Such a change will be copied automatically into location \$C,\$D.

General Information

When exit to basic or monitor pointers are save on RAM card at \$E00A-\$E00F. They are restored upon re-entry to Merlin. Entry to Merlin sets current I/O hooks to standard and reconnects DOS. Same as typing PR#0 and IN#0 from keyboard. Entry to EDITOR disconnects DOS, so that you can use labels such as INIT without disastrous consequences.

IF during assembly the object code exceeds usable ram code will not be written to memory, but assembly will appear to proceed as normal, but OBJECT CODE SAVE at EXEC level is disabled.

Symbol table flags

MD = MACRO DEFINITION
M = LABEL DEFINED WITHIN MACRO
V = VARIABLE ()VARIABLE)
? = A SYMBOL THAT WAS DEFINED BUT NEVER REFERENCED
X = EXTERNAL SYMBOL
E = ENTRY SYMBOL
LOCAL LABES ARE NOT SHOWN IN THE SYMBOL TABLE LISTING

Configuration (ProDos)

Configuration data is in file called PARMS , to change data just change the source file PARM.S and reassemble.

(DOS 3.3)

Data statements in HELLO file contain configuration.

| DATA # | DEFAULT | PURPOSE |
|-------------------|--------------|--|
| 1 | 60 | Number of lines per page for printer |
| 2 | 0 | Lines to skip at page perforation 0 sends linefeed |
| 3 | 80 | Number of characters per line for printer |
| 4 | \$80 | \$80 if printer does it own CR else 0 |
| 5 | \$83 | 80 col flag 80+3 if in slot 3 |
| 6,7 | \$901 | Source file start address, never less than \$901 |
| 8,9 | \$AA00 | Do not change |
| 10,11 | \$901 | End of source pointer must = source start address |
| 12 | \$DE ^" | The editors wild card character |
| 13 | 4 | Number of fields per line in symbol table printout |
| 14 | \$AF "/" | Character searched for by UPDATE SOURCE entry to assembler. If this is 0 question bypassed |
| 15,16,17,14,20,31 | | The default tabs for editor and assembler |
| 18 | 8 | Number of object bytes/line after first line |
| 19 | 5 | Error/Bell flag and Ultraterm start parameters. |
| 20 | \$40 | Cursor flag. regular cursor=\$40 block+0 |
| 21 | 0 | LSTDO default: 0,1=LSTDO ON, >1=LSTDO OFF. Bit 0, if clear, causes shift to 40 col on PRTR command. |
| 22 | 72 | Column at which the cycle count will be printed when using the CYC opcode. |
| 23 | \$EC | Cursor type for Ultraterm. |
| 24-44 | \$F1 to \$F7 | File type names for the user defined file types
These names will be shown in the directory when cataloged by Merlin. ProDos ONLY. |

ProDos Merlin Pro notes

The ProDos version uses TXT files for source files. This includes files intended for the PUT or USE opcodes, and all such files must have the .S extension in the file name. It is suggested that you keep files intended for PUT or USE in a subdirectory.

ILLEGAL FORWARD REFERENCE

A label equated to a zero page address after it has been used. This also occurs when an unknown label is used for some things that must be able to calculate the value on the first pass. It also occurs if a label is used before it is defined in a DUM section on a zero page

TWO EXTERNALS

Two or more externals in an operand expression.

DICTIONARY FULL

Overflow of the relocation dictionary in a REL file.

256 EXTERNALS

The file has more than 255 externals.

ILLEGAL RELATIVE ADRS

In rel mode a multiplication, division, or logical operation occurs in a relative expression. This also occurs for an operand of the type #>expr or a DFB >expr when the expr contains an external and the offset of the expr from that of the external exceeds 7.

ILLEGAL CHAR IN OPERAND

A non math character occurs in the operand where the assembler is expecting a math operator. This usually occurs in macro calls with improper syntax resulting from the textual substitution.

ILLEGAL FILE TYPE (ProDos only)

TYP opcode used with an illegal operand. The operand must evaluate to 0,6,F0-F7, or FF.

General note: When an error occurs that aborts assembly, the line containing the error is printed to the screen. This may not have the same form as it has in the source, since it shows any textual substitutions that may have occurred because of macro expansion. If it is in a macro call, the line number will be that of the call line, and not of the line in the macro.

MEMORY FULL ERRORS

MEMORY FULL IN LINE: xx Generated during assembly. Cause: too many symbols have been placed in the symbol table, causing it to exceed available space. REMEDY: Make the symbol table larger by setting OBJ to \$BFE0 and use DSK to assemble directly to disk.

ERR:MEMORY FULL. Generated immediately after you type in one line too many. CAUSE: The source code is too large. REMEDY: Break source up into smaller sections and bring in when necessary by using PUT pseudo-op.

ERROR MESSAGE: None, but no object code will be generated. CAUSE Object code generated from an assembly would have exceeded the available 16K space. REMEDY: Set OBJ to an address less than its \$8000 default or use DSK.

SOURCEROR

1. BRUN SOURCEROR from Merlin's EXEC MODE
2. To invoke SOURCEROR type USER from the EDIT mode with the screen set to 40 column mode.
3. You will be asked if you want to load an object file to be disassembled. Do so if needed. Type CTRL-S after file name for SWEET !^
4. Next hit return if program to be disassembled is at its original location, or specify in hex the present location of the code if not in its original location, then you will be asked for its original location.
5. When disassembling, you must use the original address of the program and not the current address if different.
6. When you are done type USER1 from the EDITOR to get rid of SOURCEROR and free up the memory used by the disassembler.

Commands

IF you specify a number greater than the present address you are disassembling a new ORG will be created.

L (list)

This disassembles 20 lines of code. 2000LLL will disassemble 60 line of code starting at \$2000

If an illegal opcode is encountered, the bell will sound and opcode will be printed as three question marks in flashing format. In the source code itself, unrecognized opcodes are converted to HEX data, but not displayed on the screen.

S (SWEET)

Similar to L but forces disassembly to start in SWEET 16 mode.

N (Normal)

This is the same as L, but forces disassembly to start in normal ^%02 mode.

H (HEX)

This creates the HEX data opcode. It defaults to one byte of data. If you insert a one byte hex number after the h, that number of data bytes will be generated.

T (TEXT)

This attempts to disassemble the data at the current address as an ASCII string. Depending on the form of the data, this will be disassembled under the pseudo-opcode ASC, DCI, INV or FLS. The appropriate delimiter is automatically chosen. The disassembly will end when the data encountered is inappropriate, when 62 characters have been treated, or when the high bit of the data changes. In the last condition, the ASC opcode is automatically changed to DCI. Sometimes the change to DCI is inappropriate. This change can be defeated by using TT instead of T in the command.

W (WORD)

This disassembles the next two bytes at the current location as a DA opcode. Optionally, if the command WW is used, these bytes are disassembled as a DDB opcode. If W- is used as the command, the two bytes are disassembled in the form DA LABEL-1. The latter is often the appropriate form when the program uses the address by pushing it on the stack. You may detect this while disassembling or after the program has been disassembled. In the latter case, it may be to your advantage to do the disassembly again with some notes in hand.

/ (cancel)

this cancels the last command

R (read)

This lets you look at memory in a format that makes imbedded text stand out. To look at the data from \$1000 to \$10FF type 1000R. This is total independent of the disassembly address.

Q (Quit)

This ends disassembly and goes to final processing which is automatic.

DEALING with the finished source

You may notice that some DA's would have been more appropriate in the DA LABEL-1 or the DDB LABEL formats. In this and similar cases, it may be best to do the disassembly again with some notes in hand.

The source will have all the exterior or otherwise unrecognized labels at the end in a table of equates. You should look at this closely. It should not contain any zero page equates except ones resulting from DA'a Jmp's or Jsr's. This is almost a sure sign of an error in the disassembly.

Changing Sourceror's label table

The label tables used by Sourceror are just assembled Merlin source files. The source file is on the Merlin disk and can be modified directly by the user. It must be assembled and saved under the same name as the previous label files.

APPLESOFT LISTING INFORMATION

A fully labeled and comment source listing of Applesoft Basic can be generated by the program SORUCEROR.FP on the opposite side of the ProDos Merlin Diskette.

WARNING: SOURCEROR.FP and some temporary work files are deleted when sourceror.fp is brun. For this reason make a backup copy and uses the backup copy.

1. Boot ProDos Merlin
2. BRUN SOURCEROR.FP form Merlin's Disk command
3. When Sourceror.fp finishes, L)oad the file APPLESOFT.

4. Type the following to print the listing on your printer:

```
PRTR 1 "I80N"APPLESOFT LISTING"
ASM
```

The entire first pass will take 3.5 minutes then a print out to printer will begin. It will take 105 pages and an hour and a half to print on a 80 character per second printer.

By using the XREFA utility with the Applesoft source you can produce a listing of every subroutine, zero page address and where they are used and called. To do this:

- 1 Load the Applesoft file form the SOURCEROR.FP disk
- 2 Quit to the EXEC mode and press D for disk
- 3 BRUN /MERLIN/UTIL/XREFA
- 4 Go to the EDITOR
- 5 Issue the following command : USER 3,
- 6 Issue the PRTR command : PRTR 1 "I80N" "APPLESOFT XREF".
- 7 Issue the ASM command to start the assembly process.

UTILITIES

FORMATTER

This is for enhancing the use of Merlin as a general text editor. To use BRUN if from the exec mode, then issue the USER command from the editor.

XFER,XREFA

These provide a means of generating a cross reference listing of all labels used within a Merlin assembly

XFER instructions

- 1 GO merlins exec mode and C the disk then BRUN XREF
- 2 Type in appropriate USER command at editor

- USER 0 - prints assembly listing and alphabetical cross reference
- USER 1 - print assembly listing and both alphabetical and numerically sorted

cross reference

- USER 2 - print alphabetical cross reference only.
- USER 3 - Print alphabetical and numerical cross reference

XREFA

This is an address cross reference program and is handy when you have lots of PUT files

PRINTFILER

Saves an assembled listing to disk as a sequential disk file.

Applications

Incorporating the assembled text file in a document being prepared by a word processor.

SENDing the file over a telephone line using a modem.

Mail the file to someone who wants to work with the complete disassembly without having to assemble the program.

```
=====
DOCUMENT merlin.mem.map1
=====
```

DOS 3.3 MERLIN PRO MEMORY MAP

MERLIN Pro DOS 3.3

| | MAIN MEMORY | | AUXILIARY MEMORY |
|--|-------------|--------------------------------|---|
| | \$FFFF | MONITOR | \$FFFF |
| | \$F800 | | \$F800 |
| | | INTERGER BASIC (if loaded) | MERLIN PRO |
| | \$D000 | | \$D000 |
| | \$C000 | I/O LOCATIONS | I/O LOCATIONS |
| | | | OBJECT CODE AND LINKING DICTIONARY IF ANY |
| | \$9853 | DOS 3.3 | |
| | | OBJ adrs | \$8000 |
| | | MACROS USE FILES | |
| | | UNUSED SPACE VARIES | \$1000 |
| | | SOURCE FILE | USER PROGAMS |
| | \$900 | | |
| | \$8FF | EDITOR AND ASSEMBLER WORKSPACE | |
| | \$800 | | \$800 |
| | \$400 | TEXT PAGE 1 | USED BY 80 COL |
| | \$3F0 | DOS VECTORS | |
| | | | UNUSED |
| | \$300 | I/O INTERFACES USER ROUTINES | \$300 |
| | | INPUT BUFFER & MISC | USED BY XREF |
| | \$200 | | \$200 |
| | \$100 | STACK | MERLINS STACK |
| | \$0 | ZERO PAGE | MERLINS ZERO PAGE |
| | | | \$0 |

===== DOCUMENT merlin.mem.map2 =====

===== DOCUMENT merlin.screen.e =====

DOS 3.3 MERLIN PRO MEMORY MAP

MERLIN Pro ProDos

| | | | |
|---------------------------|----------|--------------------|---------|
| MAIN MEMORY | | AUXILIARY MEMORY | |
| \$FFFF | | \$FFFF | MONITOR |
| | | \$F800 | |
| ProDos | | MERLIN PRO | |
| \$D000 | | \$D000 | |
| I/O LOCATIONS | | I/O LOCATIONS | |
| \$C000 | | \$C000 | |
| Merlin ProDos | | OBJECT CODE | |
| interpreter | | AND | |
| \$AA00 | | LINKING DICTIONARY | |
| \$A9FF | | IF ANY | |
| | OBJ adrs | \$8000 | |
| MACROS boundry ignored if | | REL used | |
| USE FILES | | | |
| UNUSED SPACE | | | |
| VARIABLES | | | |
| SOURCE FILE | \$1000 | USER PROGAMS | |
| | | | |
| \$900 | | | |
| \$8FF | | | |
| EDITOR AND | | | |
| ASSEMBLER | | | |
| WORKSPACE | | | |
| \$800 | | \$800 | |
| TEXT PAGE 1 | | USED BY 80 COL | |
| \$400 | | \$400 | |
| MISC VECTORS | | UNUSED | |
| \$3F0 | | | |
| I/O INTERFACES | | | |
| USER ROUTINES | | | |
| \$300 | | \$300 | |
| INPUT BUFFER | | USED BY XREF | |
| & MISC | | | |
| \$200 | | \$200 | |
| STACK | | MERLINS STACK | |
| \$100 | | \$100 | |
| ZERO PAGE | | MERLINS ZERO PAGE | |
| \$0 | | \$0 | |

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1. INTRODUCTION

The Merlin Pro ProDOS and DOS 3.3 versions load the standard editor on boot. The Merlin Pro manual refers to this editor and it recommended that you become familiar with its operation.

At some point you may prefer to use the Full Screen Editor instead. Please read the information in this page carefully. It has been provided to help avoid confusion.

The easiest way to identify which editor is in effect is to enter the Editor and press "A" to add a line. If the line number appears in the upper right hand corner of the screen, the Full Screen Editor has been installed.

To have the ProDOS Full Screen Editor installed on boot, you should first make a copy of the Merlin Pro, ProDOS version. In the sub-directory UTIL is a file called FS.ED. RENAME this file to ED and you're all done. For easy reference, write "Full Screen Editor-ProDOS" on the diskette label.

To have DOS 3.3 Full Screen Editor installed on boot, you should first make a copy of the Merlin Pro, DOS 3.3 version. LOAD the HELLO program and add the following line:

```
80 PRINT CHR$(4)"BRUN ED"
```

and then SAVE HELLO. For easy reference, write "Full Screen Editor, DOS 3.3" on the diskette label.

2. SOURCEROR

Most Merlin Pro utilities such as XREF and PRINTFILER can be in memory at the same time as the Full Screen Editor version. However, on the ProDOS version, the Full Screen Editor uses the same memory area as SOURCEROR. Therefore, you must boot the Standard Editor version of Merlin Pro to use SOURCEROR. This does NOT apply to the DOS 3.3 version.

See the additional notes on using SOURCEROR and SOURCER.FP at the rear of the Full Screen Editor manual.

3. GETTING STARTED

Merlin Pro's Full Screen Editor is very compact and powerful. It is on both the DOS 3.3 version and the ProDOS version, where it is in the UTIL directory.

It is compatible with the //c and //e 80 column cards as well as the Videx Ultraterm and Checkmate Technology Multiview cards (all modes). Its command structure is modeled closely on the Merlin Pro

Standard Editor so that you don't have to learn another radically different set of commands.

After it has been loaded, it is accessed from within the editor by typing an "A" command. If there is a source file in memory then the "E" command also sends you to the Full Screen Editor

If you have one of the new 65802 16-bit microprocessors in your Apple //e or //c then you can make use of the "ED.16" version of the Full Screen Editor. This is faster and has some added capabilities such as the ability to move source files easily and quickly between DOS 3.3 and ProDOS versions.

The 65802 can be plugged right into your Apple //e or //c, replacing the existing 65C02 or 6502. There are no known incompatibilities with this chip, except for those that already exist for the 65C02. The entire 65C02 instruction set is supported, with the exception of the so called Rockwell codes. Those codes only exist on the Rockwell version of the 65C02 and do not exist on the versions used by Apple Computer for the //c or the //e enhancement.

It is strongly suggested that you install the Enhancement Kit in your //e if you don't already have it. This is not strictly required, but the Mousetext Toolkit characters will produce a substantial improvement of appearance.

4. COMMAND SUMMARY

The command structure follows that of the Standard Editor as much as possible. Commands that are 'global' in nature use the same control character as the but use the Open Apple (OA) key as a prefix instead of the Control key. If you are familiar with Merlin Pro's Standard Editor, or the many editors with similar command structure, these commands will seem very natural.

CONTROL COMMANDS (line oriented and cursor moves)

```
Control B ..... Cursor to beginning of the line
Control D ..... Delete character under the cursor
Control F ..... Find character typed next (recursive)
Control I ..... Toggle character insert mode
Control L ..... Toggle lower case convert mode
Control N ..... Cursor to end of the line
Control Q ..... Delete all characters from cursor to end
Control R ..... Replace original line
Control S ..... Show memory status box
Control W ..... Find next word (alphanumeric)
Control X ..... Cancel global exchange in progress
Control Y ..... Remember current line for recall by OA Y
Cursor keys ..... Move cursor
DELETE ..... Delete character to the left of cursor
ESC ..... Move cursor to the start of next line
RETURN ..... Carriage return and insert new line
TAB ..... Toggle insert mode
```

5. OPEN APPLE COMMANDS (global)

```
OA DELETE ..... Delete previous line (UNDO by OA TAB/OA R)
OA DOWN ARROW ... Cursor down 10 lines, screen centered
OA ESC ..... Return to the standard editor
OA TAB ..... Insert new line at cursor
OA UP ARROW .... Cursor up 10 lines, screen centered
OA B ..... Go to the beginning of source, screen centered
OA C ..... Cut to the clipboard, start select if 1st time
OA D ..... Delete current line (UNDO by OA TAB/OA R)
OA F ..... Find text (recursive)
OA I ..... Insert new line at the editor
```

OA L Go to label in label column or line number
 OA N Go to the end of source
 OA P Paste clipboard at line containing cursor
 OA Q Select all text from current line to end
 OA R Replace last line deleted with current line
 OA W Find word (recursive)
 OA X Global exchange (produces dialog box)
 OA Y Go to last control Y line, screen centered
 OA Z Reprint screen, screen centered
 OA 8 Produce a line of asterisks
 OA 9 Produce a line of boxes
 OA - Produce a line of dashes
 OA = Produce a line of equal signs

6. EXPANDED EXPLANATION OF SOME COMMANDS

6.1 CUT AND PASTE

Open Apple C starts the select mode and selects the line the cursor is on. After this, you can select further lines with the down arrow key. The up arrow key does not cancel select mode, so you can adjust the select range if you go to far.

However, the select mode will be canceled if you move the cursor above the first selected line or past the top of the screen. Any other command will cancel the select mode. Selected lines are shown in inverse. When you want to cut, type OA C again. The selected lines will disappear from the screen and are placed on the clipboard.

Open Apple Q selects everything from the current line to the end of the file for cutting. OA C will then cut it; anything else will cancel the select mode. This provides a simple means of moving the entire file to the clipboard.

Open Apple P pastes the current contents of the clipboard on the screen starting at the line containing the cursor. Only full lines are moved. This does not change the contents of the clipboard, so that this can be used to replicate a range of lines.

7. FIND TEXT and GOTO LABEL (or line number)

The OA F command brings up a box which asks for the find text. It then finds the first occurrence of the text in the entire text file. The text can be anywhere on a line. After the first find, you can find the next occurrence by typing another OA F. You can edit the line and then type OA F to go to the next occurrence.

The OA B command and the Control-S status command both cancel the find mode, as does failure to find the text below the current line. This continued find mode is indicated by one or more '+' signs preceding the line number at the top right corner of the screen. The continued find starts from the row the current line, so it locates only one occurrence per line.

The OA W command is identical to OA F except that it finds only whole words bounded by non-alphanumeric characters. If you type either OA W or OA F to find the next occurrence, this mode will change accordingly.

The OA L command asks for a label or any text to locate. It finds the first occurrence of that text in the file, but only in the label column. Only the characters typed are compared with the labels, so in some cases you may wish to end your input with a space.

The intended use of this command is to move rapidly to a particular place in the source. You can use 'markers' to enhance the

capability of this command. Therefore, if a line starts '* 7', you can specify '* 7' as the find text for this command and it will work.

If you type a number for the label in an OA L command, you will be sent to that line number. This is convenient when editing a source file using the printed listing.

In all cases the line containing the text is moved to the center of the screen, unless it is within the first 10 lines of the start of the source.

8. GLOBAL EXCHANGE

The OA X command produces a dialog box that asks for the text to change, and the new text to replace it (if you just type RETURN for either of these, the command is aborted). Then the file is searched for the change text. Unlike the FIND command, it looks only for full words. That is, the text found must be bounded by non-alphanumeric characters or it will be ignored.

If text is found with this method, the screen is reprinted with the replacement made and the cursor is placed on the first character of the replacement. Now you must hit a key to continue, Pressing RETURN or any other control character will defeat the change and the routine will look for the next occurrence of the text to change. Pressing the space bar or any other character will accept the change and the routine will continue.

One exception to this is the Control-X key, which will abort the process and return control to you. Another exception is the 'A' key which will cause all occurrences to be changed. Caution: this can be aborted only by RESET.

You can tell when the routine is finished by the fact that the line number at the top right is missing during the exchange sequence and will return when there are no more matches for the change text, or until you press Control-X.

9. REPLACE LINE and DELETE LINE

The OA D and OA-DEL commands delete a line from source and place it in a special 'undo' buffer, which is independent of the clipboard. The OA R command exchanges the current line with this undo buffer. Thus two successive OA R commands cancel one another out. OA R on an empty line places the undo buffer at that line and clears the undo buffer.

Note that these commands can be used to move a single line to another location. Just place the cursor on the line to be moved and type OA D; then move the cursor to an empty line or anywhere else, Now press either OA-TAB or RETURN to create an empty line, and then type OA R.

OA R can be used by itself to easily interchange two lines. Just place the cursor on the first line, press OA R, move the cursor to the second line, press OA R again, move the cursor back to where the first line was and press OA R for the third and final time.

10. OPEN APPLE UP AND DOWN

The OA DOWN ARROW command moves the cursor to the 10th line below its present position and then reprints the screen so that the cursor will be on the 11th line. If this command is repeated it has the effect of moving the current line to the top of the screen and then moving the cursor to the 11th line on the screen.

Similarly repeating the OA UP ARROW command moves the top line to

the 11th line on the screen and puts the cursor on that line.

11. STATUS

The Control-S command displays a status box showing the number of used and free bytes.

12. CHARACTER INSERT MODE

The character insert mode defaults to ON upon entry. When you change it with the TAB or Control-I key, it remains that way until changed again. Thus, moving from one line to another has no effect on this status.

The status is indicated by the type of cursor displayed. It is an inverse 'I' when insert mode is active, and an inverse space when it is not active. The cursor is an inverse 'F' when you are in find mode.

13. LOWER CASE TOGGLE

Ordinarily, unless the cursor is in a comment or an ASCII string, lower case characters will be converted to upper case characters. This is also defeated when the tabs are zeroed. To override this conversion, or to reinstate it, just use the Control-L command. This conversion is also in effect when you use the OA F or OA L find commands.

14. LINE NUMBER and EOL MARKER

At the upper right hand corner of the screen, the number of the line containing the cursor is printed. Somewhat to the left of this you may see a vertical bar. This bar indicates the position at which an assembly listing will overflow the printer line. You can put characters beyond this mark, since it is for information only. The position of the mark is calculated using your line length parameter in the PARMS file. If this is very large, the mark will not be shown.

15. GENERAL REMARKS

When you move the cursor between lines its horizontal position will jump around. This is because it is based on the actual position in the line and not on the screen position. If the tabs are zeroed you will not notice this, except for the fact that the cursor is never beyond the last character in the line.

The editor works with any 80-column card and supports all modes of the Ultraterm and Multiview cards. Except for minor details, it even works on the 40 column screen. However, only that part of a line that can fit on one screen line is displayed.

The maximum line length is 192 characters. Lines longer than that will be truncated IF they are edited.

The editor uses the mousetext characters in some places, but this is just cosmetic. In 40 column mode these will show up as strange characters because Merlin Pro does not use the video firmware in that mode.

You must return to the standard editor (OA ESC) in order to use the ASM command to assemble, or to Quit and access the EXEC mode, the monitor, etc.

If the 'search character' parameter location is in negative ASCII, then when you return to the standard editor, the 'A' and 'E' commands no longer send you to the screen editor. This way you still have use of the standard editor if you desire. The entry to

the screen editor is reestablished when you go to EXEC mode and back, or when you assemble a file.

On the other hand, if you defeat the 'Update source (?)' question by putting a zero in this parameter location, then the 'A' and 'E' commands will always send you to the screen editor. The standard editor can be used only for immediate commands. Using any positive byte except zero for this parameter will defeat the 'Update source (?)' question but still allow access to the standard editor.

The editor conflicts with some other utilities in its use of memory such as SOURCEROR. To use these utilities you should remove the editor by running the REMOVE.ED program. This pertains only to the ProDOS version.

Users of the Ultraterm or Multiview cards can set up any mode of the card by typing the appropriate ESCAPE sequence when in the standard editor. That mode will then be automatically supported when you go to the screen editor.

Unlike the standard editor, the Control-Q key does not move to the next line after deletion of characters from the cursor on. This makes it possible to use the Control-R key to undo this command.

An assembly will delete the current clipboard file. RESET will return to the EXEC mode with everything intact.

The editor has keyboard buffering so that keys will still be read during time consuming operations such as reprinting the screen or moving data to and from the clipboard.

16. MEMORY USAGE

The ProDOS version uses 12 pages (3K) from the top of source file memory. If you use the keyboard macro file EDMAC it uses and additional 2 pages. It is protected from overwrite. The DOS 3.3 version uses the other language card and thus does not use any memory ordinarily used by Merlin Pro.

17. INSTALLING ED ON THE FLY

If you have deleted line 80 from the DOS 3.3 HELLO program, and you want to install the Full Screen Editor from within Merlin Pro, press C to Catalog from the EXEC mode, and at the BASIC prompt type BRUN ED. You can also BRUN ED from BASIC after Merlin Pro is in memory.

With the ProDOS Standard Editor version, press D for Disk command from the EXEC mode, and type BRUN/MERLIN/UTIL/FS.ED at the command prompt.

18. THE KEYBOARD MACRO PROGRAMS (EDMAC)

These are versions of the keyboard macro parts of KEYMAC that will support the screen editor. The macros are invoked by pressing the Close Apple key along with other keys. The source files are provided so that you can change the macro definitions if you so desire. To set up the keyboard macros, press C to catalog from the EXEC mode (assuming ED has been loaded), and at the command prompt, type BRUN EDMAC.

19. OOPS

Virtually any command can be undone. The proper undo command is of the same 'type' as the command you want to undo. Line editing commands are undone by Control-R. This includes the OA 8, OA 9, OA -, and OA = commands which are regarded as line editing commands for this purpose.

Line deletion commands OA D and OA DEL are undone by creating an empty line with OA TAB and then OA R. If you forget to create the empty line, type another OA R and then do this.

The OA R command undoes itself. A CUT is undone by a PASTE without moving the cursor off its line.

20. THE ED.16 VERSION

ED.16 is for use with the 65802 or 65826 chip. The speed sensitive parts of the editor make use of the enhanced abilities of these chips. For very large files the difference is substantial. Do not run ED.16 with a 6502 or 65C02. It should have no effect, but this has not been tested.

If you have a 65802 in your Apple, you can use ED.16. Just rename ED.16 so that it becomes 'ED'. If you have a program selector, tell the selector to use 'ED.26' as a 'startup'.

There are extra features in ED.16. The 'A' entry goes to end of source and the 'E' entry with line number goes to that line, unless the line is less than 11. The Control-S status request also shows the length of the clipboard, if any.

There are two more OA commands, OA LEFT ARROW and OA RIGHT ARROW. These move through the text a page at a time. This is roughly equivalent to two successive OA UP or DOWN Arrows.

The Control-O override command enables insertion of control characters in the text file.

The clipboard in this version only can be used to transfer files between ProDOS and DOS 3.3. To do this, place the cursor on the first line and type OA Q then OA C which will place the entire file in the clipboard. Then boot up the other version of Merlin Pro and ED.16 and type OA P.

If you use OA F, OA W, or OA X while a range is selected by OA C and Down Arrows, only that range will be searched. Otherwise, the entire file is searched. These commands cancel the select mode. If the OA P paste command is used when a range is selected, the clipboard replaces the text in that range. Note: text deleted in this manner is not recoverable.

Things that will destroy the clipboard:

1. Turning off the computer
2. Writing to /RAM
3. Using any program that writes to auxiliary memory.
4. Using the SWAP command in the standard editor.
5. Assembling a file.

Things the clipboard will survive (ED.16 only)

1. A cold boot (Control OA RESET).
2. Running a program that does not use auxiliary memory.
3. RAM format request (but no writing of files).
4. Loading and saving files (all ED versions).

21. LOADING OTHER UTILITIES

You can have another utility such as XREF or SOURCEROR, loaded on boot instead of ED. To do this, change the name 'UTIL/ED' located at \$2006 with a leading length byte, in MERLIN.SYSTEM, to the path name of the utility you want executed upon boot. This is for the ProDOS version only.

22. TECHNICAL INFORMATION

The editor has been arranged so that certain parameters can be altered with little effort. At relative byte 3 in the file there is an address which points to the main part of the program, past a relocating header.

This address is referred to as START and is the address in the file when loaded and not necessarily when it is running. At Start there is a JMP. After the jump there is an address for use in linking macro programs (see EDMAC source).

At START + 5, there are characters used for the four cursors (Inverse I, F, space, and F; the two F's depend on the state of the insert mode). You can substitute any characters you want here except that you should not use the range \$40-\$7F.

At START + 9 is the byte \$A0 which controls the blink rate. Raising this makes the blinking slower. This is desirable with speedup cards. A value of 0 gives the slowest rate.

At START + 10 a table of command characters used without the OA key. Some commands such as up and down arrow keys are handled separately and are not in these tables. This table ends with a zero. Following this is the table of the key commands used with OA, again ending with zero.

23. IMPORTANT NOTE

Do not use KEYMAC (instead of EDMAC) when ED is in memory!

24. BASIS 108 VERSION

On the BASIS 108 only the ED.16 version has been implemented. The Full Screen Editor can be used only if you have a 65802 chip.

The 'Open Apple' commands are implemented by 'shift-control'. Thus shift-control C is the Cut command, etc. On the BASIS there is a limited amount of memory for the clipboard: 16K. If you try to cut more than this you get an "Out of Memory" message. Also, you cannot Cut out of or paste into memory above \$8000. Thus some cuts will be disallowed on very large sources. This will also yield the Out of Memory message. Because of this limitation, it is a good idea to avoid such extremely large source files.

There is no version of EDMAC for the BASIS 108.

Following the two key tables is the routine that tests for the control-shift combination. This is followed by 16 zero bytes to accommodate patching, should the user want to change this routine.

The routine should return with the Z-flag set (EQ true) if the shift-control (or its replacement) is pressed. The command key itself is read elsewhere. The X and Y registers must be preserved but the A register does not matter. If this routine is changed the 'OA' command table may also have to be changed. The routine is located at START + \$33 (see technical information) but changes to the editor may shift it slightly.

To have the Standard Editor installed on boot, delete line 61 from the HELLO program (e.g. BRUN ED.16B).

25. ADDENDUM

The following addendum is provided for Merlin Pro users that had a version prior to 2.34

26. NEW DISK COMMANDS (ProDOS Version)

There is an alternate way to set the disk prefix. Press D for disk command, then enter PFX= or PFX=1 to specify slot 6, Drive 1, or PFX=2 for Slot 6, Drive 2. You can use the new SLOT command to specify slots other than 6. SLOT is to be used with the PFX= and CATALOG command as described below.

27. CATALOG COMMAND

After using the CATALOG command, if you press =, =1, or =2, Merlin Pro will set the prefix to the volume found in the specified drive and then catalog that volume. If you press OPEN APPLE during a catalog, Merlin Pro lists only the TEXT files present in the specified directory.

If you press OPEN APPLE and CLOSED APPLE at the same time during a catalog, Merlin Pro lists only the BIN files present in the specified directory. These keys must be pressed and held during the entire catalog process.

28. INTERPRETER

If the Merlin Pro ProDOS interpreter cannot find a disk volume required for linking or assembly, it will ask for the correct volume to be inserted. This request can be aborted by pressing Control-C or RESET. This only applies to volumes, not files. If you want a PUT opcode to prompt you to switch disks, you must use the full path name with the PUT opcode.

This feature will not work with the Linker when using one disk drive. If the present prefix does not correspond to any volume online, Merlin Pro will give a VOLUME NOT FOUND error.

The PROGRAM TOO LARGE error message has been changed to MEMORY IN USE. See page 104 in the main Merlin Pro manual.

29. NEW DISK COMMANDS [DOS 3.3 Version]

The DOS 3.3 version does not perform the same volume checking as the ProDOS version. However, it is possible to simulate this with the following code:

```
LST XXX KBD "INSERT MYFILE DISK AND TYPE 0 <RETURN>"
PAUSE
```

The assembler will stop at KBD on the first pass and assign a 0 value to XXX (any dummy label you desire). Pause forces a pause on the second pass and LST makes sure you see the KBD line. On the second pass, assembly resumes when you press any key (it is not necessary to type 0 and press RETURN.)

30. [ProDOS and DOS 3.3 versions]

30.1 Merlin Pro and 'SPEED UP' CARDS

Merlin Pro will work either in main or auxiliary memory (aux is the default). If you are using the main memory version, you will get about a 1.6 speed improvement with the SpeedDemon card, and about a 2x increase with the Accelerator. This is due to the heavy use of auxiliary memory during assembly. To select the main memory version with DOS 3.3, change the HELLO program to BLOAD MERLIN.X instead of MERLIN.

To select the main memory version with ProDOS, use a \$C3 as the fifth byte in the PARMS file. The V-bit of that location is used as a flag to instruct the interpreter to make the main memory modifications. A + sign after the MERLIN PRO VERSION 2.xx on the EXEC mode screen indicates the main memory version is active.

Some utilities do not work with the ProDOS main memory version because ProDOS is moved to aux memory. Programs that do not switch zero pages will work fine. Programs designed to be run in 64K will most likely run properly. The Filer and Convert programs run as long as the - command is used to run them, and all Merlin Pro utilities will work. The QUIT command moves ProDOS back to main memory.

MACROS

Errors in macros no longer abort assembly.

31. LINKER

The addresses of all external references are printed whether or not they are resolved. If you use the TRON command prior to the LINK command, only the errors will be printed in the external list (NOT RESOLVED and DUPLICATE errors).

32. LUP

In a LUP, if the @ character appears in the label column, it will be increased by the loop count (thus A, B, C...). Since it is a countdown, these labels go backwards (the last label has the A). Thus it is possible to label items inside a LUP. This works with a maximum LUP length of 26, or you will get a BAD LABEL error and possibly some DUPLICATE LABEL errors.

33. CLOCK

This utility is an interrupt driven software clock for the //c which lacks a clock to do ProDOS time stamping. It uses the VBLINT interrupt provision of the //c. This should be used with caution! If overwritten, anything might happen. Press RESET to turn off interrupts. The source files are provided in the SOURCE directory on the ProDOS version.

34. CONV.LNK.REL [ProDOS only]

This makes Merlin Pro's REL files compatible with Apple's RLOAD and RBOOT programs. It will convert a Merlin Pro LNK file to Apple's REL format (only if there are no externals). You can BRUN it from EXEC mode. If there is a source file in memory, it will just return, so enter NEW first in the editor.

You will be prompted for the path name of the file. The program will do the conversion and set up the converted file for Merlin Pro's object save command. The CONV.LNK.REL utility does not write anything to disk and does not delete or otherwise damage the original file.

35. CLR.HI.BIT [ProDOS only]

This converts a source file in memory to positive Ascii so the file can be sent to other programs that expect data in this form, such as Apple's ProDOS ED/ASM. To use it, just BRUN UTIL/CLR.HI.BIT and the save the source. CAUTION: If you re-enter the Editor, the source will be deleted from memory, since the Editor does not like this format.

36. 65C02 SPECIAL NOTES

To assemble or disassemble 65C02 code with the older //e ROMs, you must first BRUN MON.65C92. This must be done from BASIC if you are using the DOS 3.3 version. This utility is not needed with the newer //e of //c ROMs.

With both versions, you MUST use the XC opcode (see page 75 for details) as the very first line in your code. This flag tells Merlin Pro you are using 65C02 or 65802 opcodes.

You will have problems if you do not use the standard 65C02 opcodes as specified by GTE, NCR, and Rockwell. In creating the //c Reference manual, Apple apparently did not check with the manufacturers regarding the final set of opcodes. Thus, Apple refers to three non-standard opcodes.

For example, to increment the Accumulator, you must use INC with no address argument, not in a. Branch on Bit Set (BBS) and Branch on Bit Reset (BBR) are also non-standard opcodes and are not supported by the NCR and GTE chips.

37. MANUAL CORRECTIONS and ADDITIONAL INFORMATION

37.1 (Page 109)

37.1.1 Configuration (ProDOS version)

Configuration data is kept in a file called PARMS which is loaded when the assembler is run. To change the data in the source file called PARMS.S, with the prefix set to /MERLIN/, type L to load source. Then type SOURCE/PARMS at the prompt. When you are done making changes, reassemble the file. Use S to SAVE the source code as /MERLIN/SOURCE/PARMS (Merlin Pro adds the .S automatically). Then save the object code as /MERLIN/PARMS by using the O command.

37.2 (page 117)

37.2.1 SOURCEROR

37.2.1.1 Introduction

SOURCEROR is a sophisticated and easy to use co-resident disassembler designed to create MERLIN source files out of binary programs, usually in a matter of minutes. SOURCEROR disassembles 6502, 64C02, 65802, and Sweet 16 code.

37.2.1.2 Using SOURCEROR

1. [DOS 3.3] From the EXEC mode, type C to Catalog Merlin Pro. At the command prompt, type BRUN SOURCEROR. [ProDOS - see note on page 1 of this manual] From the EXEC mode, type D for DISK COMMAND. At the prompt, type BRUN/MERLIN/SOURCEROR/OBJ.
2. From the EDIT mode, use ESC CTRL-Q (not Escape-4) to set the screen to 40 columns, then type USER. If the screen is in 80 columns, the USER command will be ignored.
3. You will be asked if you want to load an object file to be disassembled. If you have loaded the object file prior to using SOURCEROR, type N.

If yes, type Y and enter the filename. It will load and show the load address and end of program address. Note: If you type CTRL-S after the filename, files using a RAM version of Sweet 16 can be disassembled.
4. Next, you are asked to press RETURN if the program to be disassembled is at its original (running) location, or you must specify, in hex, the present location of the file to be disassembled. You will then be asked to give the ORIGINAL location of the program.
5. Finally, the screen displays the disassembly commands. You may begin disassembling now, or use any of the other commands

shown. Your first command MUST include a hex address. Thereafter, this is optional.

37.2.1.3 Bird Tracks

Take the situation where you have stored a file that runs at address "X" and because it interferes with Merlin memory usage or whatever, you have stored it with a different loading address "Y." If you then answer yes to the above the program will be loaded at "Y." This will cause the disassembly to be messed up. The way around all this is to either load the file from the command mode or allow Merlin to load the file and accept Merlin's decisions. You then disassemble no more than one "L" of program. Quit and be returned to the editor where you once more enter Sourceror where you state that the program is already in memory at address "Y" *BUT* it normally resides at address "X."

37.2.2 (Page 125)

4. Type the following to print the listing to your printer:

```
PRTR 1 "I80N" APPLESOFT LISTING
```

```
ASM
```

37.2.3 (page 126)

5. Issue the PRTR command: PRTR 1 "I80N" APPLESOFT XREF

6. Issue the following command: USER 3

37.2.4 (Page 135)

3. Enter the Editor and type in the appropriate USER command:

37.2.5 (Page 137: Last sentence in step 3)

In this case enter the following instead if the USER command: PRTR 8 "path name" page header (quotes only for path name).

37.2.6 MERLIN PRO & SOURCEROR FP

- 1) Make a copy of the Sourceror.FP diskette as per the warning on page 124 in the Merlin Pro manual.
- 2) Boot the Merlin Pro ProDOS diskette.
- 3) Insert the Sourceror.FP diskette.
- 4) Press D for Disk command. At the prompt type:

BRUN/APPLESOFT/SOURCEROR.FP
- 5) From the main menu, type L to LOAD, then:

/APPLESOFT/APPLESOFT
- 6) Enter the Editor, and type:
PRTR1"APPLESOFT LISTING
- 7) Then type:

ASM

N (This is not needed if you have defeated the stupid "Update" prompt.)
- 8) You'll be prompted as follows:

Print DO OFF areas ? (Y/N) (You may answer Y or N)

Assemble new ROM version ? (Y/N) If you answer N, you'll get the
][+ version.)
(If you answer Y, You'll be prompted with:)

Assemble //c version ? (Y/N)
(answer Y for the //c & enhanced //e version.)
(Answer N for the original //e version.)

37.2.7 SOURCER.FP & XREF LISTING

- 1) Boot the Merlin Pro ProDOS diskette.
- 2) Insert the Sourceror.FP diskette
- 3) Type L to LOAD, then: /APPLESOFT/APPLESOFT
- 4) Type Q to quit the Editor, & return to the EXEC mode.
- 5) Insert the Merlin Pro ProDOS diskette.
- 6) Press D for Disk command, then type: BRUN/MERLIN/UTIL/XREFA
- 7) Enter the editor then type: PRTR1"APPLESOFT XREF
- 8) Then type: USER 3
- 9) Then type: ASM

N (Not needed if update prompt is defeated)

- 10) You'll be prompted as follows: Print DO OFF areas ? (Y/N)
(You may answer Y or N Be smart, answer Y)

Assemble new ROM version ? (Y/N) (If you answer N, you'll get the
][+ version) (If you answer Y, you'll be prompted with:)

Assemble /c version ? (Y/N)
(Answer Y for the //c and Enhanced //e version.)
(Answer N for the original //e version)

- 11) Insert the Sourceror.FP diskette at the prompt:

Insert /APPLESOFT/APPLESOFT.A.S

- 12) Press RETURN and you're done.

=====
DOCUMENT metal.paddlebal
=====

-: Metal Paddleball & Information Update :-

-Jay Guild

Metal.Paddleball --

Metal Paddleball was thought up one day from some Pascal source in a MacIntosh book. I had figured it would be easy enough to write, and no one had ever done anything like this before for the modem, so I decide to write it and put it out as a demo until the final version of Metal is complete and available to the public. This game is relatively short, and looks nice, as well as works nice. Needless to say, it's not perfect, and isn't bugfree, nor is this the final version of the game. The most interesting thing about the game is it's speed. Metal is fast as it is, but the game is well written to take full advantage of the system. Because of the speed of the Metal software, this game is possible. Locally it warps. Check it out on a IIE and a IIgs. You'll find it's very fast and smooth on both. Speed over the modem should be comparable because of the way the new modem drivers are written.

The modem drivers are interrupt-driven as well as have input and output buffers of reasonable size. This allows the modem to send and receive much quicker than the conventional polling method of the MacOS/ACOS drivers. Even 1200 baud will seem a bit faster. Anyway, this is the first demo version of the game and I hope you enjoy it.

By the way, to play the game, the controls are the HS & SU keys and the space bar.

The Language --

Well folks, the language is improving at a rapid rate. More and more things are being added daily, and more and more bugs&glitches worked out by the day. We have just added another person to the Metal Development Team.

Joshua Thompson, the author of the NuPak unpacking software has just jumped in with us and will be helping with ideas and writing the 16bit side of the software. Reminding you that Metal WILL NOT be full 16-bit. It will be predominantly 8-bit with some minor 16-bit features. The most important and versatile of these features is the 16bit Variable Memory Handler. This will allow you to address ALL of your GS's memory for variable space. Imagine the arrays you can have with this thing! However, this does not leave the 8-bits out in the cold. You have a built in 40k or so var memory and there will be 8-bit drivers for those of you with IIE's and extra memory beyond the required 128k.

The current requirements of the system software include:

- o An Apple IIE (Enhanced), IIC, IIC+, or IIgs
- o At LEAST 128k memory
- o A Clock
- o A modem of any baud rate
- o At least 280k of storage. Metal is big.

Optional: Joystick, More Memory, etc...

The current price of the software is \$75.00 which includes a FULLY written BBS and 250-300+ page manual with 1 year of support. This package will, beside the aforementioned items, include plenty of extra examples, lots of machine language externals, information on some of the internal workings of Metal, and information on writing externals, writing modem drivers, and many other things. This is by no means a complete update on everything that has happened and none of the information stated here is guaranteed to be complete or true. I'm telling you folks what I know to understand. Again, be patient. We realize we are late, but financial difficulties have made it hard, and we are doing our best to find AS MANY bugs as we can so that you may not have to through the hell of rewriting your code around the inconsistencies of the language like you had to do with ACOS and MacOS. We are all trying to make this the best, and most worthwhile 75 dollars you have ever spent on BBS software. I have no idea how much longer it will be before Metal is made available to the general public for purchase, but it will be soon. Thank you for being so supportive.


```
=====
DOCUMENT micro.league.bb
=====
```

```
(*-----*)
(*      M I C R O - L E A G U E   B A S E B A L L      *)
(*-----*)
(*              Written By              *)
(*              Eldar The Wizard        *)
(*              Call The Troll Hole 201-783-9232      *)
(*-----*)
```

Afer booting up your Micro League Baseball diskette,you will be given 2 choices. 1) To start a game or 2)Watch a demo game. A demo game simply shows what the game looks like,but doesn't give any docs.

Once you've started the game,it will give you a screen giving you some idea of what you're supposed to do.Just ignore this,since it may confuse you more, and these docs cover what it tells you to do.What you should be concerned about is what it is asking you at the bottom.It requests whether or not you want a designated hitter.A designated hitter (DH) takes the place of the pitcher when your team is at bat,because most pitchers cannot hit for the life of them.DH's do not play when your team is out in the field.If you do not choose to have a DH,your pitcher will be placed on the batting line-up.

Once you've answered it,you will be given a list of different teams, and are asked to choose a visiting team.Do this by simply pressing the letter corresponding to the team you want.After doing so,it will ask whether you want to control it or have the computer control the team.If you're playing alone, I suggest you pick the computer to control one of the teams,unless you want to play a highly boring game.

Once you've chosen the visiting team,you must do the same thing for the home team.Once you've finished that,you will be given 4 different menus.The 1st one gives you the starting pitcher and the pitching bench for the visiting team. The menu at the bottom should be fairly easy to understand,and you can switch your pitchers around the way you want to.

The 2nd menu is the batting and position line-up for the visiting team.Again, you can follow the menu at the bottom to manipulate the line-up.One point though...most players can play 2 positions.This is designated by a position/ position next to the name (ie:SS/3B for short stop and 3rd base.) if you change a position from one player to another,and the new player you are putting into the position has can play one of those positions,it will accept the change.You cannot however,place a player who can only play,say 1st base into left field.

The 3rd and 4th menus are the same exact thing for the home team.

After you're done,the field will come on the screen,and the home team will walk and the scoreboards will appear.Once the opening themes are done,you will be given a certain prompt depending on which team you are playing and how many players there are.

If there is only 1 player,you will be given either the OFFENSE or DEFENSE prompt,depending on if you're playing the home or away team.If you are given the DEFENSE prompt (which means you're team is out on the field) you can do the following...

DEFENSE MENU

| | |
|-----|--------|
| Key | Action |
|-----|--------|

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-----
1 Pitcher throws a fastball
2 Pitcher throws a curve
3 Pitcher throws a slider
4 Pitcher throws a change-up
5 Pitcher throws a pitch out
6 Brings 1st and 3rd base in and asks for pitch
7 Brings 1st,2nd,3rd & SS in and asks for pitch
8 Intentional Walk
9 Edit your batting/position line-up
0 Change your pitcher
```

Keys # 1,2,3,4 I don't think I need to explain.They are the 4 different types of pitches you can throw.

Key #5 throws a pitch out if you think someone on base is going to steal.If you throw a pitchout,and he does try to steal,it gives you a better chance to pick him off.

Key #6 brings your 1st and 3rd basemen in.This gives you a better chance to field a bunt or get a double play if the batter hits a ground ball.After you hit 6,it will ask you what type of pitch you want to throw (either 1,2,3,4)

Key #7 does pretty much the same thing,except your 1st,2nd,3rd,and short stop all come in.

Key #8 throws an intentional walk.This is useful if a powerful hitter is up and you want to avoid the chance that he might hit a home run or a good hit.

Key #9 allows you to change pitchers.Your pitcher might get tired sometime in the game,and you may want to put in a relief pitcher.

If you are given the OFFENSE prompt (meaning your team is up at bat) you can do the following...

OFFENSE MENU

| Key | Action |
|-----|-----------------------------------|
| 1 | Try to hit a power shot |
| 2 | Try to hit a slow mover/blooper |
| 3 | Runners on base attempt to steal |
| 4 | Hit & run play |
| 5 | Bunt with man on |
| 6 | Normal bunt |
| 7 | Change your pitcher |
| 8 | Substitute the batter or a runner |
| 9 | Change your line-up |
| 0 | Normal hit attempt |

Key #1 can only be used when you have 1 or more men on base.This tells the batter to go for a long hard hit (Namely,a home run).It doesn't always work though.

Key #2 can only be used when you have 1 or more men on base.This tells the batter to go for a short weak hit which may fall between the infield and out- field,or to hit one slow enough so he can beat out the throw to first.Again, it doesn't always work.

Key #3 tells all players on base to attempt to steal.

Key #4 starts a hit & run play.As soon as the pitcher throws the pitch,the runners run as though they were going to steal.However,the batter attempts to hit the ball no matter where it is.This way,the runners may get more bases than they would have normally.Note:If the batter fails to hit the ball,the game considers the play as though the runners were attempting to steal.

Key #5 can only be used when you have 1 or more men on base.This is used for a sacrifice bunt.Using this will usually result in the batter getting out,but will move your runners over one base safely.

Key #6 tells the batter to bunt also.However,this bunt gives your batter a better chance of reaching first.However,if you have any runners on,they may get out depending on where the ball was hit.

Key #7 allows you to change your pitcher

Key #8 allows you to put in a pinch hitter or runner

Key #9 allows you to change your line-up

Key #0 is your normal hit key.Use this key for a normal hit (Which can be pretty much anything)

Those are pretty much all the docs. There are a few other notes however.

The computer picks a random ball-strike count.Which means..you don't get 4 6 balls and 3 strikes like in real baseball.The game only allows one ball or

Before you change sides (after 3 outs) and if you've made a batting or pitching change,the system will ask you to hit a key.I don't know why it does this..but sometimes it will put you back in either the line-up or pitching menu.If you've already made the change, simply hit escape.

There may be a bug in your copy.If you allow a designated hitter,the game may royally screw up your lineup (Like..you may have the same guy playing 5 different positions.) If this happens,you cannot have a designated hitter.Re- boot your game and answer N to the question "Do you want a designated Hitter".

When you decide to change your pitcher,it's alright to simply take a pitcher off your bench,but he won't be warmed up and he may be hit off of the first couple innings he's in.It's better to put your relief pitcher in the bull pen for a few innings before brining him in,which warms him up a lot.

**** Special Keys ****

Hitting an "M" at the OFFENSE or DEFENSE prompts will turn the organ on & off Hitting an "R" at the OFFENSE or DEFENSE prompts will toggle on & off whether the players run on and off the field when changing sides.When you turn the "Run to Dug out" off,the players change sides instantly,which decreases game time (You don't have to sit and watch them run back and forth...).

Anyway..that's pretty much it. Have fun
and
P L A Y B A L L !

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=====
DOCUMENT microbe
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///////////////\\\\\\\\\\\\\\\\\\\\
 \                MICROBE          /
 ///////////////\\\\\\\\\\\\\\\\\\\\
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- ? LIST OF COMMAND
- Q QUIT
- ESC PAUSE
- T TECH. (REPAIR STUFF)
- N NAVIGATOR
- U USE AN ITEM
- I LIST OF ITEMS
- P PHYSICIAN (IDENTIFY ENEMIES, AND DRUG ADVICE)
- E ENGINE
- <- TURN LEFT
- > TURN RIGHT
- SPBAR CHANGE SPEEDS
- L LIBRARY (TO IDENTIFY THINGS AND GET INFO)
- ^ VIEW TOGGLE
- PDL(0) CONTROLS LASER (BE CAREFUL)

THE GAMER/STUDENT/PHYSICAN IS HOW MUCH INFO YOU'LL GET. THE SKILL LEVEL IS FREQUENCY OF ATTACK THE LITTLE THINGS THAT LOOK LIKE PORTS IN THE LUNGS AND KIDNEYS AND LIVER ARE FOR MORE AIR, FUEL, ECT. USE THE PROPER HOOKUP. YOU MUST STOP THE HEART WITH THE DIFIBULAR BEFORE YOU ENTER IT.

IF YOUR NOT SURE WHAT'S GOING ON, ASK THE DOCTOR FOR ADVICE (RX).

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DOCUMENT microwave

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* - - - - - *
*           *
*   MICROWAVE   *
*           *
* * * * *
    
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MICROWAVE IS LIKE PAC-MAN WITH A FEW DIFFERENCES. YOU START OUT IN A MAZE WITH VARIOUS OBJECTS DROPPED ALL ABOUT YOU. THE OBJECT IS TO PICK UP ALL THE OBJECTS AND GET OUT AT THE OTHER SIDE. HOWEVER IN THIS GAME YOU HAVE A FEW 'FRIENDS' CHASING YOU; LURCH, TRIXIE, BIFF AND TEDDY. LURCH SEEMS TO BE THE FASTEST AND MOST OMINOUS.

AS YOU RUN AROUND THE MAZE ALL YOU NEED DO TO GET AN OBJECT IS TO RUN OVER IT. SOMETIMES YOU WILL SEE A GRENADE. YOU CAN'T GET THESE, BUT THEY CAN GET YOU. THEY'RE SAFE WHEN THEY ARE GREEN, BUT ONCE THEY TURN BLUE THEY EXPLODE IN ABOUT 1-2 SECONDS. YOU ALSO HAVE A WEAPON. IT'S A MICROWAVE BEAM. WHEN YOU FIRE THIS IT FIRES IN THE DIRECTION ***OPPOSITE*** OF WHAT YOU WERE TRAVELLING. IT WILL EXTEND AS FAR AS IT CAN IN A STRAIGHT LINE UNTIL IT RUNS INTO A WALL, IT STAYS ON FOR ABOUT 5 SECONDS. ANY CREATURE CAUGHT IN IT SHRIVELS AND DIES INSTANTLY. SOME MAY RUN INTO IT, BUT THIS DOESN'T HAPPEN OFTEN.THEY ARE REGENERATED IN (ABOUT) 7 SECONDS.

YOU GO THROUGH 4 DIFFERENT MAZES, EACH WITH A FEW MORE OBJECTS THAN THE FIRST. ON THE BOTTOM LEFT OF THE SCREEN IT SAYS 'POWER' AND GIVES A NUMBER. THIS IS THE NUMBER OF MICROWAVES YOU CAN SHOOT. YOU CAN GET ONE MORE SHOT PER MAZE BY RUNNING OVER WHAT LOOKS LIKE A SQUARE. YOU CAN ALSO WALK INTO YOUR MICROWAVE TO HIDE, BUT DON'T STAY IN THERE TOO LONG OR YOUR LIFE-SUPPORT WILL GET LOW THEN CRITICAL THEN FLASHING CRITICAL AT WHICH POINT YOU PROBABLY WILL DIE. ONCE (IF) YOU HAVE GOTTEN THROUGH ALL 4 MAZES IT REPEATS ITSELF ONLY WITH MORE STUFF. I FOUND THIS GAME TO BE EASIER USING THE KEYBOARD. JUST PRESS 'K' AT THE BEGINNING AND THEN IT'S:

```

<--- FOR LEFT
---> FOR RIGHT
'A' FOR UP
'Z' FOR DOWN.
    
```

AND SPACE BAR FIRES THE MICROWAVE.

=====

DOCUMENT mid.earth

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War in Middle Earth Documentation

There are three different screen levels. The top level shows the whole map of Middle Earth. This game is icon oriented. The three icons to the side are

- Orb - tells status off all forces on map
- Load/save - loads/restores saved game
- Magnify - allows you to go to the next map level down
- Hourglass - changes rate at which time goes by

At the middle level, the icons go as follows:

- Orb - tells status of selected party
- Map - goes to top map level
- Magnify - allows you to go to the next level down
- Hourglass - changes rate at which time goes by

At the scene level, the icons are:

- Orb - tells status of party on the screen
- Map - goes to middle level map
- Hand/bottle - gets/puts things down

I assume that your mission is to get the ring to Mt. Doom. To do so, you have all the good forces at your disposal. The blinking forces are yours to do so as you wish. The non-blinking ones are either your enemies or neutral forces. Neutral forces go under your command at different times of the game or when you get certain magical objects to those groups.

The best way to learn how to play is just dive in. At first be careful of the Nazgul. They'll kick yer ass quickly if they get to Frodo. You would be best going to Bree first via Bombadil's house.

To see what a certain place is, just click on it. If it is important at all, the game will tell you so. You can play the game militarily forgetting the books altogether, or you can play it following the book (which is probably safest at first).

At some point in time, the protection scheme will ask you for coordinates to a particular place. What follows is a list of places and what I believe to be their coordinates.

| Place | Coordinate |
|---------------|------------|
| ---- | ----- |
| Harad Road | G7 |
| Nurn | F8 |
| Barad-Dur | E8 |
| Mt. Doom | E8 |
| Carach Angren | E8 |
| Cirith Ungol | E8 |
| Minas Morgul | E8 |
| Durthang | E8 |
| Dagorlad | D7 |
| Morannon | D7 |
| Pelargir | F7 |
| Linhir | F6 |
| Calembel | E6 |
| Pinnath Gelin | E5 |
| Anfalas | F5 |
| Erech | E6 |
| Ethring | E6 |
| Lossarnach | E7 |

IF U JUST WANNA SEE THE ENDING...)

[REMEMBER LUXEMBOURG, TYCOON, BOB, JARED, ARCMAN, WILLIAM]

THATS IT!! (EXCITING HUH?)

=====
DOCUMENT miner.2049r
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* miner 2049'er *

Miner 2049'er : new from livesay computer games. Programmed by mike livesay and I must say that this program is destined to be a winner on the software market. Overall, I rate it a 9.8 the graphics in this game are done very well, and the game itself takes on the form of donkey kong. To my knowledge, the game has 4 levels, but there could be more.the fact that this game has 4 or more different levels makes it superior to the other games released for the apple which also take the form of donkey kong. You complete each level by covering all of the lined ground and eating the apples. Note that the apples also serve as energizers. On level 3, there is an elevator. To activate this, climb in and press 2 to go to floor 2, 3 to go to floor 3 and so on. To descend, simply press the 1 key. 'esc' toggles play and freeze mode. One other thing, the game plays a lot better with a joystick. Unfortunately, the keyboard functions are not incorporated into the program.

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=====
DOCUMENT mini.putt
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..The Lexicon Exchange..

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/\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\

The Star League Presents

Mini-Putt

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THE GAME (introduction)

Mini-Putt allows 1 to 4 people to play a round of miniature
gold on any of 4 unique courses. This is a fun simulation of
a classic game, combining skill with a sense of humor.

CHOOSE YER CLUB (selecting options)

+Move the mouse up or down to highlight Practice a hole,
Play a game, or Quit. Press the button to continue.
+Move to the esired course and press the button.
+In practice mode, select hole to practice, and press the
button.

YOUR NAME IN LIGHTS! (name entry screen)

Enter your name (up to 8 letters) and press RETURN. If
there are fewer than four players, press RETURN again.

If you achieve a "low" score for any course, you're invited
to enter your name on the course's Pro Board. Use the same
procedure as above to enter your name.

OFF THE WALL (how to aim your shot)

Use your mouse to position the crosshair where you would
like your first putt to go. You may move the crosshair
within the play area only. If a hole extends past one
screen, move to the edge of the screen, and the next part of
the hole appears.

HOW HARD? (powering your shot)

While you're aiming your putt, the distance between the
ball and the current cursor position is displayed
numerically next to your golfer. You may have to use extra
power on holes with slopes and banks, and less power on
holes with a clear shot.

FORE! (how to putt)

When you're ready to shoot, press the mouse button. Notice
the level rise in the power bar. When the bar reaches the
desired distance, press the button again, and the bar moves
back down. The mark where you stopped the bar moving
indicates the power with which you hit the ball. When the
bar reaches the bottom of the power bar, it moves
horizontally onto the accuracy bar. In the middle of the
accuracy bar is a center line. To make the ball move exactly
toward the cursor position you're aiming for, you must press
the mouse the instant the indicator reaches this line. If
you press the button late (right of the center line), the
ball will move to the right of where you aimed. Press too

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early, and the ball veers left. When you release the button, the ball will begin to move.

CHECK IT OUT (the scorecard)

At the end of each hole, the current score for all players appears on the scorecard screen. If you wish to see the score at any other time, press the space bar.

HOT TIPS FROM THE CLUB PRO

TIMING SHOTS: The ball doesn't move until you release the button on the accuracy bar. When you're trying to putt through a moving object (a windmill, for example), use this fact to aid you in your timing.

MAKING PAR: In most cases, you've got several ways to make a shot. The easy route to the hole requires more strokes than the trickier multiple-bounce shots, but, of course, it's safer. To make par on some holes, it may be necessary to take the more difficult shots.

TERRAIN:

Smooth: Constitutes the main playing field. It is flat and solid in color.

Slopes: Slopes and breaks are indicated by arrows that point in the direction they influence the ball to go. Dark arrows on a light colored background break slightly faster.

Walls: Walls and diagonals cause the ball to rebound in a manner dependant on the speed and direction of the approaching ball.

Water: Water pools and traps may or may not be surrounded by walls. If your ball lands in the water, your next stroke is played from the point where it entered the water. A one stroke penalty is added to your score.

Bridges: Bridges may be flat, or sloped in any direction. Some bridges are covered; others are open. Some bridges (like draw-bridges) involve timing events; others require more power in the shot. Some are bordered by walls, while others have no such safety rails to prevent the ball from falling into the water.

SPECIAL KEYS

ESC: On menu screens, returns to previous menu screen. During the game, quits the game and returns you to the first menu screen.

Spacebar: Displays the scorecard.

S: Toggles sound on/off.

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===== DOCUMENT minit.man =====

===== MINIT MAN DOCS =====

===== THE OUTPOST
312/\441-6957

MINIT MAN is a three-screened game in which you have to load and launch 3 interplanetary missiles before the alien mother ship destroys you. The missiles you must use to destroy the mother ship are on the other side of a gorge with a broken bridge. You have to fly to the government warehouse on the right-hand screen, pick up trusses and beams, one at a time, and fly them back to complete the bridge on the left-hand screen. Meanwhile, you must protect the launch computer in the command building in the center screen from the attacking alien robots. Once you have built the bridge, the train automatically brings a missile to the launching pad on the middle screen. You then land, leave the 'copter, and proceed down the back-and-forth hallways of the command building and reach the computer which then fires the missiles. You must launch all three missiles in under 5 minutes in order to complete the first level.

To build bridge: once you have a beam or truss picked up from warehouse, fly to bridge, position it EXACTLY and press both fire buttons at the same time.

To kill robots: robots fly down at center screen and enter command building to get launch computer. When they are hit with 3 shots, they turn into a land mine which kills you or damages a robot if it is touched. Sometimes a robot will fly to destroy bridge instead of computer, so you must try to protect both screens at the same time. The minit man can fire lazer, jump mines, & duck shots.

To maneuver helicopter: it faces in 5 directions, and it flies fastest in the direction it is facing. To change directions, push button 1 while pointing joystick to desired direction. Fire lazer cannon with button 0.

You lose when: the time on the clock runs out, all 5 minit men die, or a robot gets to the launch computer.

If all this sounds tough, there are some advantages you do have. Your copter flies faster than the robots, you can shoot through the windows in the command building to kill robots easily, and if minit man dies inside the building, he leaves a power pill which makes next minit man faster and clogs robot's lazars.

Missellaneous: you can enter the command building from either the center or right-hand screen. Also, watch out for robot lazer cannons perched above the bridge on left screen and warehouse on right screen.

This is a difficult game to master, if you can ever master it at all!

===== DOCUMENT missing.ring =====

----- THE MISSING RING
BY: TERRY ROMINE -----

The newest ideas in high adventure. 1 to 5 players at a time! Each character capable of independent action and decisions! All on an intriguing quest to find the wizard's ancient ring. Takes great courage, planning and wit to win through.

Many have searched for it, and lived to regret it. Others weren't so lucky. No w its your turn--if you dare. Solve this chilling mystery and claim the fabulous Missing Ring. But first, you'll have to find your way through the many mysterious and magical rooms. It's really not that bad--as long as you don't look behind you...

Your quest for magical rings takes you through myriad rooms and corridors of the enchanted palace. From one to five players can undertake the quest. Each player can choose a character from the table of nine characters. One person can make the moves for each character in turn or a number of players can take turns at the keyboard.

There are two sets of move keys on opposite sides of the keyboard so that two players can sit at the Apple, each with one hand on the keyboard. Both sets of move keys are always active and are interchangeable. While player two is taking his turn player three can switch seats with player one, etc. The group can stay together as a team or go separate ways exploring different chambers. You can quit and save the game in order to break for eating or sleeping or just to be safe before attacking a particularly grizzly monster. A total of nine different games may be saved on the game disk.

At the beginning of the game or after a game has been saved you may visit the "merchant" to spend your hard earned gold on healing potions, spells, magic potions, experience, etc. Multiple characters from several games can have "accounts" with the merchant. If you succeed in exiting the labyrinth your character can keep all the accumulated gold and powers for use in a subsequent game, thus building up experience points and treasure. Each player's move is indicated on the prompt line, and the active character will be flashing on the screen. You have a limited active time and five or six keystrokes per turn. These have to include all moves, calling of spells, invoking healing potions, etc. Sometimes you have to ready your magic spell in one turn and use it in the next turn. You will be prompted as to what magic is available at the end of your turn that may be used in the next turn. For characters that can shoot arrows or project spells, the space bar calls a flashing cursor that is moved to the target with the move keys and then fired with another press of the space bar. We could tell you about the secret doors, which elixirs are poison, and what spell will kill what monster, but we know you are anxious to fire up the disk, and these trivia are best learned....

INSIDE THE LABYRINTHS OF THE ENCHANTED PALACE!!

| KEY COMMANDS | LEFT | RIGHT |
|-------------------------|------|-----------|
| MOVE FORWARD | R | O |
| MOVE BACK | D | L |
| MOVE RIGHT | F | P |
| MOVE LEFT | E | K |
| ATTACK | | SPACE BAR |
| HEALING POTION | H | H |
| SEARCH FOR SECRET DOORS | S | ; |

[U] - Unlock -- "" ""

[Q] - Quickref -- Displays a brief overview of all party members' Hit Points, Spell points, Armour Class, and Condition. Press ESC to go back to 3-D screen.

[#] - View character statistics:

(C) - Cast -- Casts a non-combat spell, providing character at that level and has the required number of spell points and magical gems.

(D) - Discard -- Permanently removes item from character's backpack.

(E) - Equip -- Shifts item from character's back pack so he can use it. A maximum of 6 items may be equipped. Only one hand/hand weapon, one armour, one shield, one missile weapon can be equipped at a time.

(G) - Gather -- Transfers all gold, gems and food carried by other party members to that character, up to the maximum amount of each item which the character can carry.

(R) - Remove -- Shifts Item from equipped to the back pack,

(S) - Share -- Evenly distributes all gems, gold or food in the party's possession among all party members.

(T) - Trade -- Transfers an amount of gems, food, or particular item from viewed character to another character.

(U) - Use -- Activates an item that has special powers. Items may or may not be equipped for use.

(V) - Volume -- Turns sound ON/OFF.

 Encounter

Definition - (briefly) / you fight a group of monsters that are either homogenous or mixed. There are hundreds of kinds of monsters at various levels.

If the Monster(s) surprises your party, you go directly into combat. No other options are available.

If your party surprises the monsters, you have the option to advance or not. If you choose to avoid the monsters, nothing further occurs. The encounter is over.

If neither party is surprised, you have several encounter options. WAIT! that's coming....

ENCOUNTER COMMANDS:

[A] - Attack -- This takes you to combat.

[B] - Bribe -- Your party may attempt to buy off the monsters with bribes. If the monsters refuse your attempt, combat will begin. If the monsters accept your attempt, a prompt will tell you what they demand (usually all of your gold/food/or gems)

[R] - Retreat -- Your party may attempt to flee from the invaders. If retreat succeeds, the encounter is over and you find yourself in the closest safe square.

[S] - Surrender -- (Wimp!) no really, it's useful. Your party can surrender. Giving the monsters whatever they want (Food/Gold/Gems), and you are free. Some monsters take no prisoners and will attack.

COMBAT:

Divided into rounds, A (+) in front of a character's number means that is able to engage in hand-to-hand combat. With the exception of archers, and characters who engage in hand-to-hand combat can't use missile weapons.

Non-Combat Commands

[D] - Delay -- Allows you to set the duration of the on-screen messages to any number between 0-9. (0 is the shortest duration, 5 is default)

[P] - Protect -- Allows you to see all currently active spells which cover your entire party.

[Q] - Quickref -- Displays the QUICKREF list of characters.

[#] - Views character -- that's right!

Handicap

The handicap prompt indicates whether monsters or party members have been given a speed handicap for the current round of combat. If the monsters have been given the handicap, a prompt will show MONSTER + the number by which all party members' speed has been increased. If party members have been given the handicap, the prompt will show PARTY+ the number by which all party members' speed has been increased. If neither, prompt will show EVEN.

Battle Options

[A] - Attack -- Character attacks monster in the A position, with whatever weapon he/she has equipped. If monster A dies, all other monsters move up one position.

[F] - Fight -- Character attacks monster in a hand-to-hand battle position, with whatever weapon equipped. A prompt will ask which monster he wishes to fight.

[E] - Exchange -- Character changes battle positions with any other member of the party. Press ESC to abort.

[R] - Retreat -- Character gives a general retreat command for the entire party. Chance of success is slim.

[S] - Shoot -- Character fires missile weapon at monster of choice. Only available when character has missile weapon equipped and is in a non-hand-to-hand situation.

[C] - Cast -- Character cast a combat spell. Only appears for spell casters.

[U] - Use -- Character activates special power for an item in his possession.

[B] - Block -- Character increases his Armour Class for this round.

For Advanced Players

To speed up combat, hold down CTRL-A together. The character with combat initiative will:

oAttack the monster in position A, if engaged in hand-to-hand combat.

oShoot the monster in position A, if not in hand-to-hand.

oBlock, if neither option is open.

Battle Over

Combat continues until one side is destroyed. If party wins, remember to search.

GAME OVER

If you want to interrupt the game, but save the experience points and other abilities gained by your characters during the most recent game session, you must take your party to the inn in one of the five towns and SIGN IN.

 Beginners Guide to Adventure

THE WORLD

The world is dved into five towns, underground caverns and dungeons, open terrain, rivers and seas, and mountainous areas. In general, the more dangerous the area is, the more treasure you can expect to find.

Towns are important because they contain:

- o Shops where food, weapons, armour, and other equipment can be purchased.
- o Temples where sick or injured character may be healed.
- o Training grounds where characters may advance to higher experience levels, provided they have the required experience points.
- o Inns where characters must be taken for safe harbour at the end of each game session, if the game information is to be saved.

Underground caverns and dungeons contain multiple levels, with the danger (and possible gains) increasing at each lower level.

Mountains and bodies of water frequently offer only one route of passage, which may be heavily guarded by dangerous monsters.

Avalanches may cause montain passes o shift, and spring torrents may flood river fords.

SPELLS

Only certain clases of characters may cast spells. There are 94 different spells, divided into CLERICAL and SORCEROR spells, with 7 SPELL LEVELS in each division.

Characters who may cast clerical spells may not cast sorceror spells, and vice versa.

The level of spell which a character may cast is determined by his experience level. When you first begin, concentrate on level one spells, since these are the only ones you may cast.

All spells cost spell points. Higher level spells may also cost a number of magical GEMS. Gems must be found along the way.

OK... well... this is the end of the docs.. Along with this file you should obtain these others...

- Might and Magic Clerical Spells
- Might and Magic Sorceror Spells
- Might and Magic Quick Spell List

===== DOCUMENT mm.list =====

W.C.C.T. Presents...

 :
 : Might & Magic :
 : Book One: Secret of the Inner Sanctum :
 :

 :
 : Might & Magic Cheat :
 : Written By: Bruce Logon :
 : With Help From: Jose Canseco and Strider :
 :

=> Well this is our first cheat, so if there is any questions please leave us mail. It's pretty hard to stay alive in this game but I know this cheat will help. To print this file out, use Apple Writer, and set the left margin at 0. To change the bytes use Copy II+ 7.1, the sector editor is in the Bit Copy Section. Well, load (track 5, sector 0) of disk #2. The charaters start here and go on for quite a few sectors.

=> The way to sector edit this game is very different and is hard to explain. But here it goes, the charaters never start at the same bytes but there is a way to find were to start at. Look at Example #1.

Example #1

```

-----
00- D3 C9 D2 A0 C7 D2 C1 D9 SIR GRAY \
08- 00 00 00 00 00 00 00 00 ..... / First 16 bytes are for names
10- 01 03 03 02 06 70 70 60 Alignment #'s must be the same.
      \ / \ \
      alignment class race Level #'s must be the same.
                                Exp. #'s must not exceed (9D) on both.

10- 01 03 03 02 06 70 70 60 Both 70's are for Intellect, must be
18- 60 50 50 40 40 30 30 20 the same number on both bytes. Same
20- 20 10 10 03 03 14 1C 6C with the #'s to byte (22). Those #'s
      \ / \ / \ / are just examples of what to put.
      level exp. Bytes starting at (15-22) are abilities.

28- 0C 00 00 27 00 27 00 03 Both spell point #'s must be the same.
      \ / \ /
      spell points spell level

30- 00 21 00 2C 00 2C 00 2C Byte (31) is gems, 21 is equal to 27 gms
38- 00 EB 02 00 01 0A 27 00 Byte (39-3A) is gold, the numbers right
      \ / \ / \ / now are equal to (747 gold pieces).
      gold armor class food Armor class is explained below. Number
                                (27) is equal to (39 in food).

40- 01 3E 9C B4 00 00 1A 7E Bytes (40-46) are what is equipped.
48- 7E A3 B0 A0 00 00 00 00 Bytes (47-4B) are what's in the backpack
    
```

=> Remember that the bytes are different for each character, for example the characters name may start at byte (80).

Armor Class

```

-----
byte = Armor class
      0
00      0
01      1
    
```

02 2
 and so on...
 09 9
 0A 10
 0F 15
 1F 31
 by changing 1F to 2F will add 16 to the last number and so on...

Alignment

 byte alignment
 01 good
 02 neut
 03 evil
 Race

 byte race
 01 Human
 02 Elf
 03 Dwarf
 04 Gnome
 05 Half-orc

Abilities

 Intellect are the first #'s that are the same from Example #1.
 Might is next,
 Personality and so on...
 Endurance
 Speed
 Accuracy and
 Luck.

For each ability both numbers must be the same. For example a byte of (50) would be equal to 80 on the game.

Spell Points

A byte of (27) would be equal to 39 in the game. Must have both numbers the same.

Spell Level

Spell levels go to a maximum of 7. So the byte would be (07) on both.

Equipment and Backpack Supplies

| byte | object | byte | object |
|------|----------------|------|---------------|
| ---- | ----- | ---- | ----- |
| 01 | club | 02 | dagger |
| 03 | hand axe | 04 | spear |
| 05 | short sword | 06 | mace |
| 07 | flail | 08 | scimitar |
| 09 | broad sword | 0A | battle axe |
| 0B | long sword | 0C | club +1 |
| 0D | club +2 | 0E | dagger +1 |
| 0F | hand axe +1 | 10 | spear +1 |
| 11 | short sword +1 | 12 | mace +1 |
| 13 | flail +1 | 14 | scimitar +1 |
| 15 | broad sword +1 | 16 | battle axe +1 |
| 17 | long sword +1 | 18 | flaming club |
| 19 | club of noise | 1A | dagger +2 |
| 1B | hand axe +2 | 1C | spear +2 |
| 1D | short sword +2 | 1E | mace +2 |
| 1F | flail +2 | 20 | scimitar +2 |

| | | | |
|----|-----------------|----|-----------------|
| 21 | broad sword +2 | 22 | battle axe +2 |
| 23 | long sword +2 | 24 | royal dagger |
| 25 | dagger of mind | 26 | diamond dagger |
| 27 | electric spear | 28 | holy mace |
| 29 | un-holy mace | 2A | dark flail |
| 2B | flail of fear | 2C | lucky scimitar |
| 2D | mace of undead | 2E | cold axe |
| 2F | electric sword | 30 | flaming sword |
| 31 | sword of might | 32 | sword of speed |
| 33 | sharp sword | 34 | accurate sword |
| 35 | sword of magic | 36 | immortal sword |
| 37 | axe protector | 38 | axe destroyer |
| 39 | x!xx!x's sword | 3A | adamantine axe |
| 3B | ultimate sword | 3C | element sword |
| 3D | sling | 3E | crossbow |
| 3F | short bow | 40 | long bow |
| 41 | great bow | 42 | sling +1 |
| 43 | crossbow +1 | 44 | short bow +1 |
| 45 | long bow +1 | 46 | great bow +1 |
| 47 | magic sling | 48 | crossbow +2 |
| 49 | short bow +2 | 50 | long bow +2 |
| 5A | great bow +2 | 5B | crossbow luck |
| 5C | crossbow speed | 5D | lightning bow |
| 5E | flaming bow | 5F | giant's bow |
| 51 | the magic bow | 52 | bow of power |
| 53 | robber's x-bow | 54 | archer's bow |
| 55 | obsidian bow | 56 | staff |
| 57 | glaive | 58 | bardiche |
| 59 | halberd | 5A | great hammer |
| 5B | great axe | 5C | flamberge |
| 5D | staff +1 | 5E | glaive +1 |
| 5F | bardiche +1 | 60 | halberd +1 |
| 61 | great hammer +1 | 62 | great axe +1 |
| 63 | flamberge +1 | 64 | staff +2 |
| 65 | glaive +2 | 66 | bardiche +2 |
| 67 | halberd +2 | 68 | great hammer +2 |
| 69 | great axe +2 | 6A | flamberge +2 |
| 6B | staff of light | 6C | cold glaive |
| 6D | curing staff | 6E | minotaur's axe |
| 6F | thunder hammer | 70 | great axe +3 |
| 71 | flamberge +3 | 72 | sorcerer staff |
| 73 | staff of magic | 74 | demon's glaive |
| 75 | devil's glaive | 76 | the flamberge |
| 77 | holy flamberge | 78 | evil flamberge |
| 79 | padded armor | 7A | leather armor |
| 7B | scale armor | 7C | ring mail |
| 7D | chain mail | 7E | splint mail |
| 7F | plate mail | 80 | padded +1 |
| 81 | leather +1 | 82 | scale +1 |
| 83 | ring mail +1 | 84 | chain mail +1 |
| 85 | splint mail +1 | 86 | plate mail +1 |
| 87 | leather +2 | 88 | scale +2 |
| 89 | ring mail +2 | 8A | chain mail +2 |
| 8B | splint mail +2 | 8C | plate mail +2 |
| 8D | bracers ac 4 | 8E | ring mail +3 |
| 8F | chain mail +3 | 90 | splint mail +3 |
| 91 | plate mail +3 | 92 | bracers ac 6 |
| 93 | chain mail +3 | 94 | bracers ac 8 |
| 95 | blue ring mail | 96 | red chain mail |
| 97 | x!xx!x's plate | 98 | holy plate |
| 99 | un-holy plate | 9A | ultimate plate |
| 9B | bracers ac 8 | 9C | small shield |
| 9D | large shield | 9E | silver shield |
| 9F | small shield +1 | A0 | large shield +1 |
| A1 | large shield +1 | A2 | small shield +2 |
| A3 | large shield +2 | A4 | large shield +2 |
| A5 | fire shield | A6 | cold shield |
| A7 | elec shield | A8 | acid shield |

| | | | |
|----|----------------|----|----------------|
| A9 | magic shield | AA | dragon shield |
| AB | rope & hooks | AC | torch |
| AD | lantern | AE | 10 foot pole |
| AF | garlic | B0 | wolfsbane |
| B1 | belladonna | B2 | magic herbs |
| B3 | dried beef | B4 | robber's tools |
| B5 | bag of silver | B6 | amber gem |
| B7 | smelling salt | B8 | bag of sand |
| B9 | might potion | BA | speed potion |
| BB | sundial | BC | curing potion |
| BD | magic potion | BE | defense ring |
| BF | bag of garbage | C0 | scroll of fire |
| C1 | flying carpet | C2 | jade amulet |
| C3 | antidote brew | C4 | skill potion |
| C5 | boots of speed | C6 | lucky charm |
| C7 | wand of fire | C8 | undead amulet |
| C9 | silent chime | CA | belt of power |
| CB | model boat | CC | defense cloak |
| CD | knowledge book | CE | ruby idol |
| CF | sorcerer robe | D0 | power gauntlet |
| D1 | cleric's beads | D2 | horn of death |
| D3 | potion of life | D4 | shinny pendant |
| D5 | lightning wand | D6 | precision ring |
| D7 | return scroll | D8 | teleport helm |
| D9 | youth potion | DA | bells of time |
| DB | magic oil | DC | magic vest |
| DD | destroyer wand | DE | element scarab |
| DF | sun scroll | E0 | star ruby |
| E1 | star sapphire | E2 | wealth chest |
| E3 | gem sack | E4 | diamond collar |
| E5 | fire opal | E6 | unobtainium |
| E7 | vellum scroll | E8 | ruby whistle |
| E9 | kings pass | EA | merchants pass |
| EB | crystal key | EC | coral key |
| ED | bronze key | EE | silver key |
| EF | gold key | F0 | diamond key |
| F1 | cactus nectar | F2 | map of desert |
| F3 | laser blaster | F4 | dragons tooth |
| F5 | wyvern eye | F6 | medusa head |
| F7 | ring of okrim | F8 | b queen idol |
| F9 | w queen idol | FE | eye of goros |
| FF | (useless item) | | |

=====

DOCUMENT mm.locations

=====

Might & Magic

(locations of some things)

The Undertaker

Location of cites:

| name | area | (x,y) |
|-------------|------|-------|
| 1 Sorpingal | C-2 | 10,10 |
| 2 Portsmith | B-3 | 3,3 |
| 3 Algary | D-4 | 7,7 |
| 4 Dusk | E-1 | 9,11 |
| 5 Erliquin | B-1 | 13,1 |

Some Castles :

| name | area | (x,y) |
|----------------|------|-------|
| White wolf | B-3 | 9,13 |
| Almars | E-3 | 14,7 |
| Castle of doom | A-1 | 7,15 |
| Black north | B-1 | 5,14 |
| Black south | B-1 | 13,11 |

Other various crap:

| | | |
|----------------|-----|-------|
| Fountain | C-2 | 4,7 |
| Cave | C-2 | 15,11 |
| Cave | B-3 | 0,7 |
| Fortress gold | E-4 | 10,5 |
| Stronghold | B-3 | 14,2 |
| Ruby Whistle | C-1 | 15,15 |
| Gypsy | C-2 | 9,11 |
| Glowing column | C-2 | 8,8 |
| Statue | C-2 | 0,2 |

-END-

=> Well that's about it and remember to leave mail if there is any problems.

The First Cheat made by W.C.C.T.

Don't forget to call the above boards.

Might & Magic Solve coming soon...

-END-

Apple II Computer Info

Level #6

| | |
|-------------------|--------------|
| 1- Moon Ray | 6SP + 4 GEMS |
| 2- Raise Dead | 6SP + 4 GEMS |
| 3- Rejuvenate | 6SP + 4 GEMS |
| 4- Stone To Flesh | 6SP + 4 GEMS |
| 5- Town Portal | 6SP + 4 GEMS |

Level #7

| | |
|-------------------------|---------------|
| 1- Divine Intervention | 7SP + 10 GEMS |
| 2- Holy Word | 7SP + 5 GEMS |
| 3- Protection f/Elemnts | 7SP + 5 GEMS |
| 4- Resurrection | 7SP + 5 GEMS |
| 5- Sun Ray | 7SP + 5 GEMS |

Sorcerer Spells

Level #1

| | |
|-----------------|-----|
| 1- Awaken | 1SP |
| 2- Detect Magic | 1SP |
| 3- Energy Blast | 1SP |
| 4- Flame Arrow | 1SP |
| 5- Leather Skin | 1SP |
| 6- Light | 1SP |
| 7- Location | 1SP |
| 8- Sleep | 1SP |

Level #2

| | |
|---------------------|------------|
| 1- Electric Arrow | 1SP |
| 2- Hypnotize | 2SP |
| 3- Identify Monster | 2SP + 1GEM |
| 4- Jump | 2SP |
| 5- Levitate | 2SP |
| 6- Power | 2SP |
| 7- Quickness | 2SP |
| 8- Scare | 2SP |

Level #3

| | |
|-------------------|-------------|
| 1- Fire Ball | 1SP + 1 GEM |
| 2- Fly | 3SP |
| 3- Invisibilty | 3SP + 1GEM |
| 4- Lightning Bolt | 1SP + 1GEM |
| 5- Make Room | 3SP |
| 6- Slow | 3SP |
| 7- Weaken | 3SP + 1GEM |
| 8- Web | 3SP |

Level #4

| | |
|---------------------|--------------|
| 1- Acid Arrow | 4 SP |
| 2- Cold Beam | 4SP |
| 3- Feeble Mind | 4SP + 2SP |
| 4- Freeze | 4SP |
| 5- Guard Dog | 4SP |
| 6- Psychic Protect. | 4SP + 2 GEMS |
| 7- Shield | 4SP + 2GEMS |
| 8- Time Distortion | 4SP + 2GEM |

Level #5

| | |
|--------------------|-------------|
| 1- Acid Rain | 5SP |
| 2- Dispell Magic | 5SP |
| 3- Finger of Death | 5SP + 3 GEM |

| | |
|-------------|-------------|
| 4- Shelter | 5SP + 3 GEM |
| 5- Teleport | 5SP + 3 GEM |

Level #6

| | |
|-----------------------|------------|
| 1- Dancing Sword | 6Sp + 4GEM |
| 2- Disintegration | 6SP + 4GEM |
| 3- Etherealize | 6SP + 4GEM |
| 4- Protection f/magic | 6SP + 4GEM |
| 5- Recharge Item | 6SP + 4GEM |

Level #7

| | |
|--------------------|---------------|
| 1- Astral Spell | 7SP + 5 GEM |
| 2- Duplication | 7SP + 100 GEM |
| 3- Meteor Shower | 7SP + 5 GEM |
| 4- Power Sheild | 7SP + 5GEM |
| 5- Prismatic Light | 7SP + 5 GEM |

This is a list of all the spells available for Might and Magic, a more descriptive list will be out in a couple of days when I find the time.

-END-

=====

DOCUMENT modembuffer

=====

ModemBuffer is copyright 1991 by Jay Krell. All rights reserved.
It is free and can be freely distributed, but this file must accompany it.

ModemBuffer is meant for IIGs users whose communications program can't keep up with their modem, particularly modems 9600 bps and faster. It is an init that should be placed in the System/System.Setup folder of your startup disk. It sets up a 64K buffer for the GS modem port. If your communications program doesn't enable buffering, be sure to enable it in the control panel. ModemBuffer.1 uses slot 1 and ModemBuffer.2 uses slot 2. Be sure to use the appropriate one.

This is ModemBuffer version 1.1. It represents a significant improvement over version 1.0. Version 1.0 did not work. Version 1.1 does work. It should work with any communications program that uses the firmware. If a program can't keep up with fast modems, it is likely that it uses the firmware. If ModemBuffer can't allocate memory, you will get an error \$201 and will have to reboot; sorry.

Jay Krell
GEnie: J.Krell1
America Online: JayKrell

Thanks to Robert Rosenberg for the idea and testing.

Version history
=====

1.0 - didn't work
1.1 - does work

=====

DOCUMENT modzap

=====

QuickDocs for MODZap v00.41a. These docs and the MODZap program are copyright (c) 1992 Ian Schmidt and Two Meg Software. All Rights Reserved.

MODZap is the ultimate in MOD players for the Apple IIGs. It offers full support for 15 and 31 instrument MOD files used by the Amiga programs NoiseTracker, ProTracker, and StarTrekker. It plays these files on any speed Apple IIGs using pitchbend and other special effects programs like NoiseTracker IIGs just dont give you. And unlike NoiseTracker, it runs under GS/OS and uses the friendly desktop interface you already know how to use. Its also fully compatible with the new System 6.0 (in fact it works better with 6.0!).

To use MODZap, just run it. Load time should be practically instantaneous since its a < 7k application. Once you have a menu bar up, load a MOD, any MOD, including ones NoiseTracker GS chokes on. As with Modifier, you must guess if the MOD is 31 or 15 instrument. Start by trying 31, as most MODs are of this type. If the program hangs or crashes, try 15 instead. To play, pull down the Sound menu and select Play MOD. The Not-So-Scrolly Player will appear before your eyes. To end playback, simply press the Open Apple key on your keyboard. The song will repeat forever if you do not stop it.

If you run into any MODs which MODZap does not play correctly, tell me!

Credits

Program, Design, and Concept by Ian Schmidt.
Nagging and Cool Player Screen by James Brookes.
Moral Support from Dave Huang, Tim Meekins, Mike Horwath, Richard Wifall, and of course Yoshi ;-)

Version History

0.0 -> 0.31 work only with ZipGS (TM) accelerators
0.40 works on any IIGs, adds pitchbend effects, graphic player.
0.41 fixes StarTrekker MODs, tempo=0 bug, and improves quality.
0.41a adds cool player by James Brookes.
0.50 will add perfect sustain....so stay tuned!

If you wish to contact me, use one of the following addresses:

irsman@iastate.edu for Internet. twbv4@isuvax for BITNET.
IRSMAN on America Online. or Ian Schmidt
2207 E. Locust
Davenport, IA, 52803.

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ENJOY, YA HEAR?!!!

DOCUMENT montezuma.rveng

Montezuma's Revenge

docs by
The Quzimodo

created for
THE OUTPOST
312/441/6957

This game from Parker Brothers is silmilar to Aztec but infinitely better. The graphics are great the the game has no apparent flaws except for the boot which goes through 4 bad sectors. Anyway, your Panama Joe has to find jewels in a crypt. The last part of the crypt is full of jewes for the taking until you can't stop falling. You then begin the next level. Press return at the all-text title page, you get a menu:

- 1 JOYSTICK/keyboard
- 2 Game Level 1, 2, 3 (starts as 1)
- 3 Define Keys
- *5 Return to Main Menu
- *0 Pause

* Fucntion valid only during game play

Its set at Joystick, level 1. If you want to change something, press the number to change. After you're done, press Return and start playing. The pre-set keys for keyboard are:

- Left J
- Jump K
- Up I
- Right L
- Down M

In the game, there's the game screen and two boxes at the upper right and left corners. The upper right one displays your score. The upper left one dispays how many guys you have left(hats), what tools you found and your level.

In each room, there might be any of the following:

LASER GATES:
If Joe gets caught when one is there, he' dead. They turn on and off very so often.

CONVAYOR BELTS:
These never stop or change direction. They either make Joe slow down or speed up depending on which way he's going.

DISAPPEARING FLOORS:
Certain sections that look differet from the rest and blink on and off. Joe can walk on one if its there or else he falls. When Joe falls, he might die, and this is not the only case of him fallin.

DOORS:
There are 3 color doors: red, blue and grey. Joe must find the right key to open one. If he opens a door, its 300 points.

FIRE PITS:
If Joe falls in one, he's dead.

LADDER:
Joe can go up or down them, but can't jump off or onto one.

POLES:
If Joe jumps on to one, he slides down, if he misses, he dies.

CHAINS:
Just like LADDERS except he can jump off or onto one.

The tools/objects:

AMULETS:
They look like hammers and when taken, turns killer creatures grey and allows him to pass by harmlessly. After a few seconds it disappears and so does the grey color. Taking one is worth 100 points.

KEYS:
Three different colors to open doors. The one used disappears after opening a door.

SWORDS:
If Joe runs into some creatures with a sword, he kills the creature and loses the sword.

JEWELS:
What your trying to find for a big 1000 points cache. One catch, if Joe has more than 5 swords/amulets/keys, he can't take any. He may get as much as he can get his hands on. Doesn't count as a tool.

TORCHES:
Help light dark rooms. Otherwise, you only see creatures and fire pits there. Counts as a object. Worth 3000 points if you get one.

Note: You must jump to grab an object. Maximum of 5 tools you can have at one time. You can have an unlimited amount of jewels.

Killer Creatures:

SKULLS:
These guys are either rolling or bouncing. Jump over rolling ones or walk under bouncing ones or die.(I never tried jumpinga bouncing skull, etc) You might get hit by a bouncing one from below so watch out. Killing a skull with a sword is worth 2000 points.

SNAKES:
They don't move, run into one and die. You can' kill them.

SPIDERS:
These critters crawl all over the place, even up and down ladders. Get hit by one and die. Kill one and get 3000 points.

TREASURE ROOM:
When Joe jumps into darkness to find chains and jewels. Don't jump onto a pole or else go to next difficulty level. Grab as many jewels as quick as possible. Don't miss any chains or else you grab a pole and slid down to next level.

With joystick, make sure you move the joystick up, down, left and right before you start to calibrate it.

If you lose all your Panama Joes, press the Jump button to restart "once" where you left off, reseting the score to 0.

SCORING:
COLLECTION SPECIAL TOOLS AND REWARDS:
Keys.....50 points each

Swords.....50 points each
 Amulets.....100 points each
 Jewels.....1000 points each
 Torches.....3000 points each
 KILLING CREATURE WITH SWORD:
 Skulls.....2000 points each
 Spiders.....3000 points each
 ROOM FIXTURES:
 Opening a door.....300 points each
 BONUS PANAMA JOES:
 Levels 1-3.....Extra every 10,000 points
 Levels 4 and up..Extra every 20,000 points

=====
 DOCUMENT moreinfo
 =====

~~~~~  
 MoreInfo(tm)  
 by Bill Tudor  
 Version: 1.2  
 June, 1992

~~~~~  
 Copyright (c) 1992
 All Rights Reserved.
 ~~~~~

SHAREWARE: MoreInfo is Shareware. This means that is you like this program,  
 ~~~~~~ send \$10 to the following...

Bill Tudor
 3925 Greencastle Rd. Suite #108
 Burtonsville, MD 20866

If you do not believe this program is worth \$10, well, then send
 me a note on how I can make the program better.

Thanks very much in advance.

This program may be passed around freely to anyone you like. The
 complete APW/C source code to version 1.0 is also available. Please
 include this file with the distribution since MoreInfo does not
 have a "Help" or "About" button.

.....now down to the real stuff.....

Introduction

~~~~~  
 MoreInfo is an Apple IIgs Finder Extension, i.e., it adds to the Apple IIgs  
 System Disk 6.0's Finder (Finder version 6.0) and later versions. What is adds  
 is a "More Info" option to the Finder's "Icon Info" menu item.

The "MoreInfo" window shows you and allows you to change:

- o File type
- o Aux File Type
- o Creation Date
- o Modification Date
- o Read access
- o Write access
- o Delete access
- o Rename access
- o Invisible/Visible
- o Backup needed/not needed

In addition, it also shows you (but you cannot change):

- o Full pathname
- o Storage type
- o Data fork size
- o Data fork blocks
- o Resource fork size
- o Resource fork blocks

This program requires Apple IIgs System Disk 6.0 or later to run.

Installation:  
 ~~~~~~

Just copy the file "MoreInfo" to your folder named:

":System:System.Setup"

on your boot disk. Now just re-boot.

-OR-

You can alternatively just copy the file "MoreInfo" to a folder named:

":System:FinderExtras"

on your boot disk and then just run the Finder!

That's it.

Note: You place MoreInfo in either System.Setup or FinderExtras folders.
 ---- Either place, it works great!

Using the Program:

~~~~~  
 Run the Finder. Select some icons. Hold down the SHIFT key. Choose "Icon Info" from the Finder's menus.

You will get the MoreInfo window instead of Finder Icon Info windows. Note that without using the SHIFT key you get the normal Finder stuff.

MoreInfo shows you the pathname, type, aux type, creation date, modification date, access, storage type, data size, data blocks, resource fork size, and resource fork blocks for the file. Please note that I have not duplicated most of the stuff you can find using the regular Finder Icon Info command.

The arrows at the lower right allow you to move through all the icons that you have highlighted before invoking MoreInfo.

Please note that you can alter many of the values. Only change the ones where you know what you are doing, then click the "Change" button to make the changes happen. You cannot, for example, simply change a file of type TXT (\$04) to type S16 (\$B3) and expect the former text file to now be a IIgs Application program as if by magic. In addition, some file systems under GS/OS will not allow all of MoreInfo's features to take effect. As an example, changing just the rename access of an HFS file system file will not work. This is an illegal operation under HFS. Since no one knows what future file systems may be added, MoreInfo will try to do what even you ask it to, and after selecting the "Change" button the file information will be re-read from the disk and the MoreInfo window will be updated so you can see if your change request "stuck".

Filetypes may be entered as hexadecimal numbers or as 3-letter filetype abbreviations (such as SYS, S16, TOL, NDA, CDA, etc). Do not precede the hexadecimal entries with a "\$". Auxilliary file types must be entered as hexadecimal numbers.

Note: You must click the change button to make changes. Do this before leaving the current display and moving on. Whenever the Change button is enabled, this means that you may have made a change and you should click the change button to make it stick.

After you click "Change", MoreInfo will re-read the information from the disk to see if the changes were allowed. For example, you can \_try\_ to change the filetype of a folder...it simply won't be allowed.

Revision History:

=====

- v1.0 + <Original release>
- v1.1 + Boot text string was changed
- + New Date & Time change/display method
- + Fixed a few bugs with the Trash icon display

- + Various display changes
- + Change button enables/disables
- + Spelling errors, unused resources removed
- + Re-reads info after "Change" clicked
- + Fixed a few bugs with a Volume display
- v1.2 + No more "whoosh" rectangles
- + Many cosmetic changes
- + Reduced the number of arrow cursor/watch cursor changes
- + Larger pathname popup (now called simply "Path:")
- + Checks for System 6.0 (or later) at installation time
- + Fixed bug with bad filetype entry
- + Icons are now present in the popup menu
- + Slight speed improvement
- + Filenames can be entered in Hexadecimal OR using some 3-letter filetype abbreviations.

Credits:

~~~~~

This program could not possible have been developed as easily without the Orca 2.0 (Byteworks) environment, APW/C (Apple) compiler, EdIt-16 text editor (SSSi and yours truly), and Rez (Apple) and Genesys (SSSi) for resource fork creation/editing. Also, the engineers at Apple who developed all this great system software for the GS.

Have Fun!

>end

=====

DOCUMENT moriarty

=====

MORIARTY
BY: BETS C.

MORIARTY VERSION 1.2 INSTRUCTIONS:

MORIARTY, CURRENTLY AT VERSION 1 RELEASE 2, IS A SYSTEM DUMPING UTILITY DESIGNED TO DUMP TO DISK THE LOWER 48K OF AN APPLE 2 EXACTLY AS IT WAS WHEN RESET WAS PRESSED.

MORIARTY CAN BE TRIGGERED BY RESET OR NMI. A 16K RAMCARD IS NECESSARY, AND A SLOT ZERO SWITCH IS DESIRABLE. I DO NOT KNOW HOW WELL IT WORKS ON A 2E, A FULL SCREEN MENU ALLOWS ACCESS TO THE VARIOUS OPTIONS OF MORIARTY. TWO USER EXITS ARE PROVIDED FOR THE AMBITIOUS.

PHYSICALLY, MORIARTY IS ONE FILE, AND NEEDS NO OTHERS UNLESS YOU RUN IT FROM AN INTEGER MACHINE, IN WHICH CASE HE NEEDS FPBASIC ON THE SAME DISK.

LOGICALLY, HE IS FOUR FILES:
THE SETUP PROGRAM
THE MEMORY FILL PROGRAM
THE RESET OR NMI HANDLER
THE SMALL RWTS ITSELF

ALL OF THE MODULES ARE IN ONE BINARY LOAD, AND RELOCATED BY THE SETUP PROGRAM ACCORDING TO THE VALUES SPECIFIED BY THE USER. IN ADDITION, IF YOU PUT THE INSPECTOR AT THE END OF MORIARTY, HE WILL FIND IT AND PUT IT IN THE CORRECT LOCATION SO YOU CAN USE THE INSPECTOR WHEN THE DUMP IS TAKEN.

TO USE MORIARTY, BRUN THE PROGRAM AND LOOK AT THE MENU. BELOW THE BANNER WILL BE A LINE DESCRIBING WHAT TYPE OF MACHINE HE THINKS YOU HAVE. IF IT ENDS IN A QUESTION MARK, OR IS NOT THE TYPE OF MACHINE YOU HAVE, CHECK YOUR BANK SO WHEN HE DOES NOT KNOW WHAT IS THERE, BECAUSE I THINK TRIGGERING I/O IN SOMEONE ELSE'S MACHINE WITHOUT TELLING HIM IS A ROTTEN THING TO DO. REMEMBER EPOCH? THE REST OF THE MENU IS FAIRLY OBVIOUS. JUST BE SURE NOT TO CONFUSE THE BOOT SLOT WITH THE DUMP SLOT. NOTE THAT HE WILL NOT ALLOW YOU TO ASSIGN THE BOOT SLOT TO THE SAME SLOT AS THE RAMCARD SLOT. THE LEFT AND RIGHT ARROWS MOVE THE CURSOR UP AND DOWN, SO JUST GO BACK AND CHANGE YOUR MISTAKE. SIGN THE STACK IS A VERY USEFUL OPTION IF YOU DO NOT HAVE AN NMI TRIGGER. AT RESET HE WILL PUSH THE P-REG ONTO THE STACK THREE TIMES, THEN THE ACCUMULATOR, THE Y-REG, THE X-REG, AND THE STACK POINTER. THUS, TO FIND THE REGS, JUST LOOK ON THE STACK FOR THREE REPEATED BYTES, WITH THE FOURTH BYTE BELOW THE LOWEST EQUAL TO ITS DISPLACEMENT INTO THE STACK. SOUNDS COMPLICATED, BUT IF YOU SEE IT ONCE IT IS EASY FOREVER. THE REASON THE P-REG IS PUSHED THREE TIMES IS SO THAT IF YOU DECIDE WHAT THE PROGRAM COUNTER WAS AT RESET, YOU CAN REPLACE THE FIRST TWO PREGS WITH IT AND JUST RELOAD THE REGS FROM THE STACK AND RTI.

ONCE YOU HAVE FILLED OUT THE MENU, RUN DOWN TO "USE THIS SETUP" AND PRESS "Y". IN A HUMMINGBIRD'S HEARTBEAT, OR DINOSAUR'S IF YOU LOAD FPBASIC, MORIARTY WILL CONFIGURE TO YOUR SPECIFICATIONS. NOTE THAT IF YOU ARE USING A 2+ OR 2E HE WILL COPY APPLESOFT FROM THE ROMS. THE NEXT THING YOU WILL SEE IS A MESSAGE INDICATING COMPLETE SETUP, AND TELLING YOU TO PRESS A KEY TO BOOT. DISABLE SLOT ZERO ACCESS AT THIS POINT. IF YOU DO NOT HAVE SUCH A SWITCH, THEN YOU SHOULD HAVE YOUR RAMCARD IN A NONZERO SLOT.

PUT IN THE DISK TO BOOT AND PRESS ANY KEY. DEPENDING ON WHAT YOU SPECIFIED AS A MEMORY FILL VALUE, YOUR SCREEN MAY FILL UP AT THIS

POINT. GO RUN THE PROGRAM UNTIL YOU COME TO THE POINT YOU WANT TO DUMP. ENABLE SLOT ZERO AND PRESS RESET. IF YOU SPECIFIED AUTODUMPING, THE DISK DRIVE WILL RUN UNTIL YOU PUT A DOS 3.3 DISK INTO IT. IF YOU DID NOT, THEN YOU WILL BE IN THE MONITOR. TO GET THE DUMP FROM THE MONITOR, ENTER 3FBG (RETURN). IF YOUR MORIARTY FILE HAS THE INSPECTOR, THEN CTRL-Y WILL TAKE YOU TO IT. IN ANY CAS AND LOMEM: STORE LOG TAB(AND STORE ^ EXP AT PDL STORE S THE MACHINE WAS WHEN RESET WAS PRESSED. FOR THOSE WHO DO NOT WISH TO TANGLE WITH MY CODE. THE FIRST ONE IS CALLED JUST AFTER THE USER DECIDES TO ACCEPT THE CURRENT SETUP. NOTHING HAS BEEN TOUCHED OR MOVED. THE SECOND ONE IS CALLED JUST BEFORE THE MEMORY FILL, WHEN EVERYTHING IS IN PLACE. IN BOTH CASES, THE A-REG AND THE Y-REG POINT HI-LO TO A DATA STRUCTURE KNOWN INTERNALLY AS "THE BLOCK". IT IS THE ANCHOR POINT FOR ALL OPERATIONS DURING SETUP. THE FIRST TWO BYTES ARE A LO-HI POINTER TO MX, THE FASTEST GENERAL PURPOSE MOVE PROGRAM FOR THE 6502 KNOWN TO ME. CALL HIM WITH YOUR A-REG AND Y-REG POINTING HI-LO TO A REQUEST BLOCK IN THIS FORMAT BYTE 0: \$80 (OTHER VALUES RESERVED, AND WILL RETURN WITH CARRY SET). BYTE 1-2: PRESENT ADDRESS OF DATA. (LO-HI) BYTE 3-4: TARGET ADDRESS OF DATA. BYTE 5-6: LENGTH OF DATA. ALL DOUBLE BYTES ARE LO-HI FORMAT. DON'T TRY TO USE PAGE ZERO WHEN YOU CALL THIS THING.

TIMES PER LOOP.
"MEMORY MAP."
\$0B00-18A7: MORIARTY WHEN FIRST LOADED.
\$18A8-20A7: INSPECTOR AT LOAD (IF INCLUDED).
\$0800-0867: MEMORY FILL AND BOOT PROGRAM.
\$0900-09FF: ROOM FOR USER EXIT NUMBER ONE.
\$0A00-0AFF: ROOM FOR USER EXIT NUMBER TWO.
\$D000-D5DE: SMALL RWTS IN ALTERNATE 4K BANK ON RAMCARD.
\$D800-DFFF: THE INSPECTOR, IF INCLUDED, ON THE SAME ALTERNATE BANK."
\$E000-E155: PRIMARY AND SECONDARY NIBBLING BUFFERS FOR SMALL RWTS.
\$F000-F7FF: HOLDING AREA FOR LOW STORAGE SAVE HERE WHEN RESET WAS PRESSED.
\$FECF-FEE5: RESET HANDLER ROUTINE.
\$FFFA-PFFD: NMI AND RESET 6502 POINTERS

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DOCUMENT mouselink

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MouseLINK Version 2.0 fx	Released: January 7, 1988																									
<p>Ever since the Release of AppleLINK, people have wanted On_Line mouse control in the *Private* BBS world. Well it's here now, and it's hip, it's rad, and it's now. This file contains a small explanation of how to use MouseLINK on your own BBS, and where to see it in action. We believe this will revolutionize the Apple BBSing world.</p>																										
<p>For On_Line Mouse Control Call these Terrific Systems:</p>																										
<table style="width: 100%; border: none;"> <tr> <td style="width: 20%;">Off The Wall //gs</td> <td style="width: 15%;">(319)354-7959</td> <td style="width: 15%;">12-9600</td> <td style="width: 15%;">bauds</td> <td style="width: 35%;">Mercenary & Hack</td> </tr> <tr> <td>Gold Mine GS</td> <td>(213)277-8292</td> <td>24-9600</td> <td>bauds</td> <td>Vindicator & Cy</td> </tr> <tr> <td>Pandemonium GS</td> <td>(416)273-7619</td> <td>24-9600</td> <td>bauds</td> <td>Apple Clone</td> </tr> <tr> <td>DJ's BBS</td> <td>(303)789-0500</td> <td>03-9600</td> <td>bauds</td> <td>Mad Dave</td> </tr> <tr> <td>X.A. Systems</td> <td>(815)756-9567</td> <td>24-9600</td> <td>bauds</td> <td>Dr. Ditto</td> </tr> </table>	Off The Wall //gs	(319)354-7959	12-9600	bauds	Mercenary & Hack	Gold Mine GS	(213)277-8292	24-9600	bauds	Vindicator & Cy	Pandemonium GS	(416)273-7619	24-9600	bauds	Apple Clone	DJ's BBS	(303)789-0500	03-9600	bauds	Mad Dave	X.A. Systems	(815)756-9567	24-9600	bauds	Dr. Ditto	CA Designs
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: This file and the Mouse.da Written By: Joe Hack :

This version of the MouseLINK.da should be included on a copy of ProTERM 2.1, it's been designed so all you have to do is run mouse.system, and if everything else is left the same, it will auto-start ProTERM 2.1.

You can access this DA thru the control panel just like any other DA, and you can adjust the mouse sensitivity, and whether or not the da is on or off from the main menu.. It should be self-explanatory.

Known Flaws

Naturally if you have the Mouse.da activated and you goto a program that uses the mouse, there's going to be some fighting over control of the mouse, I suggest you turn off the DA whenever you goto a mouse controlled program, since the da, will keep reinitializing the mouse if it detects that another program has modified the mouse clamps.

If you hold the Control Key down when you click the mouse button it will create undesired results. The same thing goes for the shift key, and CAPS-Lock, it's very important that caps lock is up, when you are using the da. Besides that, CAPS went out with the Timex Sinclair, so I don't think it will be any big deal.

One other thing, ProTERM has a hard time handling interrupts if you go into the Control Panel, this will sometimes cause a freeze, you merely have to hit reset, to get back into ProTERM. (** Exception to the Rule, if ProTERM is initializing the modem, don't ever just hit Reset, in that case you must Reboot the machine.)

MouseLINK Features

These commands are Additions to PS Emulation, all the commands in normal Proterm Special work at the same time as the additions.

- I. You can view SHR files On_Line.
- II. The Mouse Cursor is Defineable.

- III. The Border Color of the Boarder is Defineable.
- IV. The Fore/Back ground colors are Defineable.
- V. There's a new detect, so you know the Mouse.da is there.
- VI. There's a special, box that will appear in the foreground.
- VII. There's a special way to clear the foreground.
- VIII. You can ask the DA, "Where the hell is that damn Mouse?"
- IX. There's a couple Easter Eggs.
- X. The Top and Bottom of the Text Screen are now Defineable.
- XI. You may define a scrolling box, top/bottom, left, and right.

Technical Infomation

All commands follow a generic protocol, you send certain ctrl-codes to the da, by printing them, and Vuala it does what it's supposed to most of the time. All commands are preceded by a Ctrl-C (Chr\$(3)) followed by the command issued, followed by any parameters the command might have. Here is a general list of items.

Set Border Color: Ctrl-B+chr\$(x). x being defined as a value of (0-15) which is the color you want to set the boarder too.

Set Fore/Back Text Color: Ctrl-F+chr\$((x*16)+y). X defined as a value (0-15) to be the color of the Text, and y being a value (0-15) for the color of the background.

Detect MouseLINK: Ctrl-E. This will return two 3's. Asc 33's it will literally return two chr\$("3") equivalentns.

Set Top/Bottom of Text Box: Ctrl-T+chr\$(top)+chr\$(bottom). The top and bottom are values from 0 to 23, the default top is 1, and the default bottom is 23, when the status bar is turned on.

Change Mouse Cursor: Ctrl-C+chr\$("A"). Example, if this statement is used the cursor will be an open apple, since it auto-matically makes it a mousetext char, if you send a normal character. B is the normal pointer, and C is the hour glass.

Popout Box: Ctrl-K+chr\$(y)+<string>. Ok, y is a value 0-23 where the box will be placed vertically. The String, is a string up to 70 characters, terminated by a chr\$(13) [Cr]. The string will then be printed centered inside the box at the vertical position. The great thing about it is, it doesn't have any destructive effect on the text currently on the screen.

Erase Foreground Printing: Ctrl-H. This will erase the Popout box.

Define Top/Bottom of Special window: Ctrl-I+chr\$(top)+chr\$(bottom). See set top/bottom of text window.

Define Left/Right of Special windo: Ctrl-J+chr\$(left)+chr\$(right). Left and right are any value between 0-79.

Scrl Up: Ctrl-Z. Scrolls special window up one line.

Scrl Down: Ctrl-V. Scrolls special window down one line.

Where is the Cursor?: Ctrl-W. Forces the mouse button to be artificially pushed.

Set Mouse Mode: Ctrl-M+chr\$(x). x is defined to be a value from 1-3. Mode 1 is the default, and when the mouse button is pushed, a ctrl-^ chr\$(30) is sent out, followed by the X and Y position of the mouse cursor on the screen. This is standard Datamedia/ProTERM Special Coordinate system, and if you don't know about it that's too bad. When mode 2 is set, the mouse cursor is no longer shown, instead, when the user moves the mouse up, it's just like he/she hit up arrow, same for the other directions. The button will return a chr\$(13) in this case. Mode 3, is identical to mode one in all but one respect, it sends a chr\$(2) instead of a chr\$(30).

SHR Receive: Ctrl-D + packed data. It's all very technical.

Acos Notes

A use command has been included in this package, it's called shrsend. All you have to do is use "shrsend","x:<path>" x being the drive specifier, and the <path> being the name it's incredibly easy to install in supertac 5.33 or above. Here's the actual code in my Stac, that lets the use merely "View" the C0, or \$c1 pictures, just like "viewing" a text file, accept you choose a picture. (Note: On \$c0 format, if the pic is bigger length wise than the normal 320 or 640 mode is set up, it's unviewable)

This subroutine needs to be added

```
shrvieW
print "\\Please wait..for our SLOW hd, to load the pic... then the transfer"
print "will be cached from Ram."
use "c:shrsend",i$
return
```

then under the view label, just like below

```
view
if not(flag(23)) print "You may not view files":return
print "View Files..."
c=4:d=176:e=26:bz=0:gosub fsel

if (th$="$C0") or (th$="$C1") goto shrvieW
^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^ this is the line I added

if left$(f$,2)="V." print "File may be sent, but not viewed":return
print \sn$
goto show
```

End Notes

Well, that's about it from me. I'd like to thank Ron Mercer, without him there wouldn't be a shrsend use command. If you need to know anything else, you can contact me at Off The Wall //gs 319/354-7959.

Thanks for your patience with this endeavor, and from now on, the only thing that will need updated is the da, possibly some use files for SysOps, it's all yet to be seen.

-- Joe Hack

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DOCUMENT mousetalk
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Mousetalk Docs
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Chapter One: Hardware Requirements
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Hardware Requirements: Certain pieces of hardware (such as your computer and a modem) are required for Mousetalk to work properly. To use Mousetalk, you should have:

- An Apple personal coumuter or compatible
- 128K Memory (64K internal and 64K Text Card)
- 80 Column Text Card (as above)
- Mouse and Mouse Card
- Serial Card
- External Modem
- Serial Cable

Mousetalk will not work on the Apple II, Apple II+, or unenhanced Apple IIE computers. While Mousetalk can be operated without an Apple Mouse, we encourage you to have and use one.

Mousetalk does not support any internal "plug in" modems, except internal modem/serial card combinations, such as the Prometheus 1200A.

Additionally, optional equipment includes a printer, extra disk drives, and a hard drive. Though not required, we do recommend you have a printer, and a hard disk drive is one of the best things that you can have for your computer. Mousetalk works with all ProDOS-compatible printers, hard disk drives, including the Unidisk 3.5 drives.

Note: The caret (^) or hat, is used to indicate a control character or code. For example, ^D is CONTROL-D.

When words appear between sqare brackets ([]), they're referring too a graphic button on the screen. For example, [OK] refers to a button marked OK on your screen.

USII Customer Support- (303) 671-0033. The phone number is available Monday thru Friday from 9 AM to 12 PM and 2 PM to 5 PM Mountain Time. NOTE: You need the program serial number, and this support is for registered Mousetalk owners only, and is designed for problems regarding program problems.

Chapter Two: Using MouseTalk
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Menus: To pull one down, hold down the mouse button while pointing to the menu releasing the button hides the menu. To select an item, call up the menu and drag the mouse down until you get to the item, then release the mouse button. Items with checkerboards cannot be accessed, and items with checks can be toggled on or off.

Mousetalk's Menus: From left to right, Mousetalk's pull down menus are:

Apple: Contains general information about the program and what options were selected during installation.

File: Controls files on the disk, files used with Mousetalk's Edit or quitting options.

Edit: Contain's MT's editing and text commands.

Phone: Is responsible for dialing, answering, and hanging up the phone and allows access to MT's macros and session files.

Send: Contains sending options.

Super Serial Card:MT only pays attention to switches setting SW1 number 7 and SW2 numbers 6 and 7, other switches should be set according yto your manual.

Receive: Contains receive options.

Session: Deals with configuration of MT's session files and options, macros, and general communications control.

Review: Is a special storage place (called a buffer) where characters MT receives are temporarily stored.

The Mouse Pointer: Is controlled by moving the mouse. Usually, pointer resembles an arrow head, but depending on which part of the program is used and when it is used it can change to different characters.

Insert Cursor: When editing, the mouse pointer changes to a large "L" shaped cursor. It is controlled the same way as the mouse pointer.

Bracket: When using MT's Review window, the mouse pointer changes to the left bracket "[". This is only in the actual Review window itself.

Nothing: When typing in MT's editor, or when the screen scrolls in terminal mode, the pointer dissappears from view. Any movement of the mouse will bring it back.

Buttons: to press a MT button, click the mouse on the button, clicking the mouse on the menu bar is usually the same as clicking the [OK] button.

Checkbox: is a box which indicates whether a function is on or off. A check appears in the appropriate box. To change it, just click the mouse on the other box. When a function doesn't have an On or Off checkbox, a check in it's checkbox indicates that it is on, no check means it is off.

Radio Buttons: are like the push buttons on a car radio to choose station, only one may be selected at a time. The item with the lit button is on...to change it, just click the button on whatever other one you want.

Input box: is a box with a underscore cursor. It is used to allow the user to type in a selection (such as a file name). When several input boxes appear in one dialog box, click the mouse in the one you want to activate it. All editing functions are available in an Input box (see chapter 9)

Scrolling Windows: used to display long lists. Only a set about of the "roll of paper" can be seen at a time. Clicking the down arrow key next to the list scrolls the list down, the up arrow scrolls it up. The small rectangle in the scroll bar area is like a tiny picture frame which moves up and down the list showing approximately where the window is looking on the list. To select an item from the list, either double click the mouse on the item, or click the [OK] button to confirm the selection. To hide a menu, click the close box(a small box with a dot in it).

Pseudo-Mouse: Usually, when a dialog or alert box asks [OK] or [Yes], RETURN will substitute, and ESC for [Cancel] or [No]. Pressing OPEN-APPLE-? in a dialog box with a [help] button is the same as selecting [help] OPEN-APPLE-? is the same as OPEN-APPLE-?. A scrolling window can be positioned using the arrow keys(Up arrow for up etc...) to highlight one entry in the list. To scroll the window bar, use the OPEN-APPLE with the up or down arrow keys. The TAB key can be used to swithc from one input box to another. Some items in the menus can be called by pressing OPEN-APPLE with a letter key, to be discussed as it comes along.

:Holding down the OPEN APPLE key and pressing ESC will turn on the imitation mouse mode, the menus can be selected with the arrow keys. To switch on the mouse movement mode, hold down both APPLE keys at once and then let go the SOLID APPLE. press any of the arrow keys to move the mouse pointer and SOLID APPLE to click. Once the OPEN APPLE is released, imitation mouse mode is over.

Chapter Three: Getting Started

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Getting Started...the mouse controler card is recommended for slot 4 and the modem in slot 2.

Printer:SW1 number 7 should be ON.
SW2 number 6 and 7 both should be OFF

Modem :SW1 number 6 and 7 should be ON
SW2 #6=ON, #7=OFF

Software:

= I guess something is missing here =

Chapter Five: Communicating with MT

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MT allows your computer to communicate with other computers working as a remote terminal. This Chapter is provided as any easy, non-technical overview of how computers communicate with eachother.

Bits, Bytes and Characters: Computers operate on a binary counting system. The numbers 0 and 1 represent off and on. A bit (Binary Digit) is either a 0 or 1 A byte is a set of bits, typically 8. The eight bits in a byte can be arranged in 256 different ways. Each of these represents a value from 0 to 255. The first 128 of the 256 arrangements represents characters, each separte number, corresponding to a letter, number or symbol. The standard set of the 128 characters is the American Standard Code for Information Interchange (ASCII) and represent the numbers, letters in upper and lower case, punctuation and special control codes.

The Modem: The modem is a contraction of MODulator-DEMulator, it translates the digital bits that the computer understands to analog sounds, which are sent over the phone line, and translated back.

Carriers and Breaking: Once two modems are talking to eachother, they send a special signal to each other, called a carrier, the pitch of which is either the Originate or Answer (to tell which computer is sending what info.). When the carrier stops, communication ends, and usually means that the other modem has hung up. Breaking is a special interruption in the carrier, about 1/3 second long. The break can be used in many different ways, depending on the host computer. Some interpret it as a break signal as in Basic's CONTROL-C, but it really is up to the computer.

Data Word Format: refers to how your computer's serial interface interprets bits coming in from the modem. The bits of the information is sent in a stream between computers, but a special format is needed to tell when one character ends and the other begins...Each character transmitted is usually 10 bits in length, 2 more than in a byte, are used to tell the format of the information: the first bit of the character is the start bit, used to tell when the character starts. the following 8 (7,6 or 5 with some interfaces) bits represent one of the 128 ASCII characters, sent out backwards. The 128 characters is represented by the last 7 bits, the 8th used to flush it out to 8. The 8 bits are followed by an optional value called the parity bit. If an odd parity check is used, and the sum of the bits is odd, the parity bit is set to 0. If the sum is not odd, the parity bit is set to 1. If an even parity check is used, the parity bit is set to 1 when the sum is odd. The parity bit occupies the 8th bit in the byte, since ASCII uses only the first 7. The 10th bit, is the stop bit, used to tell when the character stops.

Echo: Usually, on-line communications is a two-way street, you send a character to another computer and that computer echoes the same character back at you. That means that all the characters you see are sent by the other computer. But that is not always the case. Some systems don't send back an echo, and therefore your system must display the characters sent out. On most systems echo is on, therefore, the local echo is off, but if you cannot see what you are typing, local echo must be turned on. If double characters appear, local echo must be turned off.

Chapter Six: Controlling the Terminal

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The terminal is where most on-line communications take place, and where the most time will be spent on MT.

The Session Menu: Configuring MT's communications options is done in the Session menu. The menu is divided into two basic parts. The first several items, NEW SESSION, LOAD, WRITE, WRITE SESSION, MACRO EDITOR, SESSION TYPE, DIAL SETTINGS, and ANSWER SETTINGS allow changes made in the terminal mode to be saved to disk in session file. Adjustments can be made for each on-line system and be recalled later for use. These are discussed in chapter 10. The remaining items can be used to customize Mt's terminal for each different call:

System Settings controls various aspects of MT's Terminal Speed adjust the bits per second at which MT sends and receives characters.

Data Word Format selects the way MT interprets data received

Terminal Emulation allows MT to emulate the behavior of several popular computer terminals, and is discussed in Chapter 11

Char Suppression selectively filters control characters received by MT

Here-is is an option which allows MT to automatically send a response each time it receives the special "Here-is" character

System Settings: Pull down the Session Menu and choose System Settings, or press OPEN APPLE-U. Most of the items displayed in this dialog box can be toggled on or off. After the necessary changes are made, click [OK] to put them into effect.

Add Line feeds: This is used when the host computer is not supplying line feeds for your screen or printer. The line feed character usually follows the carriage return. If a line feed does not, all characters received are written over on the same line

Chat: If you are on line with someone, and you cannot see what you are typing, but can see his, choose the Chat option. The chat can also be used to communicate with dumb terminals or on-line printers.

Display Menu Bar: The menu bar on the top of the screen can be turned on or off. When off, the menus can be accessed by moving the mouse to the top of the screen and pressing the mouse button.

Flow Control: refers to MT's ability to control the flow of text coming from the host computer, flow control works by sending the XOFF and XON characters (CONTROL-S and CONTROL-Q) to pause and resume transmission. Normally, there is no need to turn this off, since most hosts will support it. Also, when this is off, typing CONTROL-S and CONTROL-Q manually can still be done. You can redefine the XON and XOFF characters in the boxes below the option.

Key Click: When this is on, a click will be heard whenever a key is pressed.

Local Echo: See ch. 5

Show Control Chars: ASCII characters 0 through 31 are called control characters and are not displayed like normal characters. When this option is on, a control character received will be shown with a "^" in front of it. (ie. CONTROL-C = ^C) The only ones not shown are CONTROL-M (carriage return) and CONTROL-M/CONTROL-J (carriage return with line feed).

Speed: is the communications speed in bits per second. Pull down the Sessions menu and choose Speed. The speed at which communications will be done can be chosen by clicking the mouse.

Data Word Format: refers to the format of the parity and ASCII bits (see ch.5) The first character stands for the word length, the second for (e)ven or (o)dd parity bits and the last for the amount of stop bits.

Character Suppression: directs MT to filter or suppress received control characters as they are received. Listed is a table of ASCII control characters, a check by the suppressed ones. To change the status of one, click the mouse on it.

Here-is: This option directs MT to look for a specific character sent by the host. When this character is received, MT sends a response automatically.

The Review Buffer: is where MT holds the last 8,192 characters (8K) received, when it is full, MT deletes the oldest characters and makes room for the new. The review buffer can be used anytime, on-or off-line. Just pull down the review menu and choose review. Use the Scroll Bar to look back through the text. To get out, pull down the Review menu and choose Terminal, press OPEN APPLE-R.

Selecting Text: it's possible to copy portions of the text in the review menu to MT's Clipboard, the printer or to disk. Move the mouse to the review window, and select a block of text. Pull down the Edit menu and use one of the following options.

Copy to Clipboard: stores a copy of the selected text to the Clipboard.

Copy to Printer: sends a copy of the text to the printer.

Copy to Disk: save the block to disk.

Chapter Seven: Working with files

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A file is a collection of information on a disk. The 3 types of files referred to in this manual are:

Text Files: consist of ASCII text, typically containing information made by text editors and word processors, or contain text sent over the modem.

Data Files: contain binary information, such as facts in a database or numbers in a spreadsheet.

Program Files: contain programming instructions and code, which the program reads from for its instructions.

The File Menu: The File menu is where most of MT's file related commands are located. The command areas are the Editor commands, dealing with the MT editor, which are discussed in Ch. 9. Disk Utilities are general disk file commands. Quitting commands, either to quit to ProDos, or to the Install program.

Disk Utilities: Catalog: to see a list of files on the current directory. At the top of the Catalog dialog box is the name of the current directory, or subdirectory. Below the directory name is a scrolling window listing every file in the directory, in alphabetical order. Following the name of the file is a 3 file type (i.e. BAS for BASIC, TXT for ASCII). The size of the file in blocks (of 512 bytes) is shown after the file type, followed by the date of creation, and the date of last modification. The last number is the size of the file in bytes. Use the [PREFIX] button to catalog another volume.

Volumes: displays information about all the disk volumes in your system. The first item is the name of the volume, followed by its slot and drive. The next item is the total # of blocks on the disk, and the number of blocks used and free.

View a File: displays the contents of a text file. Double click the file name to select it. While viewing it, the space bar or the mouse button will pause and unpauses the scrolling. Press ESC or OPEN APPLE-PERIOD.

Rename a File: will change the name of a file. If a file is locked, a disk error box will appear, the name cannot be changed by MT.

Delete a File: will delete a file from disk. To delete a Subdirectory, choose the name from the scrolling window.

Prefixes: The [PREFIX] button appears in every dialog box dealing with files. When it is pressed, a dialog box will appear. Listed in the scrolling window are the available directories under the current directory. When at the volume directory level, (as shown by one /), the names of each volume are displayed in the window. Click the [<-] button to move from a subdirectory up to the parent directory, and the [->] button to move down one level to the subdirectory. If the name of a prefix is entered

that does not exist, MT creates it for you. Just enter the name of the Subdirectory, and MT will create it and automatically switch to it. All Prefix dialog boxes are operated in the same way, however, changing the prefix for one command does not change it for all. MT has 4 separate prefix groups: The First includes all MT's primary disk and file access commands. VIEW, DELETE, RENAME, CATALOG, OPEN, SAVE AS, SEND FILE PROTOCOL, RECIEVE FILE PROTOCOL, and SEND TEXT FILE.

The second controls Recieve to File.

The third conrols MT's Session commands.

The fourth cannot be changed by using a [PREFIX] button, and is where MT looks for it's own program files.

About MouseTalk shows information about the MouseTalk program, including the program drivers and modem selection.

Prefix changes, or logs, to a new sub directory or disk drive. Use the arrows to move up @H or down @U one level in the directory structure. Choose a subdirectory from the window, or type its name in the input box. Click 'Done' once a new subdirectory is selected.

Open loads a text (TXT type) file into the Editor. Choose a file from the window, or type its name in the input box. Click 'Prefix' to choose a new disk drive/directory. Click 'OK' once a file is selected.

Clear Editor wipes clean the contents of the Editor. If a document in the Editor has not been saved since the last change, Clear Editor asks to verify the clear. The Editor must be clear before a new file can be Opened.

Close ends the editing session. If the file has been changed since the last save, you will be prompted to proceed with the close or given another chance to save. After Closing, the Editor is emptied.

Read inserts a text file into the Editor at the cursor's location. This is similar to Pasting a text, though an entire file is inserted.

Save records all changes made in the Editor to the disk file being worked on.

Save As saves the contents of the Editor to disk. Choose a file name from the window or type the name of a new file in the input box. Click 'Prefix' to choose a new disk drive/directory. Click 'OK' to save the file. If an existing file name is used, MouseTalk will ask if you wish to re-use or append to the file.

Revert To Saved loads the most recently Saved copy of a document back into the Editor.

Editor switches from Terminal mode to the MouseTalk Editor. Once in the Editor, this menu item changes to Leave Editor. Leave Editor switches back from the Editor to the Terminal mode.

View displays the contents of a text (TXT type) file. Choose a file from the window or type the file's name in the input box. Click 'Prefix' to choose a different disk/directory. Click 'OK' to display the file. While the file is being displayed, press the mouse's button or the spacebar to pause.

Delete permanently removes files from disk. Select a file from the window or type its name in the input box. Use 'Prefix' to choose a new disk drive/directory. Once a file is selected, click 'OK' to delete the file. Click 'Cancel' when done.

Rename changes the name of a disk file. Only the file's name is changed; its contents remain intact. Choose the name of the file from the window, or type its name in the input box. Click 'Prefix' to log to a new disk drive/ directory. Click 'OK' once a file is selected, then type the new name of the file. Click 'OK' to rename the file or 'Cancel' to quit.

Catalog displays a list of all files in the current directory (prefix). Click 'Prefix' to choose a new directory or disk drive.

Volumes displays information on all disks in your system.

The prefix you specified does not exist in the current directory. Click 'OK' to create it.

Install Program leaves MouseTalk and runs the installation program. Be sure to Save the contents of the Editor before choosing this item.

Quit exits MouseTalk, and returns to ProDOS. Be sure to Save the contents of the Editor before quitting.

Cut removes selected text and places it in the Clipboard. The text can be recalled using the Paste command. Note that the most recently Cut text replaces the old contents of the Clipboard.

Copy duplicates selected text, copying it to the Clipboard. Note that the most recently Copied text replaces the old contents of the Clipboard.

Paste inserts text from the Clipboard into the Editor at the cursor location.

Clear removes (deletes) selected text.

Copy to Printer prints selected text. Make certain the printer is on and ready to print before choosing this option. To stop printing, hold down the @A key and press . (period).

Copy to File saves selected text to a file on disk. Choose a file name from the window or type the name of a new file in the input box. Click 'Prefix' to choose a new disk drive/directory. Click 'OK' to save the file. If an existing file name is used, MouseTalk will ask if you wish to re-use or append to the file.

Find locates a word or phrase of up to twenty characters typed in the input box. Choose Forward to search after the cursor position, or Backward to search before. Click 'Find' to start the search. Once the text is found, MouseTalk selects (highlights) it.

Find Next locates the next occurrence of text entered using the Find command. It's the same as re-using Find and clicking 'Find'.

Change Case alters the case of selected text to either all upper, all lower, or mixed case.

Fill puts as many words possible on each line in a paragraph and word-wraps text to the next line. Fill works only on selected text. A paragraph is considered any group of letters, words and numbers followed by a blank line.

Clean Up removes all control codes from selected text. After 'Cleaning Up', the text will only contain carriage returns.

Show Clipboard displays text held in temporary storage in the MouseTalk Clipboard.

This command displays the help box for any item on any MouseTalk menu. After choosing Help, select an item from a pull down menu. Releasing the mouse button displays the help box for that item. For more detailed help, refer to the MouseTalk Manual.

Enter a phone number in the input box. Wait time indicates the number of seconds MouseTalk waits for the other modem to answer the phone. Click Tone or Pulse dialing depending on the phone company equipment installed at your house. The Redial option automatically redials the number if a connection is not made. Click 'Dial' to dial the number.

Hang up disconnects (hangs up) the modem. Click 'OK' to hang up or 'Cancel' to return back on-line.

Answer instructs MouseTalk to recieve incoming calls, answering the phone when it rings. A password is used to prevent unauthorized access to your computer.

Do Session loads and executes a pre-written "script" of commands, customized to a particular on-line system. Choose the Session file from the window or enter the

file's name in the input box. Click 'Prefix' to choose a new disk drive/directory. Click 'OK' to load the Session and, if listed, dial the phone number.

Redo Session replays a Session currently in memory.

Send From Editor sends the contents of the Editor to another computer, similar to Send From File.

Send From File sends a text (TXT type) file to another computer. Choose a file from the window, or type the file's name in the input box. Use 'Prefix' to choose another disk drive/directory. Click 'Modify' to control how the file is sent. Protocol Send sends a file on disk using Christensen protocol for error-free transmission. Choose a file from the window, or type the file's name in the input box. Click 'Prefix' to select another disk drive/directory.

Protocol Receive receives a file using Christensen protocol for error-free data transmission. If the name of a file to receive is chosen from the window, you're asked if you wish to replace it. If the name of a new file is typed in the input box, the file is created. Click 'Prefix' to choose a new disk drive/directory.

Receive to File saves incoming text to a file on disk. The file is chosen with Set Filename. A check appears by this option if Receive to File is currently active.

Receive to Editor copies (appends) incoming text to the MouseTalk Editor. When Receive to Editor is active, a check appears by this option.

Receive to Printer copies incoming text to the printer. When Receive to Printer is active, a check appears by this option.

Do (macro label) executes a macro element. The element is created in the Macro Editor and can be part of a Session file.

The Macro Editor is used to create or modify macros for a particular Session file.

Load Session loads a previously saved Session file into memory for modification and editing. Choose a Session file from the window, or type the file's name in the input box. Click 'OK' to load the Session file. Write saves the session in memory to disk. Choose a name for the file using the Write As command. Write prompts to save the Session as a Dial or Answer Session. Click 'Write' to save the file or 'Cancel' to make more modifications.

Write As saves the session in memory to disk. If a file is chosen from the window, the contents of that file will be replaced. If a file name is entered in the input box, MouseTalk creates a new Session file. Write As prompts to save the Session as a Dial or Answer Session. Click 'Write' to write the file or 'Cancel' to make more modifications.

New Session resets all MouseTalk's commands and functions to the same as when the program was started.

Speed selects the speed of data transmission in Bits Per Second. Choose a speed by clicking the box next to the desired value.

Terminal Emulation allows MouseTalk to mimic the display characteristics of a specific terminal. Choose the name of the terminal to emulate from the window, then click 'OK'.

Character Suppression filters characters, specifically control codes, as they are received by MouseTalk. Click the mouse on the character to suppress. A check appears by characters currently suppressed. Click 'OK' when done.

Data Word Format selects a specific format for character transmission. Click the box next to the appropriate Data Word Format, then click 'OK'.

Here-is sends an "answer back" string to another computer if that computer sends the proper Here-is character. Type the Here-is character into the input box, for example, CONTROL-E. Type the answer back string into the Response input box. Click 'OK'.

The Answer mode answers the phone, allowing remote callers access to your computer. Enter an Access Password of up to ten characters into the input box. Type the name of a text file into the Hello file box. The Hello file will be displayed after a caller enters the correct password. Click 'Access' to define which prefixes are available to the remote caller. Click 'OK' to enter the Unattended mode and wait for a call.

Answerback options are discussed at length in the manual.

Accessible prefixes define prefixes, or sub-directories, which are available to the remote caller. Click Full access 'ON' to grant a caller access to all your disks and directories. Initial Prefix defines which prefix the caller is logged to after entering the correct password. The Initial Prefix should contain the Hello file if one was specified.

MouseTalk Installation allows you to reinstall the entire program, or simply change a single item. On the right side of the window are MouseTalk's current settings. Click 'Format' then 'Copy' to create another MouseTalk disk, or just 'Format' to make a data disk. Click 'Choose Computer' to reinstall the entire program. Click an individual item to change only it. Click 'Save' to record the changes, then 'Run' to go back to MouseTalk.

Choose Communications Card informs MouseTalk which serial interface card your Apple uses. Select the card from the window. Click the mouse by the slot number of the card. Click 'OK' when done.

Choose Printer Card informs MouseTalk which printer interface card your Apple uses. Select the card from the window. Click the mouse by the slot number of the card. Click 'OK' when done.

Choose External Modem informs MouseTalk which type of external modem you're using. Choose the name of the external modem from the window. Click 'OK'.

Choose Computer informs MouseTalk which type of computer you'll be running the program on. If you have an Apple //c, click the mouse on Apple //c. After choosing your computer from the window, click the 'OK' button. MouseTalk proceeds with an installation tailored to your particular type of computer.

Copy MouseTalk Disk copies all the files and programs needed to run MouseTalk from MouseTalk's prefix to the current prefix (disk drive or directory) specified. The two prefixes must be different for the copy to work. To choose a new destination for the files, click 'Prefix'. The files copied are:

```
MT.SYSTEM
MT.BIOS
MT
MT.INSTALL
MT.HELP
* PRODOS
MT.TERM
```

\* copied only if the destination prefix is a root directory (disk rather than subdirectory.)

Format the Disk formats, or initializes, a diskette for storing data. If the diskette already contains data, you will be asked to confirm that you want the old data erased before formatting. Enter the volume name of the new disk in the input box. Click the mouse by the slot and drive number of the drive containing the diskette to be formatted. Click 'OK' to begin formatting.

The Editor is full!  
Either Close the Editor, saving the contents to disk, or delete some text to allow further editing.

The file you're saving is already on disk. Click 'Re-use' to erase the old file and save the new, or 'Append' to place the new file at the end of the old.

Something's wrong with the printer. Fix the printer, then click 'Retry' to continue, or click 'Cancel' to stop printing.

Send Break sends a modem break signal to the host computer.

System Settings are miscellaneous communications parameters which can be toggled on or off. To turn an item on, click by that item. Items currently on have a checkmark by them. A new XON or XOFF character can be entered into the appropriate input box.

Session Type chooses whether the current Session is defined as a Dial or Answer Session. To choose either one, click the mouse by Dial or Answer.

To confirm the Session to be saved as a Dial or Answer Session, click 'Save'. To change the Session type, click 'Cancel', then choose Session Type again from the Session Menu.

Enter the name of a file for use with the Receive to File command. After a file is chosen from the window, or the name of a new file entered in the input box, toggle Receive to File on to begin saving incoming text to the file.

Dial Settings is where a phone number for a Session file is entered. Options here are the same as for Dial under the Phone menu, however, the phone number and options become part of a Session file -- the phone number will not be dialed when 'OK' is clicked.

Answer Settings is where information for an Answer Session is entered. Options are the same as for Answer under the Phone menu.

Options controlling how a text file, or text from the Editor are sent are controlled in this dialog box. Enter the type of send, either Line or Character, Interline and Intercharacter delays if necessary, a Line Prompt (handshaking character), and set Add LF to CR and Fix blank lines options. For a detailed description of each item, refer to the MouseTalk Manual.

The Review buffer is where the most recent 8,192 characters received by MouseTalk are stored. To look back at this information, choose Review from the menu, or press @AR. To return to the Terminal mode, press @AR again, or select Terminal from the Review pull down menu.

Select all selects and highlights all text in the Review buffer, Editor or Macro Editor.

In order to Dial a phone number, MouseTalk will first hang up the phone. If you're sure you want to hang up now, click 'OK'.

d-wraps text to the next line. Fill works only on selected text. A paragraph is considered any group of letters, words and numbers followed by a blank line.

Clean Up removes all control codes from selected text. After 'Cleaning Up', the text will only contain carriage

```
=====
DOCUMENT movie
=====
```

Documentation for Movie.Viewer  
v 0.5

\*\*\*\*\* WARNING THIS IS A BETA VERSION!!! \*\*\*\*\*

Well hello all! This is my first venture into a true GS application. It is a viewer for quickly (well fastly...OK successively) cycling through SHR pictures. The idea is if these screens can be displayed fast enough a movie is developed.

The current state of GS animation is to create a \$c2 "SHOW" file. This is basically the same idea but the files must be compressed into the special \$c2 file and thus it does not facilitate easy editing. Also, most \$c2 viewers load the movie into RAM, thus necessitating a large amount of free memory.

MOVIE.VIEWER views standard, uncompressed, \$c1 files. MOVIE.VIEWER also loads files directly from your hard drive. This slows performance noticeably, but good frame rates are still achievable. Tests are to be completed on systems with a RamFast controller and accelerator card too see if performance is improved. Advantages of using hard drive reads are that files need not take up large amounts of free RAM space.

How do I use MOVIE.VIEWER?

I. Create a movie.

You may create a movie in a variety of ways. The 'frames' of the movie should be similar enough so that when cycled through the create the illusion of smooth movement. These files should be stored all in the same subdirectory with sequential file names. Some latitude is given on the names. The key is to have a counter somewhere within the names of the files. For instance valid frame names might be...

```
STAR.TR.1      F1.GS      MOVIE1.PHOEBE
STAR.TR.2      or  F2.GS      or  MOVIE2.PHOEBE
STAR.TR.3      F3.GS      MOVIE3.PHOEBE
```

etc.

As you can see all have the sequence 1,2,3,...in them somewhere. These would be referred to by MOVIE.VIEWER as...

```
Movie Name      Suffix
-----
STAR.TR.
F                .GS
MOVIE            .PHOEBE
```

If the movies are in a subdirectory you may use an absolute pathname as the movie name.

Once again please note this is the very first BETA release of the program. Very little error checking is done. A much more developed package will be released soon.

SHAREWARE NOTICE:

You are free to copy, and distribute this program, so long as no fee is charged and the original documentation is distributed with it. However if you decide to use this program after 10 days you may do so legally only under the following terms.

- 1) You must send me a letter saying, "Hey this works great! Keep writing stuff for the GS. etc."
- 2) Give me ideas for updating MOVIE.VIEWER. I would like this to become an animation development tool.

# Apple II Computer Info

Have fun!

Fred Wilson  
AOL: FredWGS  
CIS: 70721,557  
Internet: fwilson@whitney.eng.ohio-state.edu

```
=====
DOCUMENT movie.maker
=====
```

```
-- THE CONNECTION.... --
                                AND
                                -- THE DISK JOCKEY --
```

```
-- THE SLAVES OF PIRACY --
Movie Maker Documentation File. By the Disk Jockey. Formatted in 70
columns.
```

NOTE: Movie Maker requires 64K of memory. Also, Movie Maker consists of TWO (2) disks (sides)!

I will summarize the list of commands for Movie Maker first, for those who just want to skim through the docs.

Keyboard assignments for Apple II family:

|                                                                    | Apple IIe/c                    | Apple II+                         |
|--------------------------------------------------------------------|--------------------------------|-----------------------------------|
| To move around menus:                                              | <-- --> ^ !<br>! v             | I<br>J k<br>M                     |
| Nudge (with "N" key)<br>and to move pen around<br>without drawing. | <-- --> ^ !<br>! v             | ctrl I<br>ctrl J ctrl K<br>ctrl M |
| To move pen around<br>and draw.                                    | ctrl S ctrl E<br>ctrl X ctrl D | ctrl E<br>ctrl S ctrl D<br>ctrl X |

Special Note: A joystick may be used instead of the keys referred to above. The keys are intended for fine adjustment or for moving thru menus.

Alphabetical command list for Apple Movie Maker:

| Command | Compose       | Record        | Play         |
|---------|---------------|---------------|--------------|
| A       | Action        | Actor         |              |
| B       | Border        |               |              |
| C       | Color         | Color         |              |
| D       | Duplicate     |               |              |
| E       | Erase         | Erase         |              |
| F       | Frame rate    | Frame rate    | Frame rate   |
| G       | Goto          |               |              |
| H       | Help line     | Help line     |              |
| I       | Insert color  |               |              |
| J       | Jump          | Jump          |              |
| K       | Kwikness      | Kwikness      |              |
| L       | Loop          | Loop          | Loop         |
| M       | Mirror        |               |              |
| N       | Nudge         |               |              |
| O       | Outline       |               |              |
| P       | Pen           | Playback      |              |
| R       | Restore       | Rewind        |              |
| S       | Sequence      | Sequence      |              |
| T       | Trade colors  |               |              |
| U       | Utility menu  | Utility menu  | Utility menu |
| V       | View          |               |              |
| W       | Window        |               |              |
| X       | Xtra Function | Xtra Function |              |
| Y       | Yank          | Yank          |              |

|                  |                                                                                                                                                  |                                                                           |             |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------|
| Z                | Zoom                                                                                                                                             | Zoom                                                                      |             |
| /                |                                                                                                                                                  | Frame maker                                                               | Frame maker |
| ESC              | Shape swap and background pages                                                                                                                  | Shape swap and background pages                                           |             |
| Space            | Stop and start action; Cancel most drawing command.                                                                                              | Stop and stop recorder.                                                   |             |
| Joystick         | Lift and deposit outlines, shapes and images with duplicate; activate P command with joystick; Fix corners for B Command; Stop and start action. | Lift and deposit outlines and actors pause during A,C,P,R and Z commands. |             |
| Shift/<br>arrow. |                                                                                                                                                  | Single step through frames during record and playback.                    |             |
| ctrl/<br>arrow.  |                                                                                                                                                  | Review shapes.                                                            |             |

To move thru the menus on the Apple II+:

|   |       |
|---|-------|
| I | Up    |
| J | Left  |
| K | Right |
| M | Down  |

Use the arrow keys on the IIe.

-----  
 Movie Maker: Getting started-An introduction.

Boot the program and you will see Movie Maker's main menu. Load RECORD by pressing 2, and then RETURN. After a moment the record utility menu will appear.

To manipulate the inverse bar use the arrow keys (for the //e,c) or I, J, K, M for a II+. Move the inverse bar to cover GET, and press RETURN, Select Shape, and press RETURN. Type DOG, and hit RETURN. Select Record, and hit RETURN. You will see the DOG shape page.

Press A1 for actor #1. Press S1 for sequence #1. Using your joystick, position the DOG to the desired starting location. Hit the space bar to begin the record mode. Use the joystick to control your DOG's path. You have now created your first animation using up to 338 frames.

To see a playback, hit G in order to Goto the beginning. Hit the space bar to see playback. To control Frame Rate or speed of execution, press F and #0-9. F0 advances frame by frame using the space bar. F1-9 increase speed from slow to fast. To rewind press R, and hit the space bar to toggle start and stop. To playback forward, press P and #0-9 to control the speed.

You May Now Add a Second DOG:  
 Press G to goto the beginning. Press A2 for Actor #". Press S1 for Sequence #1. Position your second DOG with your joystick. Hit the space bar to active record mode and move the DOG with your joystick. Hit the space bar to stop. You may use up to SIX actors. To view your animation with two DOGs running simultaneously, press G to goto the beginning and hit the space bar to start and stop.

To Draw Original Shapes:  
 Press U for utility. Place the inverse bar over MAIN MENU and hit RETURN. Load COMPOSE by pressing 1 and RETURN. Place the inverse bar over CLEAR MEMORY and hit RETURN. Place the inverse bar over

EVERYTHING and hit RETURN. Place the inverse bar over COMPOSE and hit RETURN. You will see a blank screen with a box (draw inside the box). To enlarge the box, press B for border. Press the joystick button to place upper right corner. Use the joystick to enlarge the box. Press the joystick button.

To Draw:  
 Press the space bar to clear any present commands. Press P for Pen plus a color # between 0 and 7:

|   |        |
|---|--------|
| 0 | Black  |
| 1 | Green  |
| 2 | Purple |
| 3 | White  |
| 4 | Black  |
| 5 | Orange |
| 6 | Blue   |
| 7 | White  |

(Note the first black and white are to be used with green and purple, and the second black and white are to be used with orange and blue).

Place the joystick at the desired location. Press the joystick button to draw. Alternately, draw using the keyboard. Press control key and E S D X for direction. Press the space bar to clear memory.

IMPORTANT: OUTLINE ALL SHAPES BY PRESSING O FOR OUTLINE.

To Duplicate Outlined Shapes:  
 Press W for window. Press D for duplicate. Press the joystick button to pick it up and again to deposit the shape in a new location. Press the space bar to clear memory. Press O to outline a new shape. Note: You may develop these shapes as paint brushes.

To Mirror Shapes:  
 Press the space bar to clear any current command. Press M for Mirror. Press the arrow key to flip in the desired direction. Press O to outline a new shape.

To Alter Window Size:  
 Press the space bar to clear current command. Press B and press the joystick button to define the corners of the border. To erase a shape in a box, press E for erase.

To Insert Color Into Shape:  
 Press the space bar to clear the current command. Press I for insert, position the joystick, and press the joystick button. To insert a different color, press I for insert and color #0-7. CAUTION: Make certain shapes are closed so that inserted color will remain contained in desired area. Remember to press O to outline new shapes.

To Zoom:  
 Press Z for zoom, close up view, for detailed work. Press Z again to restore normal perspective.

To Make a Sequence:  
 Press the space bar to clear the current command. Press S1 for the first sequence. Use the joystick to position over the first shape and press the joystick button. Watch help line S1.01, S1.02, etc. Repeat selecting shapes (maximum 16 shapes per sequence).

Press G to goto the beginning. Press A for action. Press the space bar to start and stop. Press R to rewind. Press the space bar to start and stop. Press F and #0-9 to control frame rate. Press the space bar to start and stop. F0 progresses frame by frame. Advance to the next frame using the space bar. F1-9 increases speed from slow to fast.

To Create a Background:

Press the space bar to clear the current command. Press ESC twice to goto the background page. Press ESC to toggle between shape and background pages (observe S and B in upper left corner of the help line). To draw, use P for pen and a color number between 0 and 7. Move the joystick. Press the joystick button.

You may pick up a shape from your shape page and bring it to your background page. Hit the space bar to clear memory. Press ESC to goto the shape page. Press W for window. Place the box over the desired shape. Press O for outline, D to duplicate, joystick to pick shape up, and ESC to bring it to the background page. Press the joystick button to deposit the shape where desired. Press the space bar to clear memory. Use a shape as a paint brush. Press E to erase the shape in the box.

To View Sequence Over Background:

Press G to goto the beginning. Press A for action. Hit the space bar. Control movement with the joystick.

These animations can be recorded by using a blank formatted storage disk and by following simple screen prompts through MENU selection. You can SMOOTH and PLAYBACK your finished COMPUTER MOVIES (MVM's). You can develop a sequence and transfer it to videotape. Be creative.

Some notes:

Animation may be up to 338 frames. This will take a longer or shorter time, depending on the frame rate setting. A 338 frame movie with a faster frame rate will play more quickly than the same movie with a lower frame rate.

A longer movie may be made by stringing finished animations back to back. To do this, use the auto play side of MOVIE MAKER and make a copy with COPYA. Then delete all the files from this copy except for CNTDWN.INI and MAINAP, and put your Movie Maker files on this disk (use FID from your system master disk). NOTE THAT THE FILES CNTDWN.INI AND MAINAP MUST REMAIN ON THE DISK. When the disk is booted, it will automatically play your movies (the MVM files) in the order you copied them onto the disk.

Also, if you have two (2) drives, leave the Movie Maker disk in drive 1, and have a data disk (formatted) in drive 2. Now change drive assignment by selecting COMPOSE from the main menu, and then RECORD, or SMOOTH utility menus. Move the inverse bar to SELECT DRIVE, and press RETURN.

After you have created a movie, you may save it by getting to the main menu (use the U command). Then select COMPOSE, and move the inverse bar to KEEP FILE. Put a blank formatted disk in the proper drive, and press RETURN. You will be prompted for a filename.

-----

Movie Maker Dox Uploaded by The Mystic

Done

```
=====
DOCUMENT movie.maker2
=====
```

```
.....
MOVIE MAKER

THE SOUTH POLE...[312] 677-7140
.....

WRITTEN BY THE DISK JOCKEY
```

REWRITTEN FOR THE SOUTH POLE BY SAM HOUSTON

MOVIEMAKER REQUIRES AN APPLE II+ OR IIE OR IIC WITH 64K OF MEMORY AND 2 DRIVES ARE OPTIONAL THE GAME IS 2 DISK SIDES.

I will summarize the list of commands for Movie Maker first, for those who just want to skim through the docs.

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|                                                              | Apple IIe/c                       | Apple II+                         |
|--------------------------------------------------------------|-----------------------------------|-----------------------------------|
| To move around menus:                                        | <-- --> ^ !<br>! v                | I<br>J k<br>M                     |
| Nudge (with "N" key) and to move pen around without drawing. | <-- --> ^ !<br>! v                | ctrl I<br>ctrl J ctrl K<br>ctrl M |
| To move pen around and draw.                                 | ctrl E<br>ctrl S ctrl D<br>ctrl X | ctrl E<br>ctrl S ctrl D<br>ctrl X |

Special Note: A joystick may be used instead of the keys referred to above. The keys are intended for fine adjustment or for moving thru menus.

Alphabetical command list for Apple Movie Maker:

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| D       | Duplicate    |              |              |
| E       | Erase        | Erase        |              |
| F       | Frame rate   | Frame rate   | Frame rate   |
| G       | Goto         | Goto         |              |
| H       | Help line    | Help line    |              |
| I       | Insert color |              |              |
| J       | Jump         | Jump         |              |
| K       | Kwikness     | Kwikness     |              |
| L       | Loop         | Loop         | Loop         |
| M       | Mirror       |              |              |
| N       | Nudge        |              |              |
| O       | Outline      |              |              |
| P       | Pen          | Playback     |              |
| R       | Restore      | Rewind       |              |
| S       | Sequence     | Sequence     |              |
| T       | Trade colors |              |              |
| U       | Utility menu | Utility menu | Utility menu |

|              |                                                                                                                                                  |                                                                           |             |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------|
| V            | View                                                                                                                                             |                                                                           |             |
| W            | Window                                                                                                                                           |                                                                           |             |
| X            | Xtra Function                                                                                                                                    | Xtra Function                                                             |             |
| Y            | Yank                                                                                                                                             | Yank                                                                      |             |
| Z            | Zoom                                                                                                                                             | Zoom                                                                      |             |
| /            |                                                                                                                                                  | Frame maker                                                               | Frame maker |
| ESC          | Shape swap and background pages                                                                                                                  | Shape swap and background pages                                           |             |
| Space        | Stop and start action; Cancel most drawing command.                                                                                              | Stop and stop recorder.                                                   |             |
| Joystick     | Lift and deposit outlines, shapes and images with duplicate; activate P command with joystick; Fix corners for B Command; Stop and start action. | Lift and deposit outlines and actors pause during A,C,P,R and Z commands. |             |
| Shift/arrow. |                                                                                                                                                  | Single step through frames during record and playback.                    |             |
| ctrl/arrow.  |                                                                                                                                                  | Review shapes.                                                            |             |

To move thru the menus on the Apple II+ :

|   |       |
|---|-------|
| I | Up    |
| J | Left  |
| K | Right |
| M | Down  |

Use the arrow keys on the IIE.

-----  
 Movie Maker: Getting started-An introduction.

Boot the program and you will see Movie Maker's main menu. Load RECORD by pressing 2, and then RETURN. After a moment the record utility menu will appear.

To manipulate the inverse bar use the arrow keys (for the //e,c) or I, J, K, M for a II+. Move the inverse bar to cover GET, and press RETURN, Select Shape, and press RETURN. Type DOG, and hit RETURN. Select Record, and hit RETURN. You will see the DOG shape page.

Press A1 for actor #1. Press S1 for sequence #1. Using your joystick, position the DOG to the desired starting location. Hit the space bar to begin the record mode. Use the joystick to control your DOG's path. You have now created your first animation using up to 338 frames.

To see a playback, hit G in order to Goto the beginning. Hit the space bar to see playback. To control Frame Rate or speed of execution, press F and #0-9. F0 advances frame by frame using the space bar. F1-9 increase speed from slow to fast. To rewind press R, and hit the space bar to toggle start and stop. To playback forward, press P and #0-9 to control the speed.

You May Now Add a Second DOG:

Press G to goto the beginning. Press A2 for Actor #". Press S1 for Sequence #1. Position your second DOG with your joystick. Hit the space bar to active record mode and move the DOG with your joystick. Hit the space bar to stop. You may use up to SIX actors. To view your animation with two DOGS running simultaneously, press G to goto the

beginning and hit the space bar to start and stop.

To Draw Original Shapes:

Press U for utility. Place the inverse bar over MAIN MENU and hit RETURN. Load COMPOSE by pressing 1 and RETURN. Place the inverse bar over CLEAR MEMORY and hit RETURN. Place the inverse bar over EVERYTHING and hit RETURN. Place the inverse bar over COMPOSE and hit RETURN. You will see a blank screen with a box (draw inside the box). To enlarge the box, press B for border. Press the joystick button to place upper right corner. Use the joystick to enlarge the box. Press the joystick button.

To Draw: Press the space bar to clear any present commands. Press P for Pen plus a color # between 0 and 7:

|   |        |
|---|--------|
| 0 | Black  |
| 1 | Green  |
| 2 | Purple |
| 3 | White  |
| 4 | Black  |
| 5 | Orange |
| 6 | Blue   |
| 7 | White  |

(Note the first black and white are to be used with green and purple, and the second black and white are to be used with orange and blue).

Place the joystick at the desired location. Press the joystick button to draw. Alternately, draw using the keyboard. Press control key and E S D X for direction. Press the space bar to clear memory.

IMPORTANT: OUTLINE ALL SHAPES BY PRESSING O FOR OUTLINE.

To Duplicate Outlined Shapes:

Press W for window. Press D for duplicate. Press the joystick button to pick it up and again to deposit the shape in a new location. Press the space bar to clear memory. Press O to outline a new shape. Note: You may develop these shapes as paint brushes.

To Mirror Shapes:

Press the space bar to clear any current command. Press M for Mirror. Press the arrow key to flip in the desired direction. Press O to outline a new shape.

To Alter Window Size:

Press the space bar to clear current command. Press B and press the joybutton to define the corners of the border. To erase a shape in a box, press E for erase.

To Insert Color Into Shape:

Press the space bar to clear the current command. Press I for insert, position the joystick, and press the joybutton. To insert a different color, press I for insert and color #0-7. CAUTION: Make certain shapes are closed so that inserted color will remain contained in desired area. Remember to press O to outline new shapes.

To Zoom:

Press Z for zoom, close up view, for detailed work. Press Z again to restore normal prespective.

To Make a Sequence:

Press the space bar to clear the current command. Press S1 for the first sequence. Use the joystick to position over the first shape and press the joybutton. Watch help line S1.01, S1.02, etc. Repeat selecting shapes (maximum 16 shapes per sequence).

Press G to goto the beginning. Press A for action. Press the space bar to start and stop. Press R to rewind. Press the space bar to start and



stop. Press F and #0-9 to control frame rate. Press the space bar to start and stop. F0 progresses frame by frame. Advance to the next frame using the space bar. F1-9 increases speed from slow to fast.

To Create a Background: Press the space bar to clear the current command. Press ESC twice to goto the background page. Press ESC to toggle between shape and background pages (observe S and B in upper left corner of the help line). To draw, use P for pen and a color number between 0 and 7. Move the joystick. Press the joystick button.

You may pick up a shape from your shape page and bring it to your background page. Hit the space bar to clear memory. Press ESC to goto the shape page. Press W for window. Place the box over the desired shape. Press O for outline, D to duplicate, joystick to pick shape up, and ESC to bring it to the background page. Press the joystick to deposit the shape where desired. Press the space bar to clear memory. Use a shape as a paint brush. Press E to erase the shape in the box.

To View Sequence Over Background: Press G to goto the beginning. Press A for action. Hit the space bar. Control movement with the joystick.

These animations can be recorded by using a blank formatted storage disk and by following simple screen prompts through MENU selection. You can SMOOTH and PLAYBACK your finished COMPUTER MOVIES (MVM's). You can develop a sequence and transfer it to videotape. Be creative.

Some notes:

Animation may be up to 338 frames. This will take a longer or shorter time, depending on the frame rate setting. A 338 frame movie with a faster frame rate will play more quickly than the same movie with a lower frame rate.

A longer movie may be made by stringing finished animations back to back. To do this, use the auto play side of MOVIE MAKER and make a copy with COPY. Then delete all the files from this copy except for CNTDWN.INI and MAINAP, and put your Movie Maker files on this disk (use FID from your system master disk). NOTE THAT THE FILES CNTDWN.INI AND MAINAP MUST REMAIN ON THE DISK. When the disk is booted, it will automatically play your movies (the MVM files) in the order you copied them onto the disk.

Also, if you have two (2) drives, leave the Movie Maker disk in drive 1, and have a data disk (formatted) in drive 2. Now change drive assignment by selecting COMPOSE from the main menu, and then RECORD, or SMOOTH utility menus. Move the inverse bar to SELECT DRIVE, and press RETURN.

After you have created a movie, you may save it by getting to the main menu (use the U command). Then select COMPOSE, and move the inverse bar to KEEP FILE. Put a blank formatted disk in the proper drive, and press RETURN. You will be prompted for a filename.

=====

DOCUMENT mr.fixit

=====

```
*-----*
!           MR FIXIT DOX           !
*                                           *
!   PRESENTED BY BETS C. FOR:   !
*                                           *
!  APPLE MANOR  (716) 654-POOF!  !
*  THE SOUTH POLE (312) 677-7140 *
!  THE OUTPOST  (312) 441-6957  !
*-----*
```

Mr. Fixit contains several utilities that let you identify and recover "blown" disks without needing an intimate knowledge of Apple DOS.

Scan utility: Identifies flawed track/sectors on disks. Copy utility: Ignores flawed sectors as it copies a diskette. Edit utility: Allows you to change disk sectors & also contains a disassembler. File restoration utility: Allows you to recover deleted files. There's also a Aatalog repair utility.

BOOTING AND RUNNING

-----

Booting with a 16K Ram card, Language card, Apple -/e:

Mr. Fixit is loaded into the RAM card if you have a 16K RAM card, a language card or an Apple //e. It won't be necessary to reload after most functions are performed. At the Applesoft prompt type '&' and RETURN to re-enter Mr. Fixit.

Booting without 16K RAM, Language card, Apple //e:

-----

Mr. Fixit will be loaded into the program area. After you run a BASIC program or perform a DOS function (if you've overwritten page 3 in RAM), you'll have to reload Mr. Fixit.

DISK SCAN UTILITY

-----

This utility won't scan copy protected disks.

ESC = Abort scan

The scan will start with the first track and sector (T0,S0). As the scan progresses, the current track and sector number will be displayed in hexadecimal on the fifth line along with the status of each sector. The Scan will report each flawed sector on a separate line. When the scan is completed, you can print the results by typing 'P' when the prompt appears. This will print the result to a standard Apple printer with the card in slot one.

Interpreting the Scan

-----

TRACK/SECTOR nn/n FLAWED BUT READABLE. When you see this message for any track, your disk is still ok, but it would be wise to make a copy of it immediately using the Mr Fixit Copy Utility.

TRACK/SECTOR nn/n UNREADABLE. You will not be able to copy the disk with COPY.

The Copy Utility will copy the disk, but any unreadable sectors will be filled with hex FF in the copy.

You may choose to use either the Mr. Fixit Copy Utility or the Mr. Fixit Edit Utility to recover a disk with unreadable sectors. The Edit utility will read some flawed sectors into memory, so if you're familiar with what should be on the disk, you may be able to recover everything.

First 3 tracks flawed -- Systems Image Clobbered. An easy fix is to INIT another disk and FID your files to it.

Track 11 Flawed - VTOC Errors. To fix these disks, run the Catalog Repair Utility. Before you start to fix the catalog track, you should make a backup copy of the disk with the Copy Utility.

## THE DISK EDIT UTILITY (DEU)

All standard DOS 3.3, Pascal, and CP/M disks can be edited with the utility. Most copy protected disks can't be read with DEU. DEU works with individual sectors. With DEU you can read a sector from the disk, change the sector in memory and then write the changed sector back to a disk. The Edit utility also lets you "dis-assemble" modules into 6502 mnemonics.

### Overview of DEU:

1. Diskette Parameters Line - Shows the track, sector, slot and drive.
2. Command Line - Where you enter your commands and change sector data one byte (character) at a time.
3. Sector Display Area - Where you enter your commands and change sector data one byte at a time.

E = Edit  
 ESC = Return to command mode from edit  
 H = Help  
 M = Return to main menu  
 R = Read sector  
 CTRL Q = Quit Mr Fixit  
 CTRL RESET = Restart DEU  
 &lt;RETURN> = Re-enter DEU from Applesoft  
 CTRL Y = Re-enter DEU from monitor  
 (These work unless you've overwritten DEU (to page 3 of RAM))

## CHANGING DISKETTE PARAMETERS

T = change track # (0-22 hex)  
 S = change sector # (0-0F hex)  
 D = change drive # (1 or 2)  
 CTRL S = change slot # (1-7)  
 ESC = aborts change

## OPTIONS AFTER READING A SECTOR

1. Change which sector is displayed
2. Change the display to ASCII
3. Print display
4. Dis-assemble the Binary files
5. Edit the sector buffer
6. Write the edited sector buffer to a disk
7. Copy sectors

-> Reads the next sector  
 <- Reads the previous sector  
 . Increases the sector # by one without doing a read  
 , Decreases the sector # by one without doing a read

FLAWED SECTORS - SPECIAL READ (CTRL R)

If a sector can't be read because it's flawed, pressing CTRL-R will tell DEU to read the sector ignoring some of the error checking code (e.g. checksum). If the sector isn't badly flawed it can be read and then written back to the diskette. Sometimes repeated reads of a flawed sector can't get entirely reproducible results. When this happens you must use your own judgement as to what should be written back to the disk. In cases of badly flawed or copy protected disks the edit may not be able to read a sector and return an error message.

## CHANGING THE SECTOR DISPLAY TO ASCII

'A' or CTRL A will toggle the display between ASCII and hex format. If your Apple can't display lower case characters, the buffer display area may not display the proper ASCII character. Since the Apple can't display inverse lower case characters, erroneous characters may be displayed in the inverse cell. Also, any ASCII character with a value greater than 60 hex will display improperly in the inverse cell.

Inverse Mode for Control Characters. The ASCII format displays control characters in the inverse mode. Negative ASCII (most significant bit = 1) and positive ASCII (most significant bit = 0) characters are not differentiated. This is important since DOS 3.3 TEXT files are stored as negative ASCII characters and CP/M files are stored as positive ASCII characters.

## PRINTING THE SECTOR BUFFER (CTRL P)

Printing the display screen CTRL P. The screen contents can be printed on any standard printer configured to slot 1 by pressing CTRL P. If the ASCII format is in effect, the control characters will be printed as blanks, because many printers use control characters to perform special functions. Printing can be stopped by pressing the (ESC) key.

## The Disk Dis-assembler

Pressing the 'L' key dis-assembles the contents of the sector buffer into 6502 mnemonics. A word of caution here.

Since the last one or two bytes of the buffer may contain an incomplete instruction, the last dis-assembled instruction may be incorrect. An error may be present if the last instruction is a two-byte instruction with the second byte 00, or if it is a three byte instruction with the third or second and third bytes 00. The check is to examine the sector buffer for the contents of the last two bytes. The disassembler always starts the dis-assembly with the first byte in the sector buffer. The dis-assembly can be printed on any standard printer configured to slot 1 by pressing CTRL L. Printing can be stopped by pressing the (ESC) key.

## EDITING THE BUFFER

To edit the sector buffer enter 'E' on the command line followed by the hexadecimal buffer cell # of the byte you want to change. Then press the space bar to enter the editor. The buffer cell # may be omitted in which case 'E' followed by space bar will give you buffer cell #00.

The edit mode is exited by pressing the (ESC) key. The sector display will still be on the screen and you can print it (CTRL P), dis-assemble it (L), copy it (CTRL C), etc.

After entering the edit mode the selected buffer cell is displayed in inverse

-> Move to next buffer cell (increases buffer cell # in command line by 1 and display next byte in inverse mode.)

<- Move to previous buffer cell (decrease buffer cell # in command line by 1 and display previous byte in inverse mode)

### CHANGING A BYTE IN THE BUFFER CELL

-----

The current buffer cell is changed by entering the new value in hex and pressing the space bar or the arrow keys. If an error is made either type until the correct value is displayed or erase the input with CTRL X.

### ENTERING ASCII (TEXT) DATA

-----

The edit mode permits the direct entry of ASCII characters. Enclose the ASCII value you want in single quotes (e.g. 'B') for negative ASCII or double quotes (e.g. "B") for positive ASCII. The first quotation mark and the last quotation mark must be of the same type. Just as with hexadecimal changes, you can change only one byte (one ASCII character) of the sector buffer at a time. CTRL X and ESC CANNOT be entered this way - they must be entered as hex values (CTRL X will cancel the input, ESC will exit the edit mode). Double and single quotation marks should be entered as hex values.

If you type the wrong ASCII value, just keep typing until the value you want is displayed on the command line.

The ASCII character is placed in the buffer cell by pressing the space bar or either arrow key.

Press CTRL W to write the sector buffer to the disk. Once a sector has been altered, its original contents are lost.

The copy function is available for systems having two drives in the same slot. Press CTRL C writes the contents of the sector buffer to the same track/sector on the disk in drive 2. The sector is increased by one and the disk in drive 1 is read to the sector buffer.

### THE DISK COPY UTILITY

-----

The difference between this copy program and DOS COPY is that this copy will attempt to copy flawed sectors. If it finds a sector it can't read, it reports an error and writes a sector of hex FF (that is, it doesn't copy anything it can't read from the flawed sector, it just fills the sector on the new disk with a 'code'). Because of Mr Fixit's attempts to copy flawed disks, this copy takes much longer than COPY.

The Disk Copy Utility works on standard DOS 3.3, CP/M, & PASCAL formatted disks.

This utility doesn't support copy protected disks. It will report all tracks as unreadable (copying FF to all sectors) on most copy protected disks.

The copy does three steps for each track. The line after the line labeled "PRESS THE ESC", tells you which of these steps the copy is in:

1. Track nn Read - Reads a track from the disk to be copied into memory.
2. Formatting disk - Formats the corresponding track on the disk receiving the copy.
3. Track nn Copied - Writes the memory copy of the original disk track (DRIVE 1) to the corresponding track on the

disk receiving the copy.

If you have only one drive, you'll have to swap between the original disk and the disk receiving the copy for each track. Mr Fixit will prompt you when it needs a disk swap. So during the copy, you will see the following series of four screens for each track:

1. A screen prompting you to place the original disk into the drive.
2. A screen letting you know that a track from the original disk is being copied into memory.
3. A screen prompting you to place the disk to receive the copy into the drive.
4. A screen showing the results of the copy for that track. As screen 1 and screen 3 display, put the requested disk in the drive, and press the space bar to continue the copy.

To return to the Copy sub-menu type (ESC).

If there's a read error during the copy it will try to read the sector 3 times using a modified RWTS.

When this happens one of three error messages may be displayed on the fourth line of the screen (in place of the 'Track nn Copied' message. Track nn Flawed, Reliably Read: means at least two of the three reads were identical and the sector (as it was on the two matching reads) is written to the receiving disk. If this error message is the only error displayed throughout the copy run, your disk should be ok.

Track nn Flawed, Unreliably Read: none of the three reads agreed. The data stored from the last read is written to the receiving disk. If you receive this message only once during the copy, the disk receiving the copy may have some invalid data. If the disk was a program disk, you can try to run the programs to make sure they all work properly. If it is a data disk, you can run the programs to make sure they all work properly, or display the data on the screen using ASCII mode of the Edit utility of Mr Fixit to make sure all the data on the disk is correct.

Track nn Flawed, Unreadable: This means Mr Fixit couldn't read the sector. After three attempts, Mr Fixit stops trying to read the sector and writes a code (hexFF) to the sector on the receiving copy.

### FILE RESTORATION UTILITY

-----

Will restore most deleted files. This utility uses only drive 1. When you've written on a disk after a delete, this utility may not restore the file. There are four error messages from this utility:

T/S list overwritten: means that the file may still be intact, but DOS doesn't know where the file is. It means the track/sector list no longer has a 'pointer' to locate the file.

File Overwritten, File not Restored

Disk Write protected

Drive Error

### CATALOG REPAIR UTILITY

-----

The Catalog Repair Utility repairs disks with damaged catalogs to full operation. Symptoms of catalog damage include I/O errors with executing the DOS CATALOG command or files suddenly disappearing from the

catalog listing. You get these errors because the catalog, which contains the information DOS needs to locate and reserve sectors for each file saved on the disk, doesn't look like DOS expected to look at it.

The first thing to do when a disk is giving I/O ERROR messages or won't CATALOG properly is to use the Disk Copy Utility to make a working copy of the damaged disk. Place the working copy in drive 1 and select the Catalog Repair Utility

First, the repair utility checks the first five bytes of each of the 16 sectors on track 11 hex. These bytes must have certain values on properly formatted sectors. If these bytes have improper values, the repair utility assumes the sector has been clobbered. When sector 0 is clobbered the VTOC is damaged and a message is written to the screen. When any of the remaining sectors are clobbered the directory (or catalog) damaged and this is reported to the screen.

If the VTOC alone is damaged, then a check is made against the directory for saved files, and the VTOC is reconstructed.

If the directory alone is damaged, the disk is searched for track/sector lists. The track/sector lists are checked against the VTOC and the remaining good directory sectors. The lost files are identified and written back to the damaged directory sector.

If the VTOC and directory sectors are damaged, a search for track/sector lists is made. The VTOC is rebuilt to show all sectors used. All the track sectors not identifiable with files on the undamaged directory sectors are written to the remaining directory sectors as saved files.

When the VTOC and catalog are damaged the Catalog Repair Utility attempts to recover all files (including files which may have been deleted and overwritten the damage catalog no longer contains the information necessary to do anything else). Also, when the damage is this bad, some of the file names have been lost. When the file name is lost, the Catalog Repair will give the file a 'dummy' name 'FILE n' where n is just a sequence number. Finally, the file type designation is lost when the name is lost, so the type preceding the name of all FILEn files is only an 'educated guess'.

### FIXING A DISK WITH VTOC AND CATALOG DAMAGE

1. Get a catalog list with sub-menu 4
2. Use sub-menu 3 to change file types
3. Use sub-menu 2 to rename File n files
4. Working from the new catalog list, decide which files are no longer needed and delete them.

### CATALOG THE DISK:

Each file with the name FILE n is a file which was "lost." You should replace the File n name with the "lost" name. Before you rename the files, make sure the file types are correct.

### Checking the File Type Designation:

The Catalog Repair Utility must look into each file with a FILE n name to determine whether it is an A,I,B or T type file. The correct file type will be assigned in the majority of cases. It's possible, although unlikely, the Catalog Repair Utility can be fooled and assign the wrong file type. It's for this reason that the File Type Change Utility is provided. The utility will prompt you on how to change the

file type of a specific file. Keep changing file types until you get your program to run.

The Catalog Repair Utility contains a menu for renaming files. This program is available so you don't have to leave the utility to rename the file. Don't attempt to identify a file by its position in the catalog listing. The Catalog Repair Utility often juggles the order of the catalog listing while it's doing its magic.

=====

DOCUMENT mr.robot

\*\*\*\*\*

Mr Robot and his Robot Factory  
Softdocs

By:The Centaur  
Thanks to - Yosemite Sam & Power Pak

\*\*\*\*\*

Mr Robot, Datamost's newest release, is one of the more entertaining game since Loderunner. The game is a cross between Loderunner, in the way that the player can design his own screens, and Miner 2049'er in every other way.

Controls ---> Joystick, or Keyboard left= <- right= -> up= A down= Z

Scoring

-----

|                                  |        |
|----------------------------------|--------|
| Girder dots -----                | 10     |
| Horseshoe (small)-----           | 100    |
| Pac-Man -----                    | 100    |
| Energizer -----                  | 200    |
| Exploding a bomb -----           | 500    |
| Kill fireball while energized -- | 500    |
| Kill fireball w/bomb -----       | 30,000 |

Control characters

-----

CTRL-F Factory editor  
CTRL-G Game mode  
CTRL-N Next screen  
CTRL-P Toggle Joystick/Keyboard  
CTRL-S Sound off/on  
CTRL-T Main menu  
CTRL-X Reverse X-axis  
CTRL-Y Reverse Y-axis  
CTRL-Z Switch X & Y axis

The Factory Editor

-----

-  
> Conveyor belts - move in the dirrection of > or <  
c Small magnets - magnetize you in the dirrection in which the  
is closed  
O Blinking dots - Energize you. Allow you to kill fireballs  
F Keyboard notes - Toggle sound off/on  
= Elevator - raise you up until a girder is encountered - jump to elevate  
// Pole - allow you to slide down safely, assuming the drop from the base of  
the pole to the girder is not a fatal drop.  
X Purple/Blue girders - Teleporters  
I I Trampoline - self-explanatory

Other figures which appear to do nothing:

Large magnets  
Pac-man shaped ball

Object - Simple enough. Clear girders of all dots.

=====
   
DOCUMENT neuro
   
=====

Neuromancer Quick Reference

GETTING AROUND IN THE REAL WORLD

While walking through Chiba City, you'll see the world one "room" at a time. Many rooms have exits or doorways you can walk through. Exits at the bottom of the main screen are represented by a black line. Some doors may be locked or guarded; in this case it is up to you to find out how to get in.

As you cruise through each room, you'll see and talk to other people. You can control your actions and movement using keyboard commands or a joystick (more commands later).

The screen is divided into three main areas. The largest section shows the room itself. In the bottom left corner are the eight command icons. In the bottom right corner is a special text window used for room descriptions and other short bits of text. When a conversation is in progress, "word balloons" will appear above the speaking characters in the room.

JOYSTICK CONTROL

To toggle the joystick on and off, press "J" while holding down the "open-apple" key. If you have a joystick, you can use it to move a "pointer arrow around the screen. Whenever you want to select anything on the screen -- a command icon, a menu option, some software to download -- you can just point to it with the pointer and press the joystick button.

COMMAND ICONS

You use the command icons to perform actions. You can pick an icon by either pointing to it with the joystick pointer and pressing the joystick button, or pressing the corresponding key on your keyboard.

The command icons are arranged as in the figure to the right. The table below refers to each icon by number, as shown in the figure.

|   |   |   |   |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 |

SOUND CONTROL

To toggle the sound effects on and off, press "S" while holding down the "open-apple" key".

Here is a list of the command icons and what they do.

| KEY | ICON        | DESCRIPTION                                                                                                        |
|-----|-------------|--------------------------------------------------------------------------------------------------------------------|
| 1.  | M MODE      | Toggles through these display options:<br>Current amount on credit chip<br>Time<br>Date<br>Constitution level      |
| 2.  | I INVENTORY | Displays what you're currently carrying and lets you operate, discard, or give items, or erase software in a deck. |
| 3.  | P PAX       | Access the PAX system if there's a PAX terminal in the room.                                                       |

- 4. T TALK           Talk with another person in the room.
- 5. S SKILLS        Use a skill you have acquired.
- 6.   WALK           When using a joystick, puts you back in control of your movement after performing some other action. (See Movement Commands)
- 7. R ROM CONSTRUCT Access your ROM construct abilities (if you have one).
- 8. D DISK           Save your current game position, load an old game, pause the game, start a new game, or quit the game.

MOVEMENT COMMANDS

You can use either the keyboard or a joystick to walk around town.

With the keyboard, you can one step by pressing a direction key once or keep walking by holding a direction key down. the direction keys are shown below. The arrow keys will move you immediately from room to room.

To walk around with a joystick, first select the "Walk" command icon. The joystick pointer will disappear to show that you are walking around. Moving the joystick in the direction you want to go will then make you walk in that direction. When you want to select a different command icon, press the joystick button again to stop walking and get the joystick pointer back.

COMMANDS WITHIN MENUS:

Menus may appear throughout the game when you look at lists of items -- prices in a shop or your inventory list, for example. You can select a menu option with the keyboard, or point to the option with the joystick pointer and press the joystick button. There are several commands commonly used within menus:

| COMMAND | KEY | DESCRIPTION                           |
|---------|-----|---------------------------------------|
| EXIT    | X   | Leave the current menu                |
| MORE    | M   | View more menu options (if available) |

After you select an item in your Inventory menu, you can choose from three special commands:

|         |   |                                 |
|---------|---|---------------------------------|
| OPERATE | O | Operate an item.                |
| GIVE    | G | Give an item to another person. |
| DISCARD | D | Discard an item, permanently.   |

CONVERSATIONS

In Talk mode (type "T" or select the Talk icon), you can carry on conversations with other characters in a room through the use of "word balloons". Word balloons allow you to choose among several responses or questions that are appropriate to the situation in that room. When a word balloon appears over your head, you can see all of your possible responses by pressing the space bar or pulling back on your joystick after each response is displayed. When you decide on the proper response, press return or the button on your joystick. the response you select will be displayed a second time as you "say" it. After you read a word balloon that you or another character has "said", press the space bar or joystick button to continue. You can leave a conversation your character initiated with the "talk" command by pressing the <ESC> key.

USING THE PAX

When you operate a PAX machine (by selecting the PAX icon or pressing "P") the machine will give you three access codes and ask you for

the verification code.

Take the PAX Verification Code Wheel (or a reasonable facsimile thereof) and align the first access code, found on the outer wheel, with the second access code, located on the inner wheel. Find the window that corresponds to the third access code. Type the number found in the window, then press RETURN. For example, if given the codes Freeside, Comlink, and Holy Joystick, you would line up the words "Freeside" and "Comlink", and then type the number in the Holy Joystick window: 512.

Whenever text is displayed on the PAX or a database, you may press the "+" (plus) key to speed up the text display, or the "-" (minus) key to slow it down.

## THE CYBERSPACE DISPLAY

(Cyberspace jacks appear as yellow circles with a red dot in the middle.) The top half of the screen shows the view from your current cyberspace location. The bottom left corner of the screen is occupied by the cyberspace command icons. The bottom right corner of the screen contains your EEG monitor, which gives you a visual representation of your brain wave activity. Just below the EEG there is a gauge of your cyberdecks shielding, and to the right of the EEG is a gauge of ICE shielding for when you're in combat with ICE.

The center of the cyberdeck panel is where information will appear when needed. At the bottom center of the cyberdeck panel, there are four numbers; from left to right, these are the cyberspace zone number you're in, your X and Y coordinates in cyberspace, and the amount of money in your credit chip.

## CYBERSPACE ICONS

The cyberspace command icons are arranged as in the figure below.

| KEY | ICON            |
|-----|-----------------|
| 1.  | I INVENTORY     |
| 2.  | S SKILLS        |
| 3.  | R ROM CONSTRUCT |
| 4.  | D DISK          |



In cyberspace, the SKILLS, ROM CONSTRUCT, and DISK icons behave just as they do outside of cyberspace. The INVENTORY icon displays a list of softwarez in your deck to operate, rather than a list of your items. The MODE, PAX, TALK, and WALK icons are unavailable in cyberspace. There are three new controls: The EXIT button ("X" on the keyboard) exits from cyberspace. The ERASE button ("E" on the keyboard) will erase a piece of software from your deck. The "Movement" button, just above the four command icons, is used to control your movement with the joystick. The "Movement" button is similar to the "Walk" button in the real world.

## Bases Link code & passwords

| Bases           | Link Code  | Password(s)         |
|-----------------|------------|---------------------|
| Cheap Hotel     | CHEAPO     | GUESTS, COCKROACH   |
| Regular Fellows | REGFELLOW  |                     |
| Consumer Review | CONSUMREV  | REVIEW              |
| Aseno Computing | ASANOCOMP  | VENDORS             |
| World Chess     | WORLDCHESS | MEMBER              |
| Psycho          | PSYCHO     | BABYLON             |
| Hitachi         | HITACHIBIO | GENESPLICE, BIOTECH |
| Sea Cop         | SOFTEN     | PERMAFROST          |
| Hosaka          | HOSAKACORP | BIOSOFT, FUNGEKI    |
| Panther Modern  | CHAOS      | MAINLINE            |
| Bank of Zurich  | BOZOBANK   | no password         |
| NASA            | VOYAGER    | APOLLO              |

|                        |            |                     |
|------------------------|------------|---------------------|
| People for Free Matrix | FREEMATRIX | CFM                 |
| IRS                    | IRS        | TAXINFO, AUDIT      |
| Fuji                   | FUJI       | ROMCARDS, UCHIKATSU |
| City Police            | KEISATSU   | WARRANTS, SUPERTAC  |
| Musabori               | MUSABORIND | SUBARU              |
| Copenhagen College     | BRAINSTORM | PERILOUS            |
| Eastern Sea Board      | EASTSEABOD | LONGISLAND          |
| Gentlemen Loser        | LOSER      | WILSON, LOSER       |
| Tozoku Imports         | YAKUZA     | YAK                 |
| Bank Gemeinschaft      | BANKGEMEIN | EINTRITT, VERBOTEN  |
| Justice Department     | JUSTICE    | no password         |

All these bases can be reached by using a deck and a cyper jack. but some boards need a higher version of Comlink to be able for you to reach.

## SOFTWARE LIST & FUNCTION

(unless noted, the highest the version, the better)

JAMMIES, SLOW- These are cyberspace interface corruptor, which slows down the ICE's attack.

THUNDERHEAD, PYTHON, ACID, INJECTOR- Cyberspace ICE viruses, use these on ICE to slowly destroy the ICE defense.

VACCINE, CYBERSPACE- These are communication software for entering the cyberspace.

BLAMMO, BATTLECHESS 4.0- These are deck viruses, don't use them no matter what happen!

DOORSTOP, DECODER, BLOWTORCH, DRILL, HAMMER, DEPTHCHARGE, CONCRETE, LOGICBOMB- These are your ICE breakers, collect them all.

SEQUENCER- USE THESE TO FIND OUT LEVEL ONE PASSWORD, OR TO access Justice, bozobank after you use COMLINK (after the base into appears, move your joystick to inventory and select this software, this will run the softwares while you're on-line)

ARMORALL- Use this one, if your shield is down. warning, this only work once per ICE.

KGB 1.0- Use this in cyberspace to teleport you to KGB base.

COMLINK- communication softwares, version 6.0 allows you to enter cyberspace.

PROBE- allows you to find out the name of the base that ICE's are guarding, in higher version, you can ever find out if AI's are present.

EASYRIDER 1.0- allows you to traver over to the other zone in cyberspace.

BATTLECHESS 1.0- a chess program.

SCOUT- used in link lines to find out the numbers of levels in a base. (same way as in using a SEQUENCER)

HEMLOCK- use this to 'kill' Greystoke AI.

THE PURPOSE OF CYPERSPACE IS TO BREAK INTO A BASE WITH THE HIGHEST POSSIBLE LEVEL ACCESS WITH-OUT A PASSWORD. YOU MUST USE YOUR SOFTWARE TO MELT DOWN THE ICE IN-ORDER TO REACH THE BASE.

SOMETIMES, an AI (artificial intelligence) is present after you melt the ICE. you must use your skill to kill them, if you don't know which skill to use.... try psychoanalysis.

P.S only once ICE can be defeat only with a software, and that's Greystoke.

===== DOCUMENT neuro.cj.hints =====

===== DOCUMENT neuro.code =====

Here is the post I promised.

Call these places.  
 link code password  
 regfellow visitor  
 chaos mainline  
 freematrix cfm  
 yakuza yak  
 loser loser  
 eastseabod longisland  
 soften permafrost  
 hosakacorp fungeki

To Get Cash:

- (1) Call hosaka <above> and upload comlink 6.0
- (2) Call hosaka and goto new employees. select one. hit edit. put ya name and bama id on there.
- (3) Call keiatsu pass supertac and put larry moe on the warrant list his number is 062788138 goto microsofts. enter back room. ask lupus about account bank berne, pass, chip, upgrade, and neuromancer. now goto cheap hotel to call some more boards. call bozobank <use sequencer to get in <on the welcome screen type I and hit sequencer>> open an account. call bankgemein pass verboten. do a funds transfer. type the source acc# <the one lupus gave you> link code <bozobank> source acc# < your account at bozobank> and the ammount to Xfer <30000>.

That should hold you off for cash, now let's explore Cyberspace.

First, get a C space deck. goto asano. say why does edo call you a pig. follow asano's ramblings. did you buy the deck? good. i suggest the ninja 4000 <it's cheap> okay, now goto cheap hotel. use comlink 6.0. select goto Cyberspace. now you are in zone 0 try the following cordnates:

208,32  
 224,112  
 352,112  
 480,80  
 416,64  
 384,32  
 352,64  
 114,160

Ooops, guess some of those <the 352,112 to 352,64>are in zone 2 the gent loser. and that last one is in zone 2 <industrial zone>

Welp that should hold you neuromanereres off untill monday night, when i return.

Oh yea, one more thing. use skills to kill AI's <those big faces>  
 cya soon!  
 -(c) Cj

Neuromancer Code Wheel

First, a short explanation of the evolution of code wheels. The code wheel is a form of protection against piracy of a particular game. They first appeared (to my knowledge) in the Electronic Arts game Amnesia in the form of a "street index". The next appearance was much later, in Legacy of the Ancients, also EA. The third (and most complicated one) was included in Bards Tale III. And, as you may have guessed, the latest use is in Neuromancer. The first two also included disk protection, but the companies seem to be relying on just the code wheel for their protection against piracy, as the last two have had no disk protection whatsoever. The protection comes when, at certain points in the game, you will be given a set of two, three or four (depending on the complexity of the wheel) words or locations or whatever, and, using the code wheel, you must provide the required answer, or you will not be able to proceed with that function. Without the wheel and without altering the programming of the disk, you are stuck.

What is a code wheel? It is two or three concentric paper circles, each one smaller than the one beneath it, so that only the outer ring of the larger one(s) shows. It is on the outer ring that one set of words are printed. On the outside edge of the smallest circle can be found the second set of words. One or several small windows are also cut out of the smallest circle (and in the case of three wheels, windows may also be cut out of the middle wheel at random points) so that the requested code numbers or words may be seen through them. If there is more than one window, each window will have its own name printed above or below it. In the most simple application, the use would be something like this: the player is given the conditions of A and B. He would rotate the code wheel until A on the outer circle lines up with B on the inner circle and observe the code through the window. In the case of multiple windows, he would have been given A, B, and C, rotated as before to line up A and B and look through window C for the answer. Such is the case with Neuromancer.

The code wheel in Neuromancer is used to operate the PAX machine found at various locations throughout the game. You will be given three access codes and asked for a verification code. There are 16 possible A's, B's and C's. The codes are broken down into two tables. The first tables gives A (outer ring) and B (inner ring), to be cross referenced to each other to get a position number. This position number will be cross referenced with C (windows) to give the 3 to 6 digit verification code. The access codes you will be given are listed below with THREE LETTERS IN UPPER CASE (usually the first three, but not always, so I have tried to draw your attention to the ones that do not have the first three in caps). These will correspond to the abbreviations in the tables. Good luck!

| A               | B               | C                     |
|-----------------|-----------------|-----------------------|
| NIGHT city news | EMPeror norton  | ASAno computing       |
| CHAtsubo        | CYBerjack       | SPACedock             |
| CYBerspace      | RATz            | SPace Colony <--      |
| GEMeinschaft    | HOLografix      | FLATline              |
| CRAzy edo       | LARry moe       | ZION cluster          |
| MICrosofts      | PAX             | MARCus garvey         |
| CHEap hotel     | SKILL chips     | CRYptology            |
| JULius deane    | SHIn's pawn     | AI (only two letters) |
| DONut world     | GENTleman loser | BANK of berne         |
| LAWbot          | MAAs biolabs    | BANK of Zurich <--    |
| DATABase        | JUSTice booth   | CHIba city            |
| SHIva           | CYberDeck <--   | FUJi electric         |
| FREeside        | COMLink         | HOLY joystick         |
| SOFTwarez       | ICEbreaker      | COMpu-judge           |
| MATrix          | ROM construct   | HITachi biotech       |
| MATT Shaw <--   | COWboy          | ONO-sendai            |

Table 1

A



|     | N  | C  | C  | G  | C  | M  | C  | J  | D  | L  | D  | S  | F  | S  | M  | M  |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|     | I  | H  | Y  | E  | R  | I  | H  | U  | O  | A  | A  | H  | R  | O  | A  | A  |
|     | G  | A  | B  | M  | A  | C  | E  | L  | N  | W  | T  | I  | E  | F  | T  | S  |
| EMP | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| CYB | 16 | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| RAT | 15 | 16 | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 |
| HOL | 14 | 15 | 16 | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 |
| LAR | 13 | 14 | 15 | 16 | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 |
| PAX | 12 | 13 | 14 | 15 | 16 | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 |
| SKI | 11 | 12 | 13 | 14 | 15 | 16 | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 |
| SHI | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  |
| GEN | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  |
| MAA | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 1  | 2  | 3  | 4  | 5  | 6  | 7  |
| JUS | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 1  | 2  | 3  | 4  | 5  | 6  |
| CYD | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 1  | 2  | 3  | 4  | 5  |
| COM | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 1  | 2  | 3  | 4  |
| ICE | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 1  | 2  | 3  |
| ROM | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 1  | 2  |
| COW | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 1  |

Table 2

C

FUJ|HOL|COM|HIT|ONO|ASA|SPA|SPC|FLA|ZIO|MAR|CRY|AI|BAN|BAZ|CHI

```

1|113667|162324|152777|056201|71312|43267|61255|34755|5517|4102|1337|4327|512
533|236|473
2|060734|073611|040327|054127|44321|21400|07362|23671|7107|0170|4300|0703|700
673|714|614
3|131265|061254|004713|114352|76631|65110|61645|71724|4102|5116|0072|6040|254
333|024|672
4|063124|127170|051435|126443|61543|61723|36112|00206|0170|6160|4120|5150|017
434|424|321
5|162324|067144|157223|030654|70012|51666|50127|22372|5116|5165|1316|6162|533
300|473|072
6|073611|031776|056201|014527|34770|31270|74655|42074|6160|0017|3601|2174|673
410|614|507
P|7|061254|031770|054127|132077|43267|45771|67237|71226|5165|1053|3347|6124|333
054|672|725
O|8|127170|121777|114352|067123|21400|41317|34755|61627|0017|5423|1777|1337|434
313|321|571
S|9|067144|117372|126443|036160|65110|61456|23671|01326|1053|3173|2730|4300|300
733|072|430
10|031776|011772|030654|013026|61723|44312|71724|61255|5423|0423|4327|0072|4
10|616|507|775
11|031770|115721|014527|152336|51666|71312|00206|07362|3173|5120|0703|4120|0
54|167|725|103
12|121777|021655|132077|152777|31270|44321|22372|61645|0423|6116|6040|1316|3
13|213|571|045
13|117372|113667|067123|040327|45771|76631|42074|36112|5120|3121|5150|3601|7
33|512|430|236
14|011772|060734|036160|004713|41317|61543|71226|50127|6116|0177|6162|3347|6
16|700|775|714
15|115721|131265|013026|051435|61456|70012|61627|74655|3121|5517|2174|1777|1
67|254|103|024
16|021655|063124|152336|157223|44312|34770|01326|67237|0177|7107|6124|2730|2
13|017|045|424

```

DOCUMENT nl.template

Written by: 23-Jan-91  
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 GS+ Technical Editor  
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The Templates module gives Nifty List, version 3.0 or better, the ability to use GSBug style templates. A template is basically a structured way to view memory. For example, there are all kinds of parameter blocks for GS/OS sitting around in memory that you could view with Nifty List's /h command. But, with the /h command, all you would see is a big unstructured group of bytes. With a template, memory is broken down into fields which can be displayed with meaning.

To install Templates 1.0, copy the Templates file into the \*:System:Desk.Accts directory of your GS/OS boot disk, and then reboot.

NOTE: To be able to use Templates 1.0, you \*MUST\* have a copy of the GSBug "GSBug.Templates" file, or you can create your own following the GSBug.Templates file format. You can acquire the GSBug.Templates file, as well as GSBug, from APDA.

Templates is FREeware!

Templates 1.0 is FreeWare. Please give copies to your friends, your club libraries, your favorite bulletin boards, etc. It is included in this ShareWare Nifty List package for your convenience.

PLEASE pay for Nifty List -- it is an excellent tool for your IIGS and deserves far more than the meager \$15 that Dave asks.

COMMAND DESCRIPTIONS

--  
 =\  
 --

While this command isn't specific to Templates, it will show you all the commands that you can issue for Templates 1.0. Don't forget that you can issue the = command on each template command to find out more about it. For example:

=\loadtemp  
 Will show you the help information for the \loadtemp command.

\loadtemp  
 The \loadtemp command loads in a GSBug style template file. You must first load a template file (obviously) before you can use a template to view memory. The \loadtemp command uses a default filename of " \*:System:System.Setup:GSBug.Templates" to load a template file. If you wish to load in a different template, you can specify the name, in quotes, after the \loadtemp command. For example:

\loadtemp  
 Will load in the default \*:System:System.Setup:GSBug.Templates file.

```
\loadtemp ":MyDisk:MyTemplate"
  Will load in the :MyDisk:MyTemplate file.
```

```
\unloadtemp
```

```
-----
Once a template file has been loaded, it sits around in memory until
you feel the need to unload it.  Template files take up a lot of
memory, so if you have loaded a template file and think you will no
longer need to use it, unload it to reclaim some memory.  You can
always reload the template file later if you need to use the
Templates module again.
```

```
\tempinfo
```

```
-----
If, for some reason, you want to find out some information about the
template file that you have loaded, you can use the \tempinfo command
to do just that task.  The \tempinfo command will show you the pathname
of the template file you have loaded as well as some information about
the memory that the template file occupies.
```

```
\temp
```

```
-----
The real work of the Templates module comes from the \temp command.  With
the \temp command, you can apply a template to a particular area of memory.
The \temp command has the syntax of:
  addr\temp "template"
Where addr is the starting memory address to apply the template to and
template is the name of the template to overlay on that memory area.  For
example:
```

```
12/54AF\temp "OpenRecGS"
  This takes the template called OpenRecGS and applies it to the memory
  starting at location 12/54AF.
```

To see the master GSBug template list, you can issue the command:

```
\temp "Templates"
```

You would then see the major template categories. You can then look at
the subcategories by issuing yet another \temp command, for example:

```
\temp "GSOS"
```

```
-----
End of Templates 1.0 description
```

```
=====
DOCUMENT nl.writ.modules
=====
```

```
-----
Writing Nifty List 3.4p Modules
```

```
David A. Lyons      17-Oct-91
=====
```

This is sketchy documation for writing your own modules. Along with
the sample module, hopefully it's enough to get you started.

```
-----
Using Nifty List Services from Outside a Command Module
-----
```

Many Nifty List service calls can be made from outside of Nifty List
command modules. But if you're not a module, you need a special way to
determine the Nifty List service address. Here it is:

1. Call MessageByName with
 

```
createFlag=0
input record = $1F "DAL Systems: Nifty List service"
```
2. Pass the resulting Message type to MessageCenter, along
 with action=2 (get message) and a new handle you've
 created with NewHandle. MessageCenter sizes and fills in
 your handle. The address of the Nifty List service routine
 is at offset \$28 in the handle (it's the only thing in
 there besides the system overhead and the name string).

Starting with Nifty List 3.3, there is another way to ask Nifty List
to do things if you are running under System 6: Call SendRequest
by name to "DAL Systems-Nifty List-" with reqCode = \$8000+nlXXXX,
dataIn = data value for the service, and dataOut = NIL if you don't
want a result, or a pointer to a 6-byte buffer if you do (first word
is the rcvCount from SendRequest, and the other 4 bytes are the
service result).

```
-----
Command Module Structure
-----
```

A Nifty List command module has the same basic structure as an NDA, so
it should be possible to write Nifty List modules in common high-level
languages, as well as in assembly. (Be careful if your compiler is trying
to be helpful by putting special glue code around some of the entry
points.)

The module's filetype must be \$BC, and the auxiliary type must be \$4001.
Modules have to be in the same directory at Nifty List.

```
-----
DAOpen: @infoTable
-----
```

The module's DAOpen routine returns pointer to the module's info table,
which has the following format.

```
*
* Info Record
*
InfoRec  dc.w InfoEnd-InfoRec      ;size of this Info record
         dc.w 0                    ;format (use 0)
         dc.w 0                    ;patch type (use 0)
         dc.l NLSERVICE           ;address to patch
         dc.w 12                   ;bytes per cmd in cmdTbl (use 12)
         dc.l cmdTbl              ;pointer to command table

InfoEnd
```

The command table looks like this:

```
*
* Command Table--for each command in this module:
* +000: pointer to command name (Pascal string)
* +004: address of command entry point
* +008: address of help routine
*
* (The first entry is for the module itself.)
*
cmdTbl dc.l moduleName,0,HelpModule
        dc.l nameOne,cmdOne,helpOne
        dc.l nameShPurge,cmdShPurge,helpShPurge
        dc.l 0
```

For each command there's a pointer to the Pascal-string name, a pointer to the command's entry point (which should RTL), and a pointer to the command's Help routine (which should display help and then RTL).

```
-----
DAAction
-----
```

Nifty List calls the DAAction routine with A equal to one of the following. X and Y are undefined. You should return A=0 (the return value may eventually be used to refuse to shut down, for example, but right now you must always return 0 in A).

```
A = actBirth
    Called when Nifty List first loads a module

A = actDeath
    Called when Nifty List is about to remove a module

A = actEnterNL
    Called when the user enters the Nifty List command environment

A = actExitNL
    Called when the user leaves the Nifty List command environment
```

```
-----
NLService(long,code):long
-----
```

Nifty List patches over 4 bytes at the address indicated in the module's info record. The module should JSL \*to\* the patched location to call a Nifty List service routine, with parameters on the stack.

Every service takes a four-byte input parameter (although some of the services ignore part or all of this parameter). Some services also return a four-byte result.

To call a service with no result space:

```
pha
phx
pea nlXXXXXX
jsl NLService
```

The service removes the long input and the service code from the stack before returning (just like a toolbox call would).

To call a service that needs result space:

```
pha
pha ;make room for result
phx
phy ;push 4-byte input
```

```
pea nlXXXXXX
jsl NLService
ply
plx ;pull 4-byte result
```

Here is a list of all the services.

```
*
* Environment management
*
0000 nlRecover()
    Does not return. Enters Nifty List command level but BRKs when
    you leave. For debugging when you've crashed and need a special
    way to go into Nifty List because you were already in a CDA.

0001 nlEnter():result
    Attempts to call Nifty List command level. Returns 0 if
    successful.

0002 nlRemoveNL(@WordBuff):Handle
    Data = pointer to 2-byte result buffer (gets ID for UserShutDown),
    Result = handle to feed to RemoveCDA (NIL if can't remove)

0003 nlGetInfo(@buffer)
    Data = pointer to 256-byte buffer to receive table; first word =
    length in bytes, including the length count itself.
    Buffer:
    +000 TableSize Word
    +002 nlVersion Long
    +006 nlMemID Word
    +008 nlBusyFlag Word
    +010 CompactFlg Word

0004 nlInstallHook(ref,@hook)
    [not implemented]
    This will allow modules to install routines for NL to call at
    certain times.

0005 nlRemoveHook(ref,@hook)
    [not implemented]

0006 nlGetDirectory():@dirname
    Returns pointer to class-1 string giving name of directory
    Nifty List is executing from. (Don't change the string,
    just use it.)

0007 nlNewSession(@callBackProc):sessionRef
    Creates a Nifty List session and returns a long value
    distinguishing the new session from all other sessions.

0008 nlKillSession(sessionRef)
    Destroys a Nifty List session that was created with
    nlNewSession.

0009 nlSetSession(sessionRef):oldRef
    Makes the specified session the current one, returning
    the old session reference. When you're done doing your
    stuff, call nlSetSession again to restore the old one.

    CallBack(LongIn,code) (Pascal-style parameters)

    Code:
    0 = cbWrite = output (LongIn points to word-string)
    2 = cbWriteC = output (LongIn points to a C string)
    4 = cbFlush (output all the output, if you've been saving some)
    6 = cbGetKey (store a key at *LongIn (word) or don't--defaults
    to the "continue" key)
    8 = cbChkAbort (store a $0001 at *LongIn to ask for abort)
```

```

$A = cbAbort (abort, don't return!)
$C = cbGetString (input into GS/OS result buffer at LongIn)

CallBack is called with B and D undefined (must preserve).

000A nlWelcome(0)
    Outputs the Nifty List title screen.

000B nlLoadStuff(0):error
    Forces the data file to get loaded, if it isn't.
    Input parameter is 0. Result is error code (0 if
    no problem).

000C nlGetTextState [NL 3.3]
    [For internal use for now.]

000D nlSetTextState [NL 3.3]
    [For internal use for now.]

*
* Information services
*
0010 nlGetFirstHandle(Kind):Handle
    Kind = 0, 1, or 2
    Result = first handle in one of the Memory Manager's 3 handle
    chains (0=Used, 1=Purged, 2=Free)

0011 nlGetHandleInfo(@info)
    info:
    +000 = handle (Long)
    +004 = @buffer
    What's returned in buffer:
    +000 = count of bytes returned
    +002 = at least 20 bytes of stuff--a copy of the *current*
    format of a Master Pointer record (ptr, attr, id,
    size, previous, next)

0012 nlLookup(@stuff)
    Data = pointer to stuff:
    +000: Word   Section number to look in (nlSecSysTool, etc)
    +002: Long   Data to look up
    +006: Page   @outbuffer (256 bytes)
    Returns a pascal string in the output buffer (null string
    means nothing found)

0013 nlIndLookup(@stuff)
    Data = pointer to stuff:
    +000: Word   Section number to look in (nlSecSysTool, etc)
    +002: Long   Index (1=first item in section, etc)
    +006: Page   @outbuffer (256 bytes)
    Returned in outbuffer:
    +000: Long   Value associated with the Index-th piece of data
    +004: PString String associated with the Index-th piece of data
    (null string if no data found)

0014 nlGetProcName(address/4):@procName [NL 3.1]
    Data = address.
    Result = address of Pascal string name associated with the address,
    or NIL if none.

0015 nlClassifyAddr(address/4):result [NL 3.3]
    Data = address.
    Low word of result indicates the owner of the address:
    0 = System (for example, ROM or a RAM-based system tool set)
    1 = System-owned toolbox patch (within TSx)
    2 = non-system-owned RAM address
    3 = strange or invalid
    High word of result contains a corresponding ASCII character:

```

```

0 = blank
1 = "+"
2 = "*"
3 = "?"

*
* Utility
*
0020 nlScanHandles(@parms)
    parms:
    +000 Word   WhichList (0=used handles, 1=purged, 2=free)
    +002 Ptr   BankValue Any pointer to desired bank
    +006 Ptr   theProc   Procedure to call for each handle
    (gets parameter = Handle)

    theProc must remove the 4-byte parameter from the stack before
    returning. When theProc gets control, the Bank register is
    already set to the bank specified by BankValue (byte +2).

0021 nlDisasml(@code):@NewAddress [NL 3.2]
    Disassembles one line of code at the specified address, and returns
    a pointer to the byte just following the line disassembled.

0022 nlExecCmdLine(@cmdline):0
    Executes a specified command line (pointer to GS/OS
    string). The return value is reserved & is currently
    always 0.

0023 nlGetRange(@buffer):NumParms
    Returns 2 if the user typed a range before your command;
    otherwise returns 1.

    Fills your 16-byte buffer with the following:
    +000 rangeStart
    +004 rangeEnd
    +008 rawStart
    +012 rawEnd

    This is for fetching the one or two hex numbers or addresses
    the user typed *before* your command. They are already parsed
    by Nifty List.

    Use rangeStart and rangeEnd if you're looking for *addresses*.
    The bank byte is handled appropriately for you.

    Use rawStart and rawEnd if you're looking for *numbers*; no
    special bank handling is done for these values, so typing
    a 0 always gets you a 0, not a $xx0000.

0024 nlGetAGlobal(ref):value/4
    Data = reference number, value = long result

    Retrieves a value from a Nifty List global variable (the
    reference number values are in the equates file).

0025 nlSetAGlobal(@(@ref,value))
    Data = ptr to a record:
    +000 reference word
    +002 long value

    Stores a value into a Nifty List global variable.
    ref = nlNUM1: the number parsed before your command

0026 nlAbortToCmd(ignored)
    Aborts to the Nifty List command line, if possible
    [should return error if Nifty List not active--doesn't check yet]

*

```

```

* Input/Output
*
0030 nlWriteChar(char)
    Outputs a character--control characters are acted on.

0031 nlShowChar(char)
    Outputs a character, but nonprintable characters show up
    in a harmless way (like as periods).

0032 nlWriteStr(@pascalString)
    Outputs a Pascal string.

0033 nlShowStr(@pascalString)
    Outputs a Pascal string, but nonprintable characters show
    up in a harmless way.

0034 nlWriteCStr(@cString)
    Outputs a C string.

0035 nlShowCStr(@cString)
    Outputs a C string, but nonprintable characters show up in
    a harmless way.

0036 nlWriteText(@record)
    record+000 = length of text
    record+002 = pointer to text
    Writes the specified number of characters.

0037 nlShowText(@record) [see above]
    Writes the specified characters, but nonprintable characters
    show up in a harmless way.

0038 nlWriteByte(byte)
    Outputs a byte in hex (2 characters).

0039 nlWriteWord(word)
    Outputs a word in hex (4 characters).

003A nlWritePtr(long)
    Outputs a pointer (xx/xxxx).

003B nlWriteLong(long)
    Outputs a long in hex (8 characters).

003C nlGetLn(...)
    [not implemented]

003D nlGetChar(dummy):char
    result = character (waits for one to be input)

003E nlCheckKey(dummy):result
    result, low word 0=no key pressed; nonzero=a key was pressed

003F nlCrout(dummy)
    Outputs a carriage return (begins a new line). Does NOT
    return to the caller if the user hits Apple-period, etc!

0040 nlSpout(dummy)
    Outputs a blank.

0041 nlPause(dummy)
    Lets the user pause the screen, do screen dumps, etc.
    Normally returns right away. Does not return if the
    user wants to abort.

0042 nlHandleInfo(handle)
    Displays address and owner information for a handle,
    in the same format as the "I" command.

0043 nlWriteNoVoice(@cString)
    Displays a C String if and only if the user did not set the
    "v" flag (avoids annoying decorative displays, like lines of
    dashes, which may be pronounced "dash, dash, dash, dash...")

0044 nlShowWString(@wString)
    Displays a string that begins with a length word. Nonprintable
    characters appear in a harmless way.
*
* Parsing
*
0050 nlChrGet():char
    Advances to the next character on the command line and
    returns is.

0051 nlChrGot():char
    Returns the command line character we're already on.

0052 nlEatBlanks():char
    Advances 0 or more times, until we're not sitting at a
    blank. Returns like nlChrGot.

0054 nlEvalExpr(@buffer):actualSize
    buffer:
    +000 Word      MaxExprSize  maximum size of expr this buffer
                                can hold (must be at least 4)
    +002 Word      ActExprSize   actual size of parsed expression
                                (returned)
    +004 n Bytes  Expr           parsed expression (0 or more bytes,
                                returned)

    The nlEvalExpr result is just a copy of the ActExprSize word
    returned in buffer.

    Note that calling nlEvalExpr is a simple way to let the user
    type a GS/OS pathname. The expression, starting with the
    length word, is already a class-one GS/OS string.
*
* Memory access
*
0060 nlGetByte(@addr):byte
    Data = addr; value = byte found at that address

0061 nlGetWord(@addr):word
    Data = addr; value = word found at that address

0062 nlGetLong(@addr):long
    Data = addr; value = long found at that address

Reference numbers for globals:
01 = nlNUM1 (appropriate for getting an address-type value that NL parsed
            before calling your command)
02 = nlADDR
03 = nlgInfoTable (address of the table nlGetInfo uses; need to document
                  which fields are ok)

[end of Writing.Modules]

```

DISTANCES ARE ALWAYS ROUNDED UP!

EXAMPLE: X  
X

5 ACROSS, 1 DOWN: DISTANCE IS 6 (REALLY, IT IS 5.099)

START  
-----

BOOT UP THE DISK WITH AN APPLE ///, USE EMULATION MODE

PASSWORDS  
-----

EACH PLAYER MAY HAVE A SECRET PASSWORD SO SECRET INFORMATION WILL ONLY BE GIVEN TO HIM. CHOOSE SHORT EASILY REMEMBERED PASSWORDS

ABBREVIATIONS  
-----

|      |                                   |     |                                |
|------|-----------------------------------|-----|--------------------------------|
| CVN  | NUCLEAR AIRCRAFT CARRIER          | CV  | AIRCRAFT CARRIER               |
| BB   | BATTLESHIP                        | CGN | NUCLEAR GUIDED MISSILE CRUISER |
| CG   | GUIDED MISSILE CRUISER            | CL  | LIGHT CRUISER                  |
| DDG  | GUIDED MISSILE DESTROYER          | DD  | DESTROYER                      |
| FFG  | GUIDED MISSILE FRIGATE            | FF  | FRIGATE                        |
| SSNG | NUCLEAR GUIDED MISSILE SUBMARINE  | SSN | NUCLEAR SUBMARINE              |
| SS   | SUBMARINE                         | LST | LANDING SHIP TANK              |
| LHA  | HELICOPTER ASSAULT W/LOADING DOCK | LPH | HELICOPTER ASSAULT SHIP        |
| LPD  | LANDING SHIP WITH LOADING DOCK    | AP  | TRANSPORT                      |
| AK   | CARGO SHIP                        | AO  | OILER                          |
| AE   | AMMUNITION SHIP                   | AKR | VEHICLE CARGO SHIP             |
| AFS  | COMBAT STORES SHIP                | TF  | TASK FORCE                     |
| CAP  | COMBAT AIR PATROL                 | SSM | SURFACE TO AIR MISSILE         |
| ASM  | AIR TO SURFACE MISSILE            | ASW | ANTI SUBMARINE WEAPON          |
| SAM  | SURFACE TO AIR MISSILE            | AST | ANTI SUBMARINE TORPEDO         |
| AAM  | AIR TO AIR MISSILE                |     |                                |

SEQUENCE OF PLAY  
-----

NATO FORCES: HUMAN  
SOVIET: HUMAN OR COMPUTER

IN GAME:

- 1) NATO TF ADJUSTMENT
- 2) NATO MOVEMENT
- 3) SOVIET TF ADJUSTMENT
- 4) SOVIET MOVEMENT
- 5) SOVIET AIR OPERATIONS
- 6) NATO AIR OPERATIONS
- 7) COMBAT RESULTS
- 8) SAVE GAME

TASK FORCE ADJUSTMENT  
-----

FORMING TF  
-----

- 1) ENTER PORT CODE
- 2) ENTER MISSION CODE
- 3) THE COMPUTER WILL LIST ELIGIBLE SHIPS
- 4) CHOOSE THIS SHIPS YOU WANT

COMBINING TF  
-----

=====

DOCUMENT no.atlantic.1

=====

```
#####
#           NORTH ATLANTIC '86           #
#           DOCUMENTATION                #
#####
#
#           THIS FILE WRITTEN FOR:        #
#
#           THE OUTPOST                   #
#
#           [312]-441-6957                 #
#
#           &                             #
#
#           THE SOUTH POLE                 #
#
#           [312]-677-7140                 #
#
#####
#
#           CREATED BY                     #
#
#           D*I*R*T*Y H*A*R*R*Y          #
#
#####
```

INTRODUCTION  
-----

NORTH ATLANTIC 1986 IS A SIMULATION OF COMBAT BETWEEN SOVIET AND NATO AIR, LAND, SURFACE, AND SUBMARINE FORCES FOR CONTROL OF THE NORTH ATLANTIC. YOU AS THE PLAYED MUST ORGANIZE YOUR SHIPS INTO TASK FORCES.

URNS  
-----

EACH TURN IS 12 HOURS YOU MAY:

- 1) BUILD AND ADJUST FRIENDLY TASK FORCE
- 2) MOVE TASK FORCES
- 3) LAUNCH AIR MISSIONS
- 4) LAUNCH MISSILE ATTACKS
- 5) RESOLVE COMBAT

(FOR THE PURPOSES OF MY TYPING, THE WORDS "TASK FORCE" WILL HEREBY BE REFERRED TO AS: TF)

OTES  
-----

WHEN TYPING IN NUMBER INPUTS, HITTING <RETURN> IS REQUIRED

WHEN ANSWERING A YES/NO QUESTION, ONLY Y OR N IS REQUIRED

PRESSINT <CTRL-C> CAUSES THE PROGRAM TO HALT

MAP  
---

THE MAP IS A 40 X 40 SQUARE GRID REPRESENTING THE NORTH ATLANTIC AREA. EACH SQUARE IS 100KM IS DEPTH. GREEN: LAND BLUE: OCEAN WHITE: BASE RED: SOVIET TF BLACK: NATO TF

2 TF'S IN THE SAME GRID MAY BE COMBINED FOLLOWING THIS PROCEDURE:

- 1) ENTER NUMBER OF GAINING TF AND MERGING TF
- 2) ALL SHIPS IN MERGING TF WILL BE ADDED TO GAINING TF, AND THE MERGING WILL BE DELETED
- 3) THE GAINING TF HAS THE LOWER OF THE 2 ENDURANCES
- 4) SUBMARINES TF'S MAY NOT COMBINE WITH NON SUB TF'S
- 5) AIRCRAFT CARRIERS MAY NOT MERGE WITH NON COMBAT PATROL
- 6) TRANSPORTS MAY NOT COMBINE WITH NON TRANSPORT TF'S

DIVIDING TASK FORCE

- 1) ENTER NUMBER OF TF TO DIVIDE
- 2) THE SOVIET PLAYER IS ALLOWED: 9. THE NATO PLAYER IS ALLOWED: 11
- 3) ENTER THE NUMBER OF THE SHIPS THAT YOU WISH TO TRANSFER. THE NEW TF WILL HAVE SAME MISSION AND ENDURANCE AS OLD ONE
- 4) IF YOU HAVE FEWER THAN THE MAXIMUM TF'S, DIVIDE TF MAY BE USED TO SCUTTLE SHIPS. JUST REPLY WITH "S" AFTER THE SHIP NUMBER

LOADING TRANSPORTS

TROOPS AND SUPPLIES MAY BE LOADED ON A TRANSPORT IF THE SHIPS ARE IN A FRIENDLY PORT

- 1) USING THE LOAD TRANSPORT COMMAND, ENTER THE PORT CODE. THE COMPUTER WILL LIST ALL ELIGIBLE SHIPS
- 2) ENTER THE SHIP NUMBER AND THEN WHAT SHOULD BE LOADED. (100 MEN->COMPANY)
- 3) IF YOU WISH TO UNLOAD, JUST TYPE "U" WHEN IT ASKS FOR THE NUMBER OF MEN/SUPPLIES TO BE LOADED
- 4) ONLY SUPPLY UNITS MAY BE LOADED ON A SHIP WITH A PREFIX "A" (AP,AK...)

CHECKING PIPELINE

REINFORCEMENTS AND REPAIRED SHIPS ARE SENT TO FRIENDLY PORTS. TO CHECK THESE SHIPS, CHECK THE "PIPELINE."

- 1) ENTER PORT CODE
- 2) ENTER SHIP PREFIX (<RETURN> FOR ALL SHIPS)
- 3) ENTER MAXIMUM DELAY TIME ( <RETURN> FOR ALL SHIPS)
- 4) THE COMPUTER WILL LIST THE SHIPS
- 5) FOR SHIPS IN REPAIR, REFIT, OR REINFORCEMENT, THE COMPUTER WILL DISPLAY THE TIME WHEN THEY WILL ARRIVE

SUNK SHIP DISPLAY

THE COMPUTER WILL DISPLAY THE SUNK SHIPS AND THE POINTS AWARDED FROM THEIR SINKING.

AIR GROUP DISPLAY

THE COMPUTER WILL LIST THE NUMBER OF EACH TYPE OF AIRCRAFT ASSIGNED TO EACH CARRIER OR BASE THAT IS ACTIVE.

LIST ACTIVE TF'S

- 1) THE COMPUTER LISTS THE TF NUMBER, MISSION, AND ENDURANCE FOR EACH TF
- 2) ENTER THE TF NUMBER TO EXAMINE (OR <RETURN> FOR NONE)

MAP DISPLAY

THE COMPUTER WILL DISPLAY THE MAP AND ALL FRIENDLY TF'S. TYPING A TF NUMBER WILL CAUSE THAT TF TO FLASH.

BASE DISPLAY

THE COMPUTER WILL SHOW: INFANTRY, SUPPLIES, AIRCRAFT AND UTILITY AIRCRAFT AT EACH BASE. (AND MORALE POINTS FOR THE NATO PLAYED).

END GAME

ENDS GAME

WEAPONS DISPLAY

PROMPTS FOR A SHIPS I.D. NUMBER AND THEN DISPLAYS THE WEAPONS AVAILABLE FOR THAT SHIP.

- 1: MURMANSK
- 2: RIGA
- 16: AMERICA

MAIN GUNS: LARGER AND 150 mm. GOOD FOR SHORE BOMBARDMENT

LIGHT GUNS: 50-149mm. BOMBARDMENT, SHIP COMBAT, OR AIR DEFENSE

MISSILE DEFENSE: RATING OF SHORT RANGE GUNS AND ANTI-MISSILE MISSLES

HELICOPTERS: PARTOL/ASW HELICOPTERS CARRIED BY A SHIP

AIR-RECON: RECONAISSANCE AIRCRAFT CARRIED BY A CARRIER OR BASE. ONLY SURFACE SEARCH

AIR-EW: ELECTRONIC WARFARE CARRIED BY A BASE OR CARRIER, USED TO DESTROY MISSLES.

AIR-ASW: ANTO-SUB WEAPONS CARRIED FOR USE BY AIRCRAFT

AIR EARLYWARNING: ALLOWS A SHIP/BASE TO SEE AN ATTACK APPROACHING

SSM-SYSTEM: SURFACE TO SURFACE MISSLES (DISPLAY: # IN SALVO,TOTAL CARRIED, RANGE IN KM.)

ASW SYSTEM: LONG RANGE ANTI-SUB WEAPONS

SAM SYSTEM: LONG RANGE SURFACE TO AIR MISSLES

AST SYSTEM: ANTI SUBMARINE TORPEDOES (MK.48, TIGERFISH AND 533'S CAN ALSO BE USED AGAINST SHIPS)

EW STRENGTH: STRENGTH OF ELECTRONIC WARFARE (FOR SUBS, QUIET RATING)

SONAR STRENGTH:RATING FOR SONAR EQUIPMENT

TASK FORCE MOVEMENT

MOVING OF TF'S EXPENDS MOVEMENT POINTS. THE POINTS ARE DETERMINED BY FLEET SPEED.

FLEET SPEED

30 KNOTS OR THE LOWEST SPEED OF THE SLOWEST SHIP, WHICHEVER IS LOWER

MOVEMENT  
-----

1. TF RECEIVES 1 MP FOR EACH 2 1/2 KNOTS. (AT LEAST 3 MP'S)
2. 2 MP'S FOR EACH MOVE N,S,E,W
3. 3 MP'S FOR EACH MOVE NW,NE,SW,SE
4. TF WITH FEWER THAN 2 MP'S CAN NOT MOVE, BUT CAN DOCK
5. PRESSING "A" WILL START THE MOVE OVER FOR THAT SHIP ONLY
6. TF'S CAN NOT ENTER LAND

ENTERING HARBOR-UNLOADING  
-----

1. TF THAT BEGINS MOVE ON FRIENDLY BASE MAY UNLOAD BY DOCKING. IF YOU BEGIN IN HARBOR AND WISHES TO EXIT HARBOR BUT STAY IN SAME SQUARE, HIT "0"
2. EACH SHIP MAY INLOAD 18 COMPANTRIES OR 3 SUPPLIES
3. WHILE IN HARBOR, A TF IS IMMUNE TO SHIPS, SUBS, OR MISSLES
4. WHILE IN HARBOR, A SHIP IS EASIER TO HIT WITH BOMBS.
5. TO UNLOAD TROOP/SUPPLIES AT AND ENEMY BASE, FOLLOW THE ABOVE PROCEDURE BUT THE RATE IS HALVED

MOVEMENT SEQUENCE  
-----

1. MOVE TF'S BY NUMBER. ONCE A TF HAS BEEN MOVED, IT CAN NOT BE REVERSED
2. PRESSING "S" WILL EXAMINE A TF
3. PRESS "M" FOR EW MODE: TF'S IN EW WILL BE AUTOMATICALLY SEEN, BUT WILL FIND TARGETS EASIER

LAND ATTACKS  
-----

WHEN SOVIET AND NATO TROOPS OCCUPY ICELAND OR FAROES, LAND ATTACK WILL TAKE PLACE:

0=NO ATTACK  
5=BANZAI!

(SUPPLIES CONSUMED WILL EQUAL THE LEVEL OF ATTACK)

AIR OPERATIONS  
-----

1. CAP
2. OBSERVE SEARCH RESULTS
3. LAUNCH STRIKES
4. TRANSFER AIRCRAFT
5. LAUNCH SSM/ASW ATTACKS

CAP (Combat Air Patrol)  
---

1. AT START OF AIR OPERATIONS, DETERMINE HOW MANY PLANES WILL FLY CAP MISSIONS
2. FIGHTERS FLY: NORMAL CAP, AND LONG RANGE CAP

NORMAL- PROTECT TF OR BASE FROM WHICH IT ORIGINATED  
LONG RANGE- PROTECT ANY BASE/TF WITHIN ITS RANGE  
(FOR CAP, RANGE=1/2 STRIKE)

3. THERE ARE 2 WAYS TO INTERCEPT AIR TO AIR MISSLE DIGFIGHT  
(BOTH WILL OCCUR IF CAP INTERCEPTS AIRCRAFT WITH STANDOFF RANGE AS 0)
4. AVERAGE/MAXIMUM INTERCEPTION RANGES

LONG RANGE CAP

|              | MIS.    | MIS.  | DOG.    | DOG.  |
|--------------|---------|-------|---------|-------|
|              | +EW     |       | +EW     |       |
| TORNADO/ADV  | 320/440 | 64/70 | 145/290 | 31/62 |
| FALCON/F-16  | NM      | NM    | 115/230 | 29/5  |
| 8TOMCAT/F-14 | 450/550 | 70/75 | 125/250 | 30/60 |
| EAGLE/F-15   | 300/400 | 63/68 | 125/250 | 30/6  |
| OHARRIER/AV8 | NM      | NM    | 65/130  | 27/54 |
| FORGER/Y-36  | NM      | NM    | 55/110  | 26/5  |
| 3FLOGGER/M23 | 300/400 | 63/68 | 125/250 | 30/60 |

NORMAL CAP

|              | MIS     | MIS   | DOG   | DOG   |
|--------------|---------|-------|-------|-------|
|              | +EW     |       | +EW   |       |
| TORNADO/ADV  | 110/200 | 25/50 | 35/70 | 25/5  |
| 0FALCON/F-16 | NM      | NM    | 35/70 | 25/50 |
| TOMCAT/F-14  | 160/300 | 27/55 | 35/70 | 25/5  |
| 0EAGLE/F-15  | 110/200 | 25/50 | 35/70 | 25/50 |
| HARRIER/AV8  | NM      | NM    | 35/70 | 25/5  |
| 0FORGER/Y-36 | NM      | NM    | 35/70 | 25/50 |
| FLOGGER/M23  | 110/200 | 25/50 | 35/70 | 25/5  |

+EW: SUCCESSFUL EARLY WARNING  
NM: AIRCRAFT DOESN'T CARRY LONG-RANGE MISSLES

SEARCH MISSIONS  
-----

1. SEARCHES ARE PERFORMED AUTOMATICALLY BY UTILITY AIRCRAFT

SURFACE/SUBMARINE SEARCH RANGES:

HELICOPTER: 4/3 RECONAISSANCE: 20/0  
ASW: 0/6 EARLY WARNING: 8/0

SUBS MAY OBTAIN SONAR CONTACTS ON TF'S NEAR THEM

SEARCH DISPLAY  
-----

THE COMPUTER WILL DISPLAY ALL RESULTS AFTER IT HAS SEARCHED

THE TF'S ID #'S MAY BE USED TO ATTACK THE TF'S

BASE NUMBERS:

MURMANSK: 1 ICELAND:(S) 6  
RIGA: 2 SCAPE FLOW: 17  
HAMBURG: 3 FAROES:(N) 18  
BERGEN: 4 ICELAND(N): 19  
FAROES(S):5

3. IF YOU ENTER A STANDOFF RANGE GREATER THAN 0, EACH BOMBER WILL CARRY AIR-SURFACE MISSLES
4. WHEN STRING GROUND TARGETS, AND IF FIGHTERS ARE INCLUDED, YOU WILL BE ASKED: BASE ATTACK OR GROUND SUPPORT
5. AIRCRAFT INFORMATION

| AIR   | WEAPON | SYSTEM |
|-------|--------|--------|
| CRAFT | RANGE  | RANGE  |



```

-----
TORNADO 1200 AMRAAM 150*
FALCON 900 SIDEWIND 10
EAGLE 1000 AMRAAM 150*
TOMCAT 1000 PHOENIX 300*
CORSAIR 600 WALLEYE 50
INTRUDER 800 HARPOON 110
HARRIER 400 SIDEWIND 10
FORGER 300 APHID 10
FLOGGER 1000 APEX 150*
FENCER 1200 A-7 10
BACKFIRE 2500 A-6 300
BADGER 1800 A-6 300
CUB 2500 NONE ---
STARLIFTER 2500 NONE ---

```

- \* 100 ADDED TO RANGE OF LONG RANGE AAM'S FOR INTERCEPTINON RANGE

AIRCRAFT TRANSFER

AIRCRAFT TRANSFERS MAY BE PERFORMED BETWEEN CARRIERS/BASES WITH:

- 1) ONLY 4 TRANSFERS PER TURN
- 2) TRANSPORT CRAFT (CUB,STARLIFTER) MAY BE INCLUDED IN THE FIRST 2 MISSIONS IN A.M. TURNS ONLY
- 3) RANGE IS TRIPLED

(WHEN USING THE TRASPORT CRAFT, YOU MAY CHOOSE TO SEND TROOPS OR SUPPLIES ALONG WITH THEM)

AIRBORNE ASSAULT

AN AIRBORNE ASSAULT WILL OCCUR WHEN TRANSPORT AIRCRAFT ARE ENGAGED IN A MISSION TO EBEMY CONTROLLED ICELAND OR FAROES

- 1) ONLY 1 ASSAULT/TURN
- 2) EACH PLANE WILL ATTEMPT TO DROP 1 COMPANY OF INFANTRY. IF THE PLANE IS DESTROYED, SO ARE IS THE COMPANY
- 3) THE DROPPED INFANTRY WILL AUTOMATICALLY ENGAGE IN A LEVEL 5 ATTACK UPON THEIR DROP

LAUNCHING SSM/ASW

- 1) TF'S MAY USE SSM/ASW TO ATTACK SUBS OR SURFACE SHIPS SIGHTED DURING THE SEARCH PHASE. TF'S IN HARBOR CAN NOT FIRE/BE HIT BY SSM/ASW
- 2) IF YOU SELECT A SHIP TO FIRE, THE COMPUTER WILL LET YOU DO SO IF YOU ARE IN RANGE. RANGE OF SSM IN SQUARES=RANHE OF KM/100
- 3) IF THE ATTACKING TF IS IN EW MODE, EACH SHIP IN THAT TF WITHOUT SSM, WIL FIRE A SAM INSTEAD
- 4) IF A SUB TF IS CHOSEN, THERE IS A 50% CHANCE OF A FIRING
- 5) WHEN A SUB IS IN A SSM/ASW ATTACK, EACH SUB WILL HAVE 33% CHANCE OF FIRING 6)TO IDENTIFY TARGETS, HIT "S" WHEN ASKED FOR TARGET

COMBAT RESOLUTION

- 1) AIR STRIKE
- 2) MISSLE (SSM,ASM,ASW)
- 3) SURFACE AND SUB COMBAT
- 4) RETURN AIRCRAFT TO BASES

- 5) LAND COMBAT
- 6) REPAIR AND REFIT SHIPS
- 7) REINFORCEMENTS

AIR STRIKE

- 1) AIR EARLY-WARNING
- 2) LONG RANGE AAM COMBAT
- 3) DIGFIGHT
- 4) SHIPS FIRE LONG RANGE SAM'S
- 5) BOMBERS LAUNCH ASM'S
- 6) FLAK
- 7) BOMBERS DROP BOMBS

- 1) EARLY WARNING AIRCRAFT DETECT STRIKES 8 SPACES AWAY.
- 2) LONG RANGE AAM COMBAT MAY OCCUR IF THE CAP IS EQUIPPED WITH: PHOENIX, AMRAAM, OR APEX MISSLES

```

PHOENIX: 3
AMRAAM: 2
APEX: 1

```

AAM'S FIRED BY STRIKING AIRCRAFT MAY FIND TARGETS WHEREVER THEY ARE. THE SUCCESS OF EACH AAM FIRED IS REDUCED BY THE EW OF THE CARRIER/BASE ATTACKED AND THE TARGET AIRCRAFT FIGHTER AIRCRAFT MUST BE ABLE TO LOCK ON TO TARGETS TO FIRE AT THEM. THECHANCES OF A LOCK ON IS DETERMINED BY THE RADAR STRENGTH. THE CHANCE OF HITTING AN ENEMY PLANE WITH A MISSLE IS AFFECTED BY THE ECM RATING OF THE TARGET:

```

TORNADO: 3   INTRUDER: 4   BACKFIRE: 3
FALCON: 1   HARRIER: 1   BADGER: 1
TOMCAT: 3   FORGER: 0   CUB: 0
EAGLE: 3   FLOGGER: 1   STARLIPT: 0
CORSAIR: 1   FENCER: 1

```

HIGHER ECM RATING -> LOWER CHANCE OF BEING HIT

3. DOGFIGHT: INDIVIDUAL CAP FIGHTERS WILL CHOOSE A TARGET AND ATTACK IT. IF THE ATTACK FAILS, THE OTHER PLANE MAY ATTACK. THE RATINGS FOR DOGFIGHT ABILITY:

```

TORNADO: 4   INTRUDER: 1   BACKFIRE: 1
FALCON: 5   HARRIER: 3   BADGER: 1
TOMCAT: 4   FORGER: 2   CUB: 1
EAGLE: 5   FLOGGER: 4   STARLIPT: 1
CORSAIR: 2   FENCER: 2

```

HIGHER RATING -> CHANCE OF BEING ENGAGED

```

AAM= SIDEWINDER: +2 POINTS
AAM= APHID: +1 POINT

```

4) SHIPS IN TARGET TF'S MAY FIRE SAM'S IF THERE IS NO STANDOFF RANGE OR THE MISSLE RANGE IS GREATER THAN THE STANDOFF RANGE. NUMBER OF SAM'S FIRED IS DEPENDENT UPON TYPE OF SAM:

```

STANDARD: 4   SA-N-1: 1   SA-N-6: 3
SEADART: 2   SA-N-3: 2   SA-N-7: 4
SEASLUG: 1

```

AEGIS CRUISERS, TICONDEROGA, AND TORKTOWN MAY FIRE 8 STANDARD SAM'S, THERE IS A 50% CHANCE OF A SHIP NOT FIRING AND SAM'S DURING A STRIKE

- 5) BOMBERS THAT SURVIVE MAY SHOOT ASM'S
- 6) IF STANDOFF RANGE IS 0, THE BOMBERS WILL BE ATTACKED BY FLAK.

SURVIVORS WILL BE PERMITTED TO ATTACK.

7) THE CHANCE OF A BOMBER BEING SHOT DOWN BY FLAK = TF FLAK STRENGTH+ TARGETS MISSLE DEFENSE STRENGTH, DIVIDED BY 500. THE TF FLAK STRENGTH IS COMBINED AA RATING OF ALL SHIPS IN THE TF. IF THERE ARE MORE THAN 12 SHIPS IN A TF, THE RATING IS THE AVERAGE OF THE SHIPS.

8. CHANCE OF BOMB HITTING TARGET IS AFFECTED BY:

- A. BOMBER ACCURACY
- B. MAXIMUM SPEED OF TARGET
- C. FLAK INTENSITY
- D. RANGE OF STRIKE
- E. SIZE OF TARGE
- F. RADAR ON BOMBER (NIGHT ONLY)

TABLE OF BOMBER ACCURACY/RADAR:

|         |      |         |      |          |     |
|---------|------|---------|------|----------|-----|
| TORNADO | 14/9 | CORSAIR | 7/5  | FLOGGER  | 1/4 |
| FALCON  | 6/4  | INTRUDE | 10/8 | FENCER   | 9/7 |
| TOMCAT  | 10/8 | HARRIER | 6/2  | BACKFIRE | 5/5 |
| EAGLE   | 10/6 | FORGER  | 3/1  | BADGER   | 3/3 |

===== DOCUMENT no.atlantic.2 =====

MISSLE RESOLUTION

1.PRIOR TO ATTACKING A SHIP, THE ANTI SHIP MISSLES MAY BE ENGAGED BY CAP, SAM'S, LIGHT GUNS, TARGET DEFENSE. SAM'S WILL NOT BE FIRED AGAINST SURFACE SKIMMING MISSLES. SAM'S MAY NOT FIRE IF EARLY WARNING WAS UNSUCCESSFUL AND TARFE TF IS IN PASSIVE EW-MODE. THERE IS A CHANCE THAT A SHIPS WILL SWITCH TO ACTIVE EW-MODE DURING A MISSLE ATTACK

2. MISSLES THAT SURVIVE AAM AND SAM ATTACKS WILL BREAK INTO GROUPS OF 1-7 MISSLES. EACH GROUP WILL SELECT A TARGET

3. MISSLES THAT SURVIVE DEFENSES MAY BE JAMMED. JAMMING POSSIBILITY IS AFFECTED BY THE TARGETS EW RATING AND THE MISSLE RATING

4. IF A MISSILE SURVIVES THE ABOVE MENACES, IT MAY MISS OR HIT THE TARGET

ACCURACY RATINGS:

|         |    |         |    |         |    |
|---------|----|---------|----|---------|----|
| HARPOON | 9* | SS-N-7  | 7* | SS-N-12 | 6  |
| TOMAHWK | 9* | SS-N-2C | 5  | SS-N-19 | 7  |
| EXOCET  | 9* | SS-N-3  | 4  | AS-6    | 5* |
| WALLEYE | 7  | SS-N-22 | 7  | AS-7    | 7  |

\* SURFACE SKIMMING

5. THE PROBABILITY OF AND ANTI-SUB MISSLES HITTING THE SUB DEPENDS UPON THE SUB'S SPEED, THE SUB'S EW RATING AND MISSLE ACCURACY.

ACCURACY RATINGS:

|          |   |         |   |          |   |
|----------|---|---------|---|----------|---|
| ASROC:   | 4 | FRAS-1: | 4 | SUBROC:  | 4 |
| SS-N-16: | 4 | IKARA:  | 3 | SS-N-14: | 3 |

SURFACE COMBAT

----- SURFACE COMBAT MAY OCCUR BETWEE TWO TF'S OCCUPYING THE SAME SPACE WITH ENDURANCES OF 9 OR MORE

1. RESOLUTION

- A. EACH SOVIET SHIP IN TF PERFORMING A "C" MISSION WILL FIRE AT ONE OF THE NATO SHIPS
- B. EACH NATO SHIP WILL FIRE AT A SOVIET SHIP
- C. EACH NATO SHIP IN A "C" MISSION WILL FIRE
- D. EACH SOVIET SHIP WILL FIRE AT NATO TF

2. WHEN ATTACKING, EACH SHIP WILL FIRE TORPEDOES MAIN GUNS LIGHT GUNS

ONLY SOVIET SHIPS WITH 533mm TORPEDOES CAN FIRE TORPEDOES IN SURFACE COMBAT

SUBMARINE COMBAT

- 1. SUBMARINES PATROL AN AREA TWO SPACES AWAY FROM THE TF LOCATION

2. EACH SUB IN A TF WILL HAVE A CHANCE OF ENGAGING A SUB WITHIN INS PATROL AREA. THIS CHANCE IS DEPENDENT ON SPEED, SONAR, AND EW MODE. SUBS THAT HAVE BEEN DETECTED HAVE THEIR OWN DETECTION CHANCES REDUCED BY 2/3. THE CHANCE OF ENGAGING AN ENEMY SUB IS 1/4 THAT OF ENGAGING AN ENEMY SUB

3. THE CHANCE OF ENGAGING/TORPEDOING WILL BE REDUCED BY THE NUMBER OF ENEMY ASW SHIPS IN THE ENEMY TF

4. IN AN ATTACK, A SUB WILL FIRE 2 TORPEDOES. AFTER EACH ATTACK, THERE IS A 10% CHANCE OF A SUB RUNNING OUT OF TORPEDOES IN WHICH IT WILL HAVE TO RETURN TO PORT FOR A RESTOCK.

5. AFTER A SUB ATTACKS A TF, THE ASW SHIPS IN THE TF WILL ATTEMPT TO FIRE BACK.

6. RANGE/ACCURACY OF ASW/AST WEAPONS:

|         |      |           |      |
|---------|------|-----------|------|
| ASROC   | 20/4 | MK 48     | 50/5 |
| SUBROC  | 55/4 | TIGERFISH | 40/4 |
| IKARA   | 20/3 | 533mm     | 20/3 |
| FRAS-1  | 50/3 | 400mm     | 7/4  |
| SS-N-14 | 50/3 | MK46      | 10/4 |
| SS-N-16 | 75/4 |           |      |

AIRCRAFT RETURNING TO BASE

1. AFTER COMPLETION OF MISSION, AIRCRAFT WILL ATTEMPT TO RETURN TO BASE FROM WHICH THEY CAME

2. IF LAUNCHED FROM A CARRIER WHICH RECEIVED 26% OR GREATER DAMAGE, THE AIRCRAFT WILL TRY TO MAKE AN EMERGENCY LANDING ON ANOTHER BASE

3. EMERGENCY LANDINGS WILL OCCUR AUTOMATICALLY IF THERE IS A FRIENDLY BASE OR CARRIER WITHIN 3 SPACES

INVINCIBLE, ARK ROYAL: HARRIERS ONLY KIEV, MINSK: FORGERS ONLY

4. IF AN EMERGENCY LANDING IS REQUIRED AND THERE ARE NO AVAILABLE BASES, THE AIRCRAFT WILL DITCH IN THE OCEAN

5. AIRCRAFT WHICH ENGAGE IN CAP, STRIKE, OR TRANSFER MISSIONS WILL SUFFER 1% LOSSES. TROOPS AND SUPPLIES BEING TRANSPORTED WILL ALSO SUFFER 1% DAMAGE

LAND COMBAT

LAND COMBAT WILL OCCUR WHEN THERE ARE BOTH NATO AND SOVIET TROOPS ON ICELAND OR FAROES

1. ORDER OF LAND COMBAT=> DEFENDER FIRES AND THEN SURVIVING ATTACKERS FIRE

2. THE GREATER THE ATTACK LEVEL, THE GREATER THE CASUALTIES ON BOTH SIDES. ATTACKS MADE WITHOUT ADEQUATE SUPPLIES WILL SUFFER DOUBLE CASUALTIES. DEFENSIVE FIRE WITHOUT REQUIRED SUPPLIES WILL BE ONLY HALF AS EFFECTIVE

3. IF TOTAL COMBAT STRENGTH OF ATTACKER (TCS) IS GREATER THAN THAT OF THE DEFENDER, THE AIRFIELD IS TAKEN.

ATTACKING TCS=(INFANTRY COMPANIES+ GROUND ATTACK POINTS)\*RANDOM NUMBER

DEFENDING TCS=INFANTRY COMPANIES+ GROUND SUPPORT

4. AND AIRFIELD UNDER HEAVY FIRE WILL NOT BE ABLE TO CONDUCT

OPERATIONS IN THE FOLLOWING TURN

GROUND SUPPORT AND BOMBARDMENT

LAND COMBAT MAY BE INFLUENCED BY BOMBERS AND BOMBARDING SHIPS

1. BOMBERS FLYING GROUND SUPPORT OVER FAROES OR ICELAND WILL ADD TO LAND COMBAT STRENGTH. TF'S WITH "B" MISSION WILL ALSO HELP IF THEY OCCUPY THE FAROES OR ICELAND SQUARE

2. BATTLESHIP MAIN GUNS ARE WORTH 3 POINTS EACH. LIGHT GUNS ARE WORTH 1/2 POINT EACH. CRUISER MAIN GUNS ARE WORTH 1 POINT EACH

3. GROUND SUPPORT POINTS HAVE THE FOLLOWING EFFECT:

A. EACH POINT WILL SUPPRESS ONE INFANTRY COMPANY (USUALLY)

B. EACH POINT WILL ADD 1/2 POINT OF FRIENDLY FIRE (USUALLY)

4. AIRCRAFT'S GROUND SUPPORT RATING IS DETERMINED BY-> ACCURACY OF BOMBS, AND RADAR RATINGS (P.M. TURNS ONLY). DURING A BOMB, EACH "<\*" MEANS 2 GROUND SUPPORT POINTS HAVE BEEN SCORED.

REPAIR AND REFIT OF SHIPS

1. DAMAGED SHIPS WHICH DOCKED ARE PLACED IN THE REPAIR AND REFIT PIPELINES. UNDATED SHIPS WILL BE PLACED IN THE REFIT PIPELINE. A TF WHICH DOCKS WITH AN ENDURANCE GREATER THAN 50 WILL NOT BE REQUIRED TO REFIT. REFIT TIME IS 3 DAYS

2. REPAIR TIMES IS EQUAL TO: 9 X DAMAGE POINTS SUFFERED. DAMAGE POINTS SUFFERED IS: DEFENSE FACTOR OR SHIP X DAMAGE PERCENTAGE. REPAIR TIME MAY BE DOUBLED FOR SOME SHIPS WITH SMALLER SHIPS HAVING A GREATER CHANCE OF LENGTHENED REPAIR TIME

REINFORCEMENT ARRIVAL

SHIPS WILL ARRIVE AS SCHEDULED IN PIPELINE. INFANTRY, SUPPLY, AND AIRCRAFT WILL BE REINFORCED AS FOLLOWS:

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
|   |   |   |   | S | T | T | A |
| I | S | Y | M | U | U | U | N |
| N | U | 3 | 2 | 2 | 2 | 1 | 1 |
| F | P | 6 | 3 | 4 | 2 | 6 | 2 |

|     |    |    |   |     |     |    |    |    |
|-----|----|----|---|-----|-----|----|----|----|
| (1) | 25 | 30 | 3 | 18B | 18B | 3B | 3B | 15 |
| (2) | 0  | 30 | 0 | 6H  | 0   | 6H | 6H | 0  |

(B=BERGEN H=HAMBURG)  
(1->MURMANSK 2-> RIGA)

|    |    |    |   |   |   |   |   |   |   |
|----|----|----|---|---|---|---|---|---|---|
|    |    |    |   |   |   |   |   |   | C |
| I  | S  | A  | F | F | F |   |   |   | A |
| N  | U  | D  | 1 | 1 | 1 | A | A | V | 4 |
| F  | P  | V  | 6 | 5 | 4 | 7 | 6 | 8 | 1 |
| 3. | 30 | 50 | 0 | 6 | 3 | 3 | 3 | 1 | 3 |
| 4. | 5  | 5  | 3 | 0 | 0 | 0 | 0 | 0 | 3 |

3. AMERICA

4. SCAPA FLOW

1. EACH TURN (DURING CAMPAIGN GAMES ONLY) THERE IS A 1/16 CHANCE OF THESE REINFORCEMENTS ARRIVING

2. THE SOVIETS WILL BE MORE LIKELY TO RECEIVE #1 DURING FIRST WEEKS IN OCTOBER THAN LAST WEEK IN SEPTEMBER.

3. THE SOVIETS WILL AUTOMATICALLY RECEIVE #1 FOLLOWING ANY TURN IN WHICH FENCERS+FLOGGER<100. WHEN THIS HAPPENS, NATO IS AWARDED 50 VICTORY POINTS

4. NATO WILL AUTOMATICALLY RECEIVE #3 FOLLOWING ANY TURN IN WHICH TORNADOS+EAGLES+FALCONS<50. WHEN THIS HAPPENS, THE SOVIET WILL BE AWARDED 25 VICTORY POINTS.

GENERAL OPERATIONS  
=====

SHIP DAMAGE  
-----

SHIPS RECEIVE DAMAGE POINTS WHEN THEY ARE HIT BY BOMBS, TORPEDOES, MISSILES, OR GUNFIRE. WHEN DAMAGE POINTS ARE GREATER THAN DEFENSIVE FACTOR, THE SHIP WILL SINK. WHEN DAMAGE POINTS ARE GREATER THAN 50% OF THE DEFENSIVE FACTOR, THE SHIP IS CRIPPLED.

1. DAMAGE POINTS CAUSED BY WEAPON:

|                 |      |
|-----------------|------|
| LIGHT (AA) GUN: | 0.5  |
| CL MAIN GUN:    | 1.0  |
| BB MAIN GUN:    | 7.0  |
| TORPEDO:        | 8.0  |
| BOMB:           | 8.0  |
| SAM:            | 2.0  |
| HARPOON:        | 4.0  |
| TOMAHAWK:       | 7.0  |
| EXOCET:         | 7.0  |
| WALLEYE:        | 12.0 |
| SS-N-2C:        | 5.0  |
| SS-N-3:         | 12.0 |
| SS-N-7:         | 9.0  |
| SS-N-12:        | 9.0  |
| SS-N-19:        | 8.0  |
| AS-6:           | 15.0 |
| AS-7:           | 7.0  |
| SS-N-22:        | 6.0  |

2. ASW/TORPEDO HITS WILL ALWAYS SINK A SUBMARINE

3. TORPEDO HITS WILL ALWAYS REDUCE A SHIP'S SPEED BY AT LEAST 5 KNOTS

4. SHIP THAT IS HIT MAY SUFFER ADDITIONAL DAMAGE, HENCE THE MESSAGE, "EXPLOSION ON BOARD." (THIS INDICATES A CRITICAL HIT)

5. CRIPPLED SHIPS MAY ACCRUE ADDITION DAMAGE WHILE RETURNING TO PORT. IT IS POSSIBLE FOR A CRIPPLED SHIP TO ATTEMPT REPAIRS WHILE AT SEA. IT WILL ATTEMPT TO REPAIR ITSELF UNTIL NO LONGER IN CRITICAL CONDITION.

6. CARRIERS WITH 26% OR GREATER DAMAGE MAY NOT LAUNCH/RECEIVE AIRCRAFT

7. U.S.N. CARRIERS WITH DAMAGE BETWEEN 26% AND 35% WILL ATTEMPT REPAIRS UNTIL BELOW 26%

TF MISSIONS  
-----

BELOW IS A LIST OF MISSIONS AND ENDURANCE

| MISSION       | ENDURANCE (TURNS) |
|---------------|-------------------|
| -----         | -----             |
| C-COMBAT      | 60                |
| B-BOMBARDMENT | 60                |
| T-TRANSPORT   | 60                |
| E-EVACUATION  | 60                |
| U-SUBMARINE   | 90                |
| R-RETURN      | N/A               |

(1 DAY = 2 TURNS)

1. CARRIERS MAY ONLY PERFORM "C"

2. AP,AK,AO,AE,AKR, AND AFS MAY ONLY PERFORM "T"

3. LST,LHA,LPH AND LPD MAY ONLY PERFORM "T" OR "E"

4. SS,SSN, OR SSNG MAY ONLY PERFORM "U"

5. ONLY "E" MAY INITIATE COMBAT

6. SURFACE COMBAT MAY CAUSE A "B" TO ABORT ITS MISSION (CAUSING IT TO BECOME AN "R")

7. AND "E" HAN DOCKS AT FRIENDLY BASE WILL AUTOMATICALLY LOAD INFANTRY INTO ITS LST, LPH, LHA, AND LPD TYPE SHIPS. THESE LOADED SHIPS WILL BE CHANGED TO "T"

TF ENDURANCE  
-----

1. EACH TURN AT SEA REDUCES ENDURANCE BY 1

2. A BOMBARDMENT TF WILL HAVE ITS ENDURANCE REDUCED BY 10% FOR EACH TURN WHICH IT BOMBARDS

3. SURFACE COMBAT HAS THIS EFFECT: ATTACKING TF ENDURANCE IS REDUCED TO 7 (IF GREATER THAN 8), IF THE DEFENDING TF'S COMBINED DEFENSIVE FACTORS MULTIPLIED BY RANDOM NUMBER FROM 0-1 IS GREATER THAN 25. THE DEFENSIVE ENDURANCE IS REDUCED TO 8 IF THE ABOVE IS TRUE FOR THE OPPOSITE ROLES.

4. IF A TF'S ENDURANCE REACHES 0 AND IT FAILS TO DOCK THAT TURN, ALL NON-NUCLEAR SHIPS' SPEED WILL BE REDUCED TO 5

5. SUBMARINES WITH 0 ENDURANCE MAY NOT FIRE TORPEDOES

SUPPLIES  
-----

SUPPLIES ARE USED FOR INFANTRY DAILY LIVING, COMBAT, FORMING TF'S, AND AIR MISSIONS

1. BASES MUST SPEND DAILY SUPPLIES TO MAINTAIN THEIR TROOPS. THE DAILY REQUIRED AMOUNT IS THE NUMBER OF INFANTRY COMPANIES/100 ROUNDED UP

2. SUPPLIES ARE CONSUMED IN LAND COMBAT ATTACKER: 1 SUPPLY PER LEVEL DEFENDER: ONE SUPPLY UNIT

3. THE MAJOR PORTS, AMERICAM RIGA, AND MURMANSK USE SUPPLIES TO FORM TF'S. EACH SHIPS REQUIRES 1/5 OF ITS DF

4. A TF RETURNING TO A BASE WITH AND ENDURANCE GREATER THAN 30 WILL RETURN ITS UNUSED FUEL TO THE PORT

5. AIRBASES USE ONR UNIT/STRIKE LAUNCHED. CAP/SEARCH/TRANSFER DO NOT

REQUIRE SUPPLIES

SCORING

1. PLAYES GET VICTORY POINTS (VP) BY SINKING ENEM SHIPS. THE VP'S EQUAL TO DF+CARGO/AIRCRAFT CAPACITY
2. NATO PLAYER RECEIVES 1 POINT 10 VP'S FOR EACH MORALE POINT REMAINING. (CAMOAGIN SCENARIOS ONLY)
3. EITHER PLAYED MAY SCORE 500 VP'S FOR POSSESSIONS OF ICELAND OR FAROES AT END OF GAME.
4. SOVIET PLAYER RECEIVES 1000 VP'S IF NATO MORALE IS 0
5. VICTORY TABLE:

SUBTRACT SOVIET FROM NATO POINTS:

| SCORE    | RESULT           |
|----------|------------------|
| 1000+    | NATO DECISIVE    |
| 500-999  | NATO SUBSTANTIVE |
| 100-499  | NATO MARGINAL    |
| (-99)-99 | DRAW             |

FOR SOVIET WIN, JUST CHECK IF IT IS NEGATIVE AND CONSULT ABOVE TABLE

WEATHER

CLEAR, LIGHT OVERCAST, HEAVY OVERCAST, AND STORM

1. THERE IS A RANDOM CHANCE EACH TURN THAT THE WEATHER WILL CHANGE. THE WEATHER ONLY CHANGES IN STEPS OF 1. THERE ALSO IS A RANDOM CHANCE A HEAVY OVERCAST WILL BECOME A STORM. STORMS ARE RARE IN SEPT-OCT AND MORE FREQUENT IN NOV-DEC.
2. WEATHER INFLUENCES THA ABILITY TO SPOT TF'S AT A RANGE OF GREATER THAN 1.5. THE CHANCE OF SPOTTING A TF AT GREATER THAN 1.5 WILL BE REDUCED BY 1/3 DURING LIGHT OVERCAST AND 2/3 DURING HEAVY OVERCAST. STORMS WILL PREVENT ALL AIR AND MISSLE OPERATIONS
3. DURING STORMS, ALL TF'S WILL HAVE THEIR SPEED REDUCED TO 5 KNOTS
4. THE LIGHT BLUE AREA A TOP OF SCREEN IS ICEBERG ZONE. SURFACE TF'S WILL HAVE TO MAKE ONE STOP WHILE ENTERING AND ICEBERG, BUT SUBMARINES ARE UNAFFECTED. THE ZONE PROGRESSES SOUTHWARD AS THE GAME FOES ON

AIRBASE CAPACITY

TABLE OF MAXIMUM AIRCRAFT

ICELAND: 80 HAMBURG: 600 RIGA: 900 FAROES: 60  
 SCAPA FL: 900 USA: 900 BERGEN: 500 MURMANSK: 900

NATO MORALE

NATO MORALE WILL BE REDUCED BY LONG PERIODS OF INADEQUATE SUPPLY

1. LEVEL STARTS AT 100 FOR CAMPAIGN ONE OR 40 FOR CAMPAIGN TWO
2. NATO MORALE WIL BE REDUCED BY ONE FOR EACH TURN SUPPLY'S AT SCAPE FLOW ARE LESS THAN 10 OR TROOP LEVEL IS LESS THAN 20000

3. MORALE POINTS MAY NEVER BE REGAINED.

REPLACING CARGO SHIPS

1. DURING THE CAMPAIGN SCENARIOS, ANY AMPHIBIOUS OR CARGO SHIP SINK WILL BE REPLACED BY A CARGO SHIP WHICH WILL BE NUMBERED AND HAVE A CARGO CAPACITY OF 4 AND SPEED OF 20

2. SUNK CARGO/AMPHIBIOUS SHIPS WILL NOT BE LISTED IN THE SUNK SHIP OPTION, BUT WILL COUNT FOR POINTS

AIRFIELD REPAIR

REPAIR TAKES 1-3 DAYS AFTER CAPTURE UNTIL OPERATIONAL STATUS

NATO CARRIER EARLY ARRIVAL

IF BETWEEN OCT. 1 AND NOV. 10, THE NATO PLAYER IS REDUCED TO LESS THAN 2 AMERICAN CARRIERS AT SEA OR IN PIPELINE FOR 5 DAYS, THE PIPELINE TIME OF CV-KITTY HAWK FILL BE REDUCED TO 5 DAYS, GIVING THE SOVIET PLAYER 50 VP'S.

GAME DURATION

CAMPAIGN GAMES

CAMPAIGN ONE: 252 TURNS  
 CAMPAIGN TWO: 122 TURNS

MINI-GAME DURATION

QR.44: 12 TURNS  
 ICELAND: 20 TURNS

SOLITAIRE PLAY

WHEN PLAYING SOLITAIRE, THE COMPUTER WILL COMMAND THE SOVIET FORCES

1. THERE ARE FOUR LEVELS OF DIFFICULTY. AT LEVEL 3, THE SOVIETS WILL PERFORM NORMALLY. AS THE LEVEL IS DECREASED, THE SOCIET ARRURACY WILL INCREASE. (BACKWARDS!) THIS LEVEL CAN ALSO BE USED IN A TWO-PLAYER GAME
2. ONE CAN START A SOLITAIRE GAME, SAVE IT, AND RESTART AS TWO-PLAYER
3. ONE MAY CHANGE A TWO-PLAYER TO SOLITAIRE IF ALL SOVIET SHIPS ARE IN-PORT

COMMENTS

THESE ARE COMMENTS FROM DIRTY HARRY, NOT FROM THE SSI DOCUMENTATION.

NORTH ATLANTIC '86 IS A VERY COMPLICATED GAME, EVEN MORE SO THAN GERMANY 1985, ON WHICH I HAVE ALSO WRITTEN DOCS. ONE MUST BECOME FAMILIAR WITH THE DOCUMENTATION TO THIS GAME BEFORE GIVING ANY THOUGH TO PLAYING. THE GAME WILL START SLOWLY, BUT SPEED UP AS THE PLAYERS UNDERSTAND WHAT THEY ARE DOING. NOTE WELL, THAT YOU WILL BE CLOBBERED AT FIRST, BUT DON'T WORRY. NATO: ABANDONING FAROES AND EVEN ICELAND IS NOT ALWAYS BAD

D\*I\*R\*T\*Y H\*A\*R\*R\*Y

MAY 17, 1984

=====  
DOCUMENT nt.v1.00  
=====

-----  
NOISE TRACKER GS v1.0, By FTA.  
-----

(This program is for advanced users only !!!)

Please Wait ! The real documentation is coming soon... (I hope...)  
This text file contains just some hints to help you apprehending NoiseTracker.  
Don't forget to read this file each time you get a new version of NoiseTracker!  
It should describe the important new features, or modifications...

Installation  
-----

This program may be copy on your hard disk. Just copy the files NOISE.TRACKER,  
and NOISE.DATA in the same folder... (If you have created some partitions on your  
hard disk, choose a folder in a partition recognized by ProDOS 8.)

(Note that old 5'1/4 Disks are not recognized by Noise Tracker GetFile  
program...)

It uses the Memory Manager to allocate memory (badly, but it uses it!), so you  
can execute this program from GS/OS. But if you haven't got a lot of memory, I  
recommend to launch it from a ProDOS 8 disk, because you'll gain about 400/500ko of  
memory, which is the memory reserved by the GS/OS system.

Also, copy the icon file NT.ICONS in your Icons folder... (Icons courtesy of  
Michael Guitton), and modify the application path of each icons (using IconEd for  
example) to allow the system to locate the Noise Tracker program when double-clicking  
on a music file from the finder. (Since version 0.70, all the files created by Noise  
Tracker have their auxtype set to \$0220.)

(You can skip the loading of the picture and the music by pressing the Open-  
Apple key while loading.)

How does it work ?  
-----

NoiseTracker is a new kind of music software for the IIgs, very different from  
all the previous ones (Soundsmith, Synthlab, Music Studio...) by the fact that it can  
use almost as many instruments as you want (up to 64) and you're no more limited by  
the size of the Ensoniq Ram (64ko) !!!

NoiseTracker uses two kinds of instrument... Those always in the EnsoniqRam, and  
those which are in the GS-Ram, and which are moved to the Ensoniq when needed... But,  
luckily, when playing a music, you can hardly notice the difference between these two  
kinds !!!

Each kind of instrument must be played on its own dedicated tracks... These are  
Tracks A..G for the instruments in the GS-Ram, and Tracks 01..15 for those in the  
Ensoniq...

Using the Sound Parm's option, you select how many tracks are reserved for the  
GS-RAM based sounds... (Actually, each track reserves a small part in the Ensoniq Ram  
which is used for swapping and playing part of the sound...)

(For those interested in the technical part, you can press 'T' at anytime to  
toggle the display of the Ensoniq DOC registers.)

Loading A Music  
-----

NoiseTracker can load a lot of music formats; there are 3 menu options involved for loading a music...

### - OPEN MUSIC (Music Menu)

Load a NoiseTracker Music Format file (compact).

After loading a NT music, the program will ask you if you want to load the wavefile associated to this music (same name, with the suffix .W)

Load a Soundsmith Music format file. The instruments are automatically loaded (like in soundsmith) if they're found in the same directory... If not, NT can load directly the 64ko Wavebank file generated by soundsmith, and get the instruments directly from this file !

(Beware! This is not the main goal of NoiseTracker to replay soundsmith music... So most of the Soundsmith musics will be played normally, but some of them won't ! (depending on the kind of instruments and the kind of effects used...)).

### - OPEN MODULE (Module Menu)

Load the NoiseTracker Module Format file... This is the format used by the NoiseTracker player to allow you to replay the musics in your own program... (see Player Info below...)

This format includes the tracks used by the musics and also the instruments...

### - AMIGA IMPORT (Module Menu)

This is one of the most powerful option of NoiseTracker... It allows you to import directly music modules from the Amiga... Just convert the module created on the amiga (by SoundTracker, NoiseTracker, ProTracker...) to a IIGs (using a Null-Modem cable, or a modem, or DOS2DOS on the Amiga then APPLEFILEEXCHANGE on the Mac, or PC Transporter on a IIGs to read PC disk format...) and load it with this option (The module name must begin with the prefix MOD.). Then play it and enjoy! That's all!!!

### Composing a Music

-----

If you want to create your own music, it's very easy... (just like in Soundsmith ! (Sorry, Noise Tracker is not midi compatible!))

Select the instrument (double clicking in the instrument list, or in the selection box to enter it through the keyboard, or using directly a non-keypad key number), then the octave (using the keypad), and the notes (using keys : GHJKL;' and YUOP[]). If everything OK, you should ear the sound ! (Be careful of the good use of the Tracks and Instruments or you'll get nothing...(Tracks A...G are for RamBased instruments only, and the others for the ensoniq ones.))

Then depending on the state of the LOCK flag (use TAB to change it, or click on it), the new note will be or not added to the 'partition'... (This is very useful to verify any note to be played...)

About the effects, only two are supported by NoiseTracker : V to change the volume of a sound, and T to change the music tempo.

### Playing the music in your own program

-----

Since version 0.55, the music player is included on the disk... It exists under 2 formats, a tool (Tool220), and a player to be linked... These two players can only replay a music saved under the MODULE format !!! (Current version is 1.2 (\$0102). Old version can't replay modules with more than 16 instruments)

See the NTSAMPLE.S and SAMPLE.S16 file to see how to use it... There shouldn't be any major problem to replay a music by yourself!

Just two points I have to insist on, because they may be the source of major malfunctioning :

- When making the NTInitMusic call, you must give as parameters the address of the music module in ram (X=@Module,Y=@Module). This address (@Module) must be PAGE ALIGNED !!!

- Don't forget to make the call NTUpdateSound very often in your program just after have launched the music, because this is that call which will move, when needed, the instruments from the GS-RAM to the Ensoniq... (The call can move up to 7\*256 bytes at a time).

If you forget to make this call, or if your 'calling rate' is too slow, then notes on the tracks dedicated to Ram Based sounds (Track A..G) won't be played normally !!!

Have Fun with NoiseTracker !

Any Problem? Call 1-900-FTA-RULZ ! (Hey?! It's a joke!!!)

## Apple II Computer Info

=====  
DOCUMENT nt.vamp.his  
=====

NoiseTracker GS v1.0

Originally Released by The New I.Ci.A. Team Italy 1991 & FTA 'FEU' (1992)

Modified by : Dr. Tom and Re-released as NOISE TRACKER GSv1.0 - (VAMPS)-DEMO disks

A list of NEW FEATURES for v1.0 follows:

- (1) NoiseTracker v1.0 now allows you to assign single or both channels in the Ensoniq-RAM and also in the GS-RAM.
- (2) An auto screen saver will activate giving you a black screen with dancing pink notes, if you don't do anything with the current screen, after a brief time of non-activity on-screen.
- (3) A new 'NEXT' animation is included, (within the INTROPIC) with an impressive bouncing 3-D ball pyramid, during the INTRO portion of NoiseTracker, as the INTROMUSIC is playing.
- (4) This animation will not be observed, if no INTROPIC, INTROMUSIC & INTROMUSIC wavefile is included, and you can press any key or click the mouse to enter the program.
- (5) A new circular opening portal-scroll introduces you to the main program operational screen.
- (6) The main programs operational screen has a display box that shows the music title that is loaded and/or playing. You can change the color of the screen, by clicking the mouse on this display box. The color will change to another, if you click on that display box again and so on and so on.
- (7) Full development credits are viewable, via the 'About Program' option.
- (8) Freeware info is available, via the Freeware Info option.
- (9) You can visit the "Underground World", and try your hand at guessing. "The Word" or (QUIT) & exit back into NoiseTracker. (See: TIPS & HINTS, below for more information on this option). (who knows what "EASTER-EGGS" lurk within this option). See Freeware Info option, write the programmer and ask him if any more, not given below, might be found and/or activated.
- (10) New SHR graphic "Original" INTROPIC and INTROMUSIC-INTROMUSIC.W are included. PLEASE NOTE: these original 3 files have been replaced on this disk. They can be seen and listened to on the official original released NoiseTracker v1.0 disk. You should be able to obtain the original released disk from (AOL) America-on-line or you can write to me and send me a blank 3.5" disk and a self-addressed return postage envelope and I'll send the original v1.0 disk to you. IT IS FREeware !

Key & Mouse Function-Option list  
-----

(to be inserted later)

TIPS & HINTS  
-----

(to be inserted later)

For all the latest, & custom,  
one-of-a-kind; VAMPS Songs-musics-instruments-sounds,  
wavebanks, samples, special effects, Music NDAs,etc.

for the Apple IIgs programs; Noise Tracker,

Music Studio, snythLAB & SoundSmith -> Write to:

Dr. Tom's ( IIgs) Sound Research Service  
(THE VAMPSMAN-SRS)  
OmniSoft Sound Research Lab

25 Wayland St.  
S.F., Ca. 94134

USA

or give me a call !

(415) 467-0179 (voice-only!)  
Ask for: Dr. Tom



- o Uncompress records in the above archive formats if they are packed with Huffman, Dynamic LZW, or RLE compression.
- o Add files to an archive in uncompressed format to NuFX archives, including resource forked files.
- o Unpack whole disks from a ShrinkIT archive.
- o Add Binary II headers to files for uploading to information services such as America Online, GENie(tm), and CompuServe(tm).
- o Standard disk operations (delete, rename, format, and erase).
- o Save User Preferences such as compression mode and default pathname for extraction

## Ghost of Features Yet to Come

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The following features are planned for versions in the near future:

- o Actually compress files while adding, using Huffman or Dynamic LZW.
- o Add messages while adding files to NuFX archives.
- o Display messages that are in NuFX archives.
- o Add whole disks to NuFX archives.
- o Work with even more archive types (Arc, Zip, Zoo, etc...).
- o A mini-editor for composing quick text messages.

Please do drop me a letter on America Online, on Internet, or by US Mail, especially if you find bugs. I wish to incorporate features YOU want, so I have to be informed. I also can't test the program in every possible machine configuration or situation, so there may be rare bugs that have yet to crop up.

## Getting Started

---

This program needs System Disk 5.0.2 or higher to run correctly. If you don't have the necessary system disks, try to download them from America Online or goto your local user group to obtain them. You might also want to see your local dealer and obtain a copy. Most dealers should let you copy it, or you can buy the three-disk set with manuals for around \$40.

Start by copying the program to where you want it. It will run on any GS/OS-compatible device, including 3.5" and 5.25" drives, hard drives, and AppleShare file server volumes. You absolutely \*MUST\* use the Finder or another GS-based copy program, since the program does have a resource fork and cannot be copied by a ProDOS 8 program.

Please note that the NuPak IIGS program cannot be "locked" or write-protected in any way. This is because NuPak writes back to itself to save the user preferences. If you forget and accidentally lock or protect the file, NuPak IIGS will kindly tell you this and exit back to your program launcher.

## Quick Help List

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After running the program from the Finder(tm) or another program selector, the NuPak IIGS desktop will pop up and the File, Edit, Archive Options, and Special menus will appear.

Note that currently unavailable options are marked with "[ N/A ]".

\*\*\*\* The menu underneath the Apple contains 2 options:

"About NuPak IIGS" will bring up a series of dialogs showing some info about who contributed to this program, as well as version number you are using.

"View Helpfile" opens a window in which you can view the miniature help file. If the help window is already open, this option brings it to the front.

(these are followed by any NDAs you have installed.)

\*\*\*\* The File Menu has several options:

## DOCUMENT nupak

---

### NuPak IIGs

Version 2.0 [ February 25, 1990 ]  
Documentation File: Revision Three

NuPak IIGs(tm) is an innovative creation in packing utilities. Nupak IIGs offers the ability to pack and unpack not only ShrinkIT(tm) type files, but files in several other formats as well. However, the biggest advantage of Nupak IIGs is the ability to pack files with resource forks. With the onset of GS/OS(tm) 3.0, files containing both resource and data forks will become more prominent. Programs utilizing this format are following a format found in most Macintosh programs. Such programs already exist on the IIGs--most notably the CDEV files found on the IIGs System Disk and this program. Until now, there has not been a way to pack files with resource forks. One had to pack a whole disk in order to send any file with a resource fork--that is, until NuPak IIGs. Now you will be able to pack single files and send them like any other file.

NuPak IIGs is a full fledge 16-bit packing and unpacking program, running under GS/OS, that follows the human interface guidelines. It therefore offers an easy to use substitute for the myriad of archival programs for the Apple II series (as well as for other computers). Although, the main focus of NuPak is on NuFX(tm) archives such as those created by ShrinkIT.

Another ability that makes NuPak unprecedented, is the promise of accessing on other operating systems when FSTs become available. It currently supports AppleShare(tm) network file servers. However, what sets NuPak off from the rest is its ability to unpack Macintosh files compressed with StuffIT(tm), the most widely used Macintosh archival program. This can be done without waiting for Apple's FSTs.

Comments, suggestions, enhancements, and/or bug reports can be sent to the author on America Online(tm), on Internet, or via US mail. See the end of this file for additional information.

### Notes Version 2.0

---

This is it folks, version 2.0! I decided to jump the major version number because I've added along awaited feature...StuffIT support! This program can now handle Macintosh "StuffIT" archives, with either a 32-byte header (from downloading the archives from America Online) or a 128-byte Macbinary header (used on BBSs).

Another major development is speed. Version 2.0 has had its decompression routines totally reworked and enhanced. The old slowness of version 1.x is no more.

I have changed the user interface in a few places to be more friendly. The most major change is at points where the user is prompted to enter a device name. All such dialogs have been replaced with a standard dialog window allowing the selection of a device from a displayed list of available devices. This prevents the user from having to memorize the exact names of devices.

I have also added the "View Help File" option. This option brings up a help window containing the quick-help list describing the menu options in minor detail.

Version 2.0 also supports User Preferences and the creation of Binary II files, a very useful option for users of services such as CompuServe and GENie which want Binary II headers on uploaded files.

### Ghost of Features Present

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Here is a listing of what Version 2.0 can do:

- o Extract files from NuFX, Binary II, ACU, BXY, and StuffIT archives.

"New" will create a new NuFX archive, allowing you to select its filename and location before it is created. Any current archives are not closed.

"Open" will allow you to select a file, which is then opened as an archive. NuPak will automatically figure out what type of archive it is. If it can't figure out what the file format is, it will tell you so. Any current archives are not closed.

"Save" and "Save As" aren't used and are for future use.

"Close" will close the currently active window, be it an NDA, archive window, or whatever. If it is an archive window, the archive file is closed and any data buffered in memory is flushed to disk.

"Delete" allows you to select a file, which is then deleted. You are asked to confirm before the file is actually destroyed.

"Rename" will let you rename a file you select. You can change the entire path of the file, even move it between directories! The only restriction is that you cannot move it across volumes. You select the file and can then edit its full pathname. The option is abortable.

"Format" lets you format a disk. NuPak will display a list of devices from which you select the device to format. You also enter the volume name to use in formatting the disk. NuPak then tells GS/OS to format the disk.

"Erase" is just like Format, except it simply writes a new volume directory to the disk without reformatting it.

"Page Setup" and "Print" do nothing.

"Quit" will quit back to the program selector.

\*\*\*\* The Edit menu has only one option used by NuPak.

"Select All" will automatically highlight all files in the currently open archive with. If there is no archive open, or if the currently highlighted window is not an archive (ie, an NDA is in use), nothing will happen.

\*\*\*\* The Archive Options menu contains four options:

"Extract Records" will extract whatever records you have highlighted in the archive window. You are prompted first for a disk or directory to extract to.

"Add Records" allows you to add files to \*NuFX\* archives. You select the file or files to add, and then select message information. The files are then added to the current open archive, using the compression method selected under User Preferences.

"Delete Records" is not functional as of yet and therefore dimmed. In the future it may be possible to delete records within a NuFX archive.

"Rename Records" is not functional as of yet and therefore dimmed. In the future it may be possible to rename records within a NuFX archive.

\*\*\*\* The Special Menu contains four options:

"Set Preferences" will allow you to configure NuPak for your own personal tastes. You can select compression method (for use when adding to archives) and the default pathname for use in extracting. These options are saved and will be set each time you run NuPak IIgs. Note that the only compression method currently available is "uncompressed", and all other compression options are dimmed and cannot be selected.

"Make Binary II file" will allow you to make a Binary II file from a specified file. You specify the source file and a destination filename, and a Binary II archive is created using the specified destination filename and containing the selected source file.

"Make AppleSingle File" will allow you to take a selected file (of any type) and make it into an AppleSingle format file [ N/A ].

"Make AppleDouble File" is the same as above, but produces its output in AppleDouble format [ N/A ].

Now that you have a brief knowledge of the menu options, let's talk about some other basic operations.

### Working with Archives

After you select an archive with "Open" (or make a new one with "New"), a window will appear on the screen. The title is the filename and is followed by the type of archive, such as "MyArchive (NuFX)". You can have more than one archive open at once also. If you have multiple archives opened, simply click in the window of an archive to select it as the current archive. The current archive always has its window highlighted. Note that there doesn't have to be a current archive; an NDA can be the currently active window instead of an archive window.

Inside the window is a general information line right below the title. It shows the creation and modification dates of the archive, and the number of files in the archive. If the archive doesn't supply one of the dates, that field is dashed out. The other is a list control showing all the files in the archive and some information on each one. Generally it will show filename, filetype, auxtype, date when it was archived, size of the file, compression method, and how much it is compressed in percent. A scrollbar in the window allows you to scroll if there are more than 12 files.

The listing operates like this: if you click on a name, you select it and deselect all others. Dragging the mouse drags the selection bar. If you reach the top or bottom, the listing scrolls automatically. There are, however, two keys that modify the way you select items. Holding SHIFT down will select a "range" of records. For instance, if you clicked the first file, then held down shift and clicked a file 7 lines down, all files in between those, including the ends, are selected. So you would select seven records with only two clicks. And if you hold down OPEN-APPLE, clicking on a record will select that record but other records will NOT be deselected. The best way to learn this is to try it first hand by opening a big archive if you have one.

Once you select your files, you then select what to do with them. Currently the only thing you can do is "Extract" files from the archive (Open-Apple-E on the keyboard), although in the future you may be able to rename or delete files within the archive. After selecting extract, if any of the records to extract are files, you are asked to select a destination pathname (if you have a default pathname set up in the Preferences [see "Misc Options" section], this will be the initial location pointed to in the window). Choose the volume using the Disk button. This can be any writeable device, be it a floppy, hard disk, or file server volume. Next, use the Open and Close buttons to move into the desired subdirectory on the volume. Note that double-clicking a directory also opens a it. After selecting the destination pathame, you can either click the "Cancel" button to abort extraction, or click the "Extract" button to continue.

When extracting disk records from an archive, NuPak displays a window from which you select the destination device for the disk record. The window contains three controls. The first two are buttons, the default button (selected by clicking it or hitting RETURN) is "Continue". The second is "Cancel", which must be clicked to be selected. The third control is a list of devices from which you select a destination device. Up to five names are displayed at once; if there are more than five, you can scroll the listing to display the extra devices NuPak automatically makes sure you extract onto a device of the proper type to hold the disk record. If the device cannot accept the record, you are given another chance to select a device.

The program begins the extraction process and a status dialog is placed on the screen which will show the filename being extracted and the status using three "thermometers". The top thermometer is labeled "Data Fork", and fills up red as the data fork of a file (or a disk) is written out. The middle thermometer is labeled "Resource Fork" and fills up with the color blue as the resource fork of a file is

extracted. Many files do not have resource forks, and disks never do, so you probably will not see it fill very often. The final thermometer is labeled "Message" and it will fill up with the color yellow as each message is loaded into memory for you to look at. Finally, there is a "Cancel" button you can click which will abort extraction, but only between records (you cannot currently abort in the middle of extracting a single file or disk).

Several things can interrupt extraction. Errors that abort extraction include GS/OS errors (such as volume full or I/O error), unknown thread types in NuFX archives, and Out of Memory errors. If a compression method is encountered that NuPak can't handle, it will ask you what to do. You can either continue and extract the file to disk (so that you may use another program to decompress it), or skip that file. If a file being extracted already exists, you are given the option to skip that file, extract to a different filename (N/A), or delete the old file. And if messages are encountered in a NuFX archive, you are asked at each message if you want to view it, save it to disk, or both. Note that any records that NuPak never attempted to extract (if you abort or if an error aborts the extraction) are not deselected when the extraction process ends.

There are two messages that can be displayed during or after extraction of a record. The first message can appear anytime during uncompression, it is a "Data Damaged" message. This means that the data is seriously damaged and Nupak cannot continue uncompressing reliably. This error will abort the extraction process. The second error occurs at the end of extracting a record. It tells you that the "CRC of the data does not match". NuFX archives have several checks for damages, called CRCs. NuPak always calculates CRCs on its own and makes sure they match those stored in the archive. If they don't match, then the data is damaged. This error is not serious enough to abort extraction, and NuPak will continue to the next record. Text files or pictures may be intact enough to warrant keeping, but a program file will very likely not run correctly.

When all records have been extracted, you will see an "Operation Completed" message. You can click the Continue button or just press Return, and you will be returned to the "normal mode" of the program, ready to open new archives, add, or whatever you wish.

### Adding to an Archive

NuPak IIGS also offers the ability to add files to NuFX archives. In the future it will also be possible to compress files as they are added, as well as add whole disk to an archive.

Adding is functionally similar to extracting. After opening the NuFX archive to add to, select "Add" (or OA-A from the keyboard). You will be presented with a dialog where you can select files to add. The Disk, Open, and Close buttons function normally. To select files to add, use the mouse button and the SHIFT and OPEN-APPLE keys as outlined in the previous sections. When finished selecting, click Accept to continue or Cancel to abort.

After selecting your files to add, you are next asked to select any message types to add. Since this is not yet completed, just click "Do It" to continue.

From here on the adding process is just like extracting. The status window has three thermometers that fill up as the files are added, and errors behave the same way as in extraction.

### StuffIT Support

Version 2.0 of this program offers support for StuffIT archives, which is pretty much the standard for the Macintosh, on BBSs and on America Online.

NuPak IIGs can handle StuffIT archives in two formats. The first is the archive with a 32-byte header. This format is used when downloading the archives from America Online using the Apple II (or IIGS) version of the program. The other is the archive with a 128-byte Macbinary header. You will find archives this way on local BBSs and on other information services. Please note, however, that the format

of the archive is transparent to you; the program senses automatically and adjusts itself.

Extracting from StuffIT files is very much like normal extraction procedures with a few minor changes:

- o Filenames are converted to ProDOS format IF NEEDED. Which means if an HFS FST becomes available, you can unpack right to an HFS disk with no filename translation.
- o Directories in an archive don't list the contents of the folder, only the folder itself. The folder's size will be the size of all its contents. Extracting the directory extracts everything inside as well.
- o Filetypes are translated if necessary into ProDOS filetypes. As of this writing, the following HFS filetypes are converted:

```
"TEXT" becomes "TXT"
"APPL" becomes "S16"
"CDEV" becomes "CDV"
"SIT!" becomes "LBR", subtype $0000
"PIT!" becomes "LBR", subtype $0000
```

All other filetypes are extracted as "BIN" files.

- o At this time the date IS NOT PRESERVED during extraction. When I get info on the date format on the Mac I'll fix this.

If you experience any problems with unStuffing, PLEASE TELL ME! This has never been done on an Apple IIgs (or any other Apple II) before, and I'm not an expert on Stuffit archives.

### Miscellaneous Options

#### Format/Erase:

These two options allow you to format or erase a disk. Formatting physically reformats a device, while erasing simply erases the main directory and makes the disk look fresh, but doesn't physically reformat (meaning the data is actually still on the disk). Both options work the same way. NuPak will display a window (almost exactly like the window when extracting a disk from an archive) with four controls in it. The first two are "Continue" and "Cancel" buttons. They are pretty self explanatory, but you should know that hitting RETURN selects "Continue" by default. You still have a second chance to cancel after that though, so don't get excited if you mess up.

The third control is a list of all available devices on your system, from which you select the device to format/erase. Only five names are displayed at once; additional names can be reached by scrolling the listing with the scrollbar. If there are five or less names, the scrollbar is inactive and doesn't function.

The fourth and final control is an editing line directly below the device name listing. Here, you enter the name to use when formatting or erasing the selected disk. Click in this box brings up the cursor, as will hitting any key except RETURN (which of course selects "Continue"). The default name here is "Untitled", just like in the GS Finder.

Once you have selected a device and entered a volume name, hit RETURN or click "Continue" to go to the GS/OS format menu. I won't explain the GS/OS menu, as it's the same thing as what comes up in the Finder when you select Format or Erase. You can also Cancel from here if you change your mind.

#### Delete/Rename:

These two options allow you to delete or rename any file. For delete, you are prompted to select the file to delete from a list of files. Clicking "Open" or hitting RETURN will continue. You are then asked to confirm the deletion. Here,

hitting RETURN will select "Cancel". If you wish to continue, click the "Delete" button. The file will be deleted if possible.

The rename option works similarly. After selecting the file to rename, you are prompted to enter the new name for the file. The default pathname is the current pathname. Note that you can actually rename a file to a different directory ON THE SAME DISK ONLY, as well as just rename the file itself. To rename a file to a different directory, leave the filename itself alone, and just edit the appropriate directory name(s) in the displayed pathname. After you enter the new name, click "Rename" to continue, or press RETURN or click "Cancel" to cancel the option and leave the file alone.

### Preferences:

This option (under the Special menu) allows you to set certain defaults which are set every time you run NuPak IIGS. This option displays a dialog, from which you can select compression mode and a default pathname.

To select the compression mode, click on the appropriate "radio button" to select that option. Only one option can be selected at once...selecting a mode deselects all other automatically.

The default pathname is simple to edit. Just type in the full GS/OS pathname of where you will most often put extracted files. Leaving this name blank tells NuPak to not bother with a default pathname. What NuPak does with the default is set the path to your default pathname right before putting up the "Select Pathname" extraction dialog, so that you can just hit "Extract" right away and get going, or select another path. NuPak does not skip the selection so that you can still select a path other than the default pathname.

For saving your preferences, you have three options. Hitting RETURN or clicking "Cancel" aborts the changes you have made and leaves the preferences alone. Clicking "Make Changes Temporary" will change the preferences, but the changes will not be saved back to disk. Use this, for instance, to temporarily use a new default path or a different compression mode. And finally, if you select "Make Changes Permanent", NuPak will not only change the preferences, but will save them back to disk WHEN YOU QUIT THE PROGRAM. If you Ctrl-Reset and reboot out of NuPak without quitting, your preferences are not saved, so be careful!

### Make Binary II File:

The final option is Make a Binary II file. Many information services require uploaded files to be in Binary II format.

First, you are prompted for a source file to make the Binary II file with. Select the file from the list and click "Open" to continue or "Cancel" to abort. Second, you are prompted for the filename to use in creating the Binary II file. Select an appropriate directory, type in a filename, and click "Save" to continue or "Cancel" to abort.

NuPak will now make your Binary II file. What happens is the output file is created and a Binary II header written to it. Then the source file is copied byte-for-byte into the output file, creating your Binary II file. As this process continues, you can watch the progress in a window like that used during extraction. A thermometer will fill red as the process continues.

NOTE: You may have heard of "BXY" files. Some services prefer this format of file. A BXY file is simply a Binary II file containing a NuFX archive. To make a BXY file, simply create a Binary II file using a NuFX archive. You can either do this to an existing archive, or create a new one within NuPak, add files to it, save it, and then convert it to BXY.

### Conclusion

Now you have mastered NuPak IIGs and you should be ready to use the program the next time you wish to pack or unpack an archive. Keep an eye out for future revisions as they are just around the corner. You may have also noticed new options,

yet to be integrated into the program, in the menus. We are adding in these options continuously, with more important options being written first.

It is hoped that NuPak IIGs will bring you hours of packing or unpacking enjoyment. Archive away!!

Where to get ahold of us

You can reach Frontier Technologies in two ways:

America Online: Frontier T

US Mail : Frontier Technologies  
P.O. Box 165  
Grosse Ile, MI 48138-2009

The author of NuPak IIGS can be reached in either the above ways or at the following additional electronic mail addresses:

America Online: Joshua T6

Internet : joshuat2@nucleus.mi.org

NuPak IIGs is a trademark of Frontier Technologies, ShrinkIT and NuFX are a trademark of Paper Bag Productions, GS/OS, AppleShare, and Macintosh are trademarks of Apple Computer Incorporated, America Online, ACU and AppleLink are a trademark of Quantum Computer Services, Stuffit was developed by Raymond Lau.

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DOCUMENT odomnda
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Odometer Mouse v2.20
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June 12th, 1992
Written by Paul Meyers
HipCoders (C) 1992 ShylarWare

Here it is again. You saw the original in the Incider/A+ June 1992 issue, the mouse odometer for the Macintosh. Now, here's the best, the GS version! This is a handy dandy NDA that tracks how far your mouse travels. It measures in pixels, inches, feet, miles, centimeters, meters, and shylars. Best of all, its freeware. If you have any comments, please contact me. I don't care if you call me at 3 in the morning (chances are, I'll probably still be awake, and would welcome the company).

Paul Meyers
910 Century Ave. SE
Palm Bay, FL 32909
(407) 727-3878

C.Meyers1 on GENie

Shylar: A person who uses big long complex words, has no idea what he's talking about, and makes a fool of himself in the process.

\*\*\*\*\* II INFINITUM \*\*\*\*\*
(consider the alternative)

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DOCUMENT ogre.ref
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OGRE
Player Reference Card
Origin
Systems Inc.
340 Harvey Road, Manchester, N.H. 03103-3317
Apple // version, 64K.

Cleaved/Cracked by: The Talisman/First Class
Supported/Supplied: Dr. Fate & The Doc/EA
Documentation by : The Doc/Elites Anonymous

TO BEGIN PLAYING OGRE
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- 1. Place the OGRE disk, label side up, in the disk drive and turn on the power.
2. Once past the title page, a dialogue box will prompt for the type of input device: K-keyboard, M-mouse, or J-joystick. The options may vary depending on what input devices are installed. The desired device is selected by pressing the appropriate key. In addition, the joystick can be selected by moving it or pressing its button.
3. OGRE will start in the Field Editor, from where the player can either continue a previously saved game or start a new game.

OGRE CONTROL
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Making Choices. Choices are made in OGRE through the use of the pointer, a black, triangular object that can be moved around with a mouse, joystick or keyboard. A mouse (if available) or joystick is highly recommended for playing OGRE.

OGRE can be played using the keyboard to move the pointer and to simulate 'clicking' or pressing a button, or it can be played entirely with 'pointing', 'clicking' and 'dragging' techniques using a mouse or joystick.

Clicking. Some selections in OGRE are made by first moving the pointer to the desired object or option, then pressing and quickly releasing the button. This is referred to as clicking. When playing with the keyboard, typing RETURN will simulate pressing or releasing the button.

Dragging. Another method of designating choices is by dragging. Dragging is accomplished by placing the pointer over the desired object then pressing and holding the button while moving the pointer to another location. Releasing the button completes the drag. If playing with keyboard control, typing RETURN will simulate holding the button down. When the pointer is in the desired location, typing RETURN again will release the button and complete the drag.

Pulling down the Menu. In the upper right corner of the screen are two menus that can be pulled down. The first is titled 'Menu' and the second is 'OSI'. To pull down either menu place the pointer over the desired title and press and hold the button. The selected menu title will become highlighted and a list of commands will appear beneath the title. Releasing the button without moving the pointer will cause the menu to disappear. The menus can also be pulled down by typing M (on a //e or //c) or SHIFT-M (On a //, //+ or //!).

Choosing Menu Commands. Menu commands are chosen by using the dragging technique. Position the pointer over the selected menu title and pull

## Apple II Computer Info

down the menu by pressing the button. While holding the button down, drag the pointer to the desired menu command. As the pointer moves through the menu, each command is highlighted in turn. When the desired command is highlighted, releasing the button selects it. If you change your mind about choosing a command, move the pointer off the menu, or back up to the title, then release the button. Nothing is chosen unless you release the button while one of the commands is highlighted.

**Dimmed Commands.** When 'Menu' is pulled down, some of the commands are less distinct than others. These less distinct commands are referred to as dimmed. Dimmed options are ones that cannot be used at that time.

**Dialogue Boxes.** Whenever additional information is required to complete a command, a dialogue box appears. Dialogue boxes usually have special areas called 'buttons' to click, such as 'OK' or 'Cancel'. Sometimes, they present further options for selection. Dialogue boxes are also used to warn you if you're about to do something that is irreversible. If keyboard control is used, the pointer will automatically move to a dialogue box anytime one appears. Typing O or V will move the pointer to the 'OK' button and typing RETURN will press it. Typing Ctrl-O or Ctrl-V (or button 1 on the joystick) will automatically invoke the 'OK' button.

**Control Keys.** In most cases, pressing single keys, such as O or V, will move the pointer to a command area (i.e. the 'OK' button, or the 'Menu') without invoking that command. The command must then be invoked by a second keystroke, such as typing RETURN. This two-step process is a safety precaution against accidentally choosing the wrong command. This precaution can, in most cases, be overridden by pressing the CTRL key while simultaneously pressing the desired command key. This will automatically invoke the desired command without requiring the additional keystroke.

### LOADING and SAVING GAMES

A previously saved game can be loaded at any time. If a battle is in progress when another game is loaded, the current game will be lost unless it is saved first. To load a game, select "Load a Game" from the Menu.

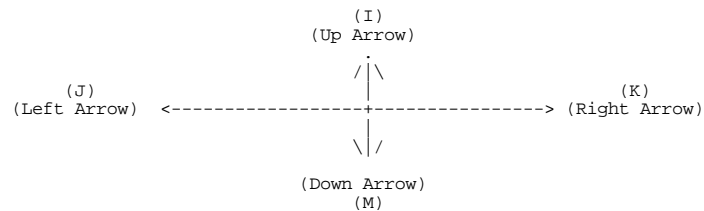
A dialogue box will appear from which one of five saved games can be selected. Select the desired game and then click 'OK'.

The selected game will be loaded in and the battle will proceed from where it was saved.

The current status of a battle can be saved for continued play later by selecting "Save a Game" from the Menu.

A dialogue box will appear, from which one of five games can be selected for saving. Select the desired game and then click 'OK'. The game will be saved and play can continue.

### MOVEMENT



```

< slow pointer movement    > fast pointer movement
,                          .
  
```

The movement keys are active only when the keyboard is selected for input. Apple //, //+, and /// use IJKM only. //e and //c use arrows only. All other keyboard shortcuts are active at any time during play, except where noted.

| Defender:    | Defender Attributes: |                 |              |          |
|--------------|----------------------|-----------------|--------------|----------|
|              | Defense Strength     | Attack Strength | Attack Range | Movement |
| CP           | 0                    | 0               | 0            | 0        |
| Heavy Tank   | 3                    | 4               | 2            | 3        |
| Missile Tank | 2                    | 3               | 4            | 2        |
| Howitzer     | 1                    | 6               | 8            | 0        |
| GEV          | 2                    | 2               | 2            | 4-3      |
| INF3         | 3                    | 3               | 1            | 2        |
| INF2         | 2                    | 2               | 1            | 2        |
| INF1         | 1                    | 1               | 1            | 2        |

### Ogre Mark III and V Attributes:

| Part:         | Quantity |    | Defense Strength | Attack Strength | Attack Range |
|---------------|----------|----|------------------|-----------------|--------------|
|               | m        | v  |                  |                 |              |
| Missiles      | 2        | 6  | 3                | 6               | 5            |
| Main Battery  | 1        | 2  | 4                | 4               | 3            |
| Secondary Bat | 4        | 6  | 3                | 3               | 2            |
| Antipersonnel | 8        | 12 | 1                | 1               | 1            |
| Treads        | 45       | 60 | 1                | 0               | 0            |

The Mark V is a larger, more formidable version of the Mark III.

### GENERAL

|         |                                                                   |
|---------|-------------------------------------------------------------------|
| RETURN  | used to simulate holding and releasing a joystick or mouse button |
| A       | Moves pointer to map scrolling arrows                             |
| M       | Moves pointer to menus and pulls one down (//e, //c only)         |
| SHIFT-M | Moves pointer to menus and pulls one down (//, //+, ///)          |
| D       | Toggles Drop/Drag mode (active in Field Editor only)              |
| 1-0     | Selects piece number 1-0 (active in Field Editor only)            |
| U       | Moves pointer to Undo button (or Clear button)                    |
| Ctrl-U  | Invokes Undo function (joystick/mouse only)                       |
| C       | Moves pointer to Clear button (or Undo button)                    |
| Ctrl-C  | Invokes Clear function (or Undo function)                         |
| F       | Moves pointer to Fire button                                      |
| Ctrl-F  | Invokes Fire function                                             |
| S       | Moves pointer to Split button                                     |
| Ctrl-S  | Invokes Split function                                            |
| G       | Moves pointer to Group button                                     |

```
Ctrl-G      Invokes Group function
R           Moves pointer to Range button
Ctrl-R      Invokes Range function
D           Moves pointer to Done button
Ctrl-D      Invokes Done function
E           Examine and/or select piece pointed to
           (keyboard control only)

T, SPACE BAR, or
joystick Button 1 Invokes targetting with/at selected defender
```

DIALOGUE BOX

(Note:  
If keyboard is being used, pointer goes to dialogue box automatically.)

```
O           Moves pointer to OK button
Ctrl-O or joystick button 1 Invokes OK button
C           Moves pointer to Cancel button
Ctrl-C or ESC Invokes Cancel function
```

USING THE KEYBOARD SHORTCUTS

Here are some examples of how keyboard controls can be used to speed up game play.

Ogre attacking defender:

1. Move the pointer to the desired defender.
2. Press the SPACE BAR, T, or joystick button 1 to invoke the targetting dialogue box. If the defender is within range the dialogue box will appear.
3. Select the desired weapons then type Ctrl-O for 'OK'.
4. Type Ctrl-F to fire.

Splitting Infantry:

1. Move the pointer to the desired infantry.
2. Type E to examine the infantry's statistics. The main purpose in this is to select the infantry without having to type RETURN twice.
3. Type Ctrl-S to split the infantry.

Ranging a unit:

1. Move the pointer to the desired unit.
2. Type E to examine/select the unit.
3. Type Ctrl-R to view the unit's range.
4. Type another key to continue.

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DOCUMENT ogre.strategy.1
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[=====]
[
[           Ogre: Strategy and Notes
[           Part One
[
[=====]
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Note: What follows is an exact duplicate of the Second of the two books that come with the game Ogre. Enjoy! From L.S.D.!

[==ENCOUNTER==]

The Command Post was well guarded. It should have been. The hastily constructed, unlovely building was the nerve center for Paneuropean operations along a 700-kilometer section of front--a front pressing steadily toward the largest Combine manufacturing center on the continent.

Therefore, General DePaul had taken no chances. His command was located in the most defensible terrain available--a battered chunk of gravel bounded on three sides by marsh and on the fourth by a river. The river was deep and wide; the swamp, gluey and impassable. Nothing bigger than a rat could avoid detection by the camera icons scattered for sixty kilometers in every direction over land, swamp, and river surface. Even the air was finally secure; the enemy had launched at least fifty heavy missiles yesterday, leaving glowing holes over half the island, but none near the CP. Now that the jamscreen was up, nothing would get even that close. And scattered through the twilight were the bulky shapes of tanks and Ground Effect Vehicles--the elite 2033rd Armored, almost relaxed as they guarded a spot nothing could attack.

Inside the post, too, the mood was relaxed--except at one monitor station where a young lieutenant watched a computer map of the island. A light was blinking on the river. Orange: Something was moving out there where nothing should move. No heat. A stab at the keyboard called up a representation of the guardian units...not that any should be out there, thirty kilometers away. None were. Whatever was out there was a stranger--and it was actually in the river. A swimming animal? A man? Ridiculous.

The lieutenant spun a dial, moving a dot of white light across the map and halting it on the orange spot with practiced ease. He hit another key, and an image appeared on the big screen...pitted ground, riverbank...and something else, something rising from the river like the conning tower of an old submarine. But he knew what it really was, he just could not place it...and then it moved. Not straight toward the camera icon, but almost. The lieutenant saw the "conning tower" cut a wake through the rushing water, bounce once, and begin to rise. A second before the whole shape was visible, he recognized it--but for that second he was frozen. And so thirty men were suddenly brought to heart-pounding alert, as the lieutenant's strangled gasp and the huge image on his screen gave the same warning...OGRE!!

Less than three minutes had passed. After the initial seconds of panic, the Command Post had settled down to business. Instead of masterminding an attack, it was fighting for its own life. Men spat orders into throat mikes, eyes on the big screen. The orange dot that was the Ogre was six kilometers closer, but green sparks were moving out to meet it--the men and machines of the 2033rd.

The general entered at a run. "Get me a picture!" he ordered. The screen flickered, moving dots gave way to an image. The huge machine rumbled over the landscape, incredibly fast for something so huge. Guns bristled. The tower top rose twenty meters high.

"A Mark V," said the general. "They really want us, all right. Who had the watch?"  
 "I...I did, sir."  
 "Where'd it come from?"  
 "Sir, the river. I got a movement indication from the center of the river--I saw it come up. Nothing before that. I swear it, sir."

The general started to reply, then checked himself. Suddenly, he stepped to the keyboard. The map reappeared (the orange dot was closer) and shrank. They saw their island from fifty--a hundred--kilometers in the air.

The general traced the river course. "Here...and here. Yes, they could have done it."

"Sir?"  
 "Underwater. It went into the ocean here. Through the delta--up the river and out. Very clever. I wonder...No, they just outfoxed us. As you were, son."

\*\*\*\*\*

The Ogre was twenty kilometers away. On the big map, a ring of green around it showed missile tanks ready to move in; more green dots, visibly moving, were GEVs harassing the enemy machine. As they watched, one GEV light went out. Another stopped moving and began to blink plaintively. The Ogre moved toward it.

\*\*\*\*\*

Twelve minutes since the shooting had started. The Ogre was fifteen kilometers away. Faced by eight missile tanks, it had slipped to the side; three of the tanks were gone, and two others had never gotten in range. But the Ogre had paid; it was moving slowly now. On the big map, three more green dots moved toward it. The heavies were going in.

"Mercier to CP. We've spotted it." The general punched for an image. There it was. Four of the six missile tubes were empty; two of the "small" guns along one side were scrap. Loose tread flapped; damaged motors sparked. Its guns moved and flashed. Then the screen dimmed as a nuclear warhead hit the Ogre. The image returned. There was a new crater along one of the armored sides--nothing more.

"Get those guns, Commander," the general's voice was calm; Mercier's reply was equally mild.

"Trying, sir. It ducks." Then jubilation.  
 "Good shot, Fair! You Got it! Hit the misbegotten pile of junk." The big screen was completely dark. It came on again, from a different angle. The Ogre was hurt. One of those big front guns was gone--completely. The other was clearly wrecked.

"Good man, Mercier! Who did that? Commander Fair?...Mercier?...Fair?..."

"This is Kowalski in 319. It got Fair about three times. I can't find Mercier."

On the screen, one heavy tank faced the Ogre. Two GEVs swept in and out. Missile tanks and infantry moved closer--too slowly.

"Here it comes." Kowalski--commander of the last heavy. "You'll have to shoot better than that, you gadget...GOTCHA! Took out its..."

Static. Then a new voice. It sounded quite human. And amused.  
 "Gotcha."

\*\*\*\*\*

The Ogre rolled on. It was within howitzer range now, and the big missile cannons were scoring on it. Its missiles were gone, but it still had guns. The infantry had met it--finally--but powered armor notwithstanding, they

were dying as fast as they came in.

"It's committed," said a big major, his eyes on the screen. "It can't afford to stop now." The general nodded.

"Get behind it," he said into his mike. "It's after the howitzers. They're killing it."

In the flame-lit darkness, men heard the scrambled transmission. Men, and one other. The Ogre took in the surrounding terrain, considered the location of the Command Post and the howitzers, watched the movement of its enemies, weighed the order it had decoded.

"Behind..." it thought. "They have made a mistake." It chuckled.

\*\*\*\*\*

It was very close now. Had the Command Post had windows, the men inside could have seen the explosions. The Ogre was moving very slowly now, but two guns still spoke. It no longer dodged; it was a juggernaut, coming straight for its target.

Inside, the general's face was gray. He spoke to no one in particular. "Smart. That thing is smart." A scream still echoed in the big room--the scream from the last missile tank commander. Out of Ogre's path, safe behind a three-meter ravine, lashing out at the metal giant--and the thing had changed course, ignoring the howitzers, walking over the gully like it wasn't there, crushing the smaller tank. Two GEVs had died a second later; their speed was their best defense and the Ogre had outguessed them. The side trip had given the howitzers a few more minutes; then they, too, had died.

The screen showed the Ogre grinding on--a shambling monster, barely able to move. "The treads...hit the treads," whispered the general. "Stop that thing." The image changed, and he saw what was left of his force; three GEVs and a handful of infantry.

And the Ogre rolled on...

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[=====]  
 [Strategic Suggestions for Alliance Commanders]  
 [=====]

Basic Strategy  
 =====

The harsh truth is that you must \*always\* take whatever steps are necessary, no matter how drastic, in order to hold your ground and to preserve your Command Post. If your Command Post is lost, battle statistics suggest that the remainder of your force will also be lost, as will the Conflict Zone itself.

Successful defense against an Ogre means meeting two basic goals: Disarming the Ogre and Immobilizing the Ogre. Any plan which meets these two goals is a good plan! Alliance commanders have devised a wide variety of battle plans which both disarm and immobilize Ogres. Though battle plans or strategies have almost limitless variety, most successful plans have certain basic features in common. For simplicity's sake, three basic defensive points your plan should observe are:

- 1) Delay the Ogre as soon as possible! As it starts its invasion, an Ogre is as fast or faster than all Alliance infantry squads, missile tanks, and heavy tanks. There is a very real danger of the Ogre outrunning the first wave of defenders it meets. If this happens, second wave forces will have to bear the brunt of a full-strength Ogre attack. To prevent this sort of Ogre maneuver, most successful defense strategies call for forces to strike early and hard at the Ogre's tread sections (giving secondary attention to knocking out the Ogre's longer range weapons). We must be candid: opening attacks against the Ogre's mobility will cost you casualties. Failure to slow the



Ogre early on, though, will cause even heavier losses later on. As a general rule, try to slow the Ogre's speed before it has progressed more than 1/3 to 1/2 of the way to your Command Post. To let the Ogre proceed at full speed beyond this point is to invite disaster.

2) Eliminate Major Ogre Weapon Systems. As the Ogre approaches the midpoint of the Conflict Zone, Alliance commanders usually concentrate on knocking out its most powerful weapons. The rationale is that, from the midpoint of the Conflict Zone, the Ogre's longer range weapons are almost within range of your Command Post. You need to prevent a long range attack, and instead force the Ogre to travel the full length of the Zone in its attempt to destroy your Command Post. In this way, you force the Ogre to expose itself to defensive fire which it cannot easily return. Appropriate targets would be (in descending order of importance): Ogre Missiles, main batteries (if any remain), and secondary batteries. While your forces "whittle away" at the Ogre's weapons, it is important to continue your attack against the Ogre's treads. Remember, the Ogre can hurt you both with its weapons and its bulk.

3) Bring the Ogre to a Standstill. when an Ogre is slowed and mostly disarmed, commanders usually make an immediate and concerted effort to shoot away the Ogre's remaining tread sections. Naturally, the idea is to bring the Ogre to a halt before it has a chance to roll over your Command Post. Oddly enough, inexperienced commanders sometimes overlook this point; it seems they become so preoccupied with fighting the Ogre's weapons that they forget the machine is about to crush them. This is a fatal mistake. A key point to remember is this: An utterly disarmed but mobile Ogre can still accomplish its combat mission (i.e., destroying your Command Post). The same is not (usually) true of a completely immobilized Ogre. Let these simple truths guide you as you set your combat priorities.

[=====  
 [Three Approaches to Defense]  
 =====]

As mentioned above, Alliance commanders have been inventive in creating defenses which can defeat Ogres. We hope you will carry on in this tradition of creativity. However, we feel your training will not be complete until you are exposed to what feel are the three "classic" Alliance defense strategies.

The Multiple Howitzer Defense  
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The basic concept behind this defense is easy to grasp. You build your entire defense around a sizeable number of our most powerful and longest range weapons: namely, the howitzers. By placing three, four, or more howitzers so that their fields of fire and reinforce each other, you create a "Howitzer Wall" through which the Ogre must pass if it hopes to reach your Command Post. The theory is that the Ogre can reach your Command Post only by exposing itself to punishing fire from several sides. Naturally, the Ogre will try to eliminate your howitzers as quickly as it can. If your howitzers are correctly placed, though, the Ogre will have to knock out more than howitzer in order to clear a path toward your Command Post. In the time it takes the Ogre to do this, the outlying Howitzers and supporting mobile armor and infantry should have a chance to harass the Ogre, and, it is hoped, bring it to a standstill. Three Key Points determine the success of the Multiple Howitzer Defense:

First, supporting mobile armor and infantry must eliminate many of the Ogre's longer range weapons before the Ogre reaches the howitzer field. If this point is not observed, the Ogre will have a relatively easy job of rupturing your howitzer wall. If the wall collapses too quickly, your Command Post will soon be destroyed.

Second, proper placement of howitzers is critical. You must be careful to make sure that the howitzer wall surrounds your Command Post with a thick, dense cushion of defensive fire. If you inadvertently leave a gap or thin spot in the wall, the Ogre will spot this flaw and take advantage of it. You must also design your wall so that all howitzers share an equal part of the wall's defensive load. If you happen to overload a single howitzer, the Ogre will recognize the imbalance and focus its attack on the overstrained howitzer. When that howitzer falls, your entire defense collapses.

Finally, your reserve support armor and infantry must be prepared to augment (and to complete) the howitzer's attacks. Ogres are enormously sturdy vehicles, and it is foolish to believe that howitzers alone can stop them. As the Ogre and howitzers lock in battle, it is imperative for support forces to press home the attack (especially the attack against the Ogre's tread sections). If support forces hang back, they are likely to be overrun by a badly damaged but still mobile Ogre.

Comments: The Multiple Howitzer Defense can be used against both Mk III and Mk V Ogres, but it is much more likely to succeed against the Mk III version. This is true primarily because of the Mk III's relative shortage of long range weapons (the Mk III carries only one main battery and two missiles, while the Mk V carries two main batteries and six missiles). Against a Mk V Ogre, the multiple howitzer defense does not fare so well. The larger tank is all too likely to evade or out-gun your first wave defenders, and then is apt to approach your howitzers will full speed and a full complement of long range weapons (not a desirable scenario).

Be aware that howitzers are very expensive weapons. Thus, when you choose to use a multiple howitzer defense, you must be ready to accept a tradeoff in the side of your mobile armor support force. You must also be prepared to manage that small support force with consummate skill.

The GEV-Centered Defense  
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The GEV-centered defense is built around a mobile armor force composed primarily of GEV's (some commanders go so far as to use nothing but GEV's!). The GEV may seem an unlikely vehicle upon while to base a defense, but we must not sell the GEV short. While it is not heavily armed nor heavily armored, the GEV has a tremendous advantage in sheer speed.

A basic axiom of defensive warfare is that the defender must somehow direct more fire toward an opponent than the opponent can return. With this simple axiom in mind, the importance of the GEV's speed advantage over the Ogre becomes clear. Swarming GEV attack groups can close on the Ogre, fire their weapons, and then escape to relatively safety--all within the time it takes a conventional vehicle to close and fire. At first, not all GEVs will escape the Ogre's pursuit. But if GEV attacks are concentrated early enough, the Ogre's ability to pursue will soon be cut down. Once the Ogre's maneuvering speed is cut back, its weapons systems become fairly easy prey for the remaining GEVs (and other support forces). Finally, when the Ogre is disarmed (or all but disarmed), remaining Alliance forces the Ogre's tread sections without facing much return fire. If the attack sequence is well-timed, the Ogre will be brought to a halt before it can touch the Command Post

Key Points: By attending to several key points you can help your chances of making a successful GEV-based defense.

The Defensive "Scramble:" To prepare for Zone defense, your GEVs should be spread evenly across an intercept line placed fairly close to the mouth of the Conflict Zone. We stress the need for even distribution of forces on the line. If you leave thin spots in your defensive line, the Ogre will discover and take advantage of them. Instead, your aim should be to place your GEVs such that most of them can intercept an encroaching Ogre soon after an invasion begins.

Early Attack: When your frontline GEVs make initial interceptions, their fire should be directed almost exclusively toward the Ogre's tread sections (with perhaps a bit of fire aimed toward the Ogre's main batteries). During these early attacks, your GEVs primary goal must be to reduce the Ogre's speed by one third (or more). Attacks on treads will be costly in terms of lost GEVs; however, failure to slow the Ogre early on can prove much more costly in the long run. Resist the temptation to make premature attacks on Ogre weapons. Once an Ogre's pursuit speed is cut down, it is much easier for GEVs to eliminate weapons without facing severe return fire.

Middle Phase of Attack: After the Ogre's speed has been cut by 1/3, your forces should shift the focus of their attack to the Ogre's weapons systems.

The aim of the middle phase of attack is to eliminate almost all of the Ogre's weapons systems (leaving it armed with nothing more than its antipersonnel guns and perhaps one or two secondary batteries). The idea is to prevent the Ogre from destroying your Command Post with a "cheap shot" taken at long range; instead, you need to force the Ogre to expose itself to a

prolonged attack from your GEVs and infantry.

Final Phase of Attack: When the Ogre approaches your Command Post, it is time to redirect your focus of fire once again. Whether or not your middle phase attack on the Ogre's weapons was successful, you must now throw all the firepower you can muster against the Ogre's tread sections. Recognize that a disarmed but mobile Ogre is still a formidable weapon. If, at this stage in a battle, you have lost a great number of GEVs, infantry forces become critical. Infantry must present solid resistance to the approaching Ogre, and must press home the attack against its treads. Infantry casualties will likely be very high. A spirit of sacrifice is essential. In fact, if your situation becomes desperate, you may need to sacrifice GEVs or other vehicles by ramming the Ogre (to destroy its few final treads). If you must use (fatal) sacrificial maneuvers, make sure they prevent the Ogre from crushing your Command Post. Otherwise, we suggest you preserve your armor units in the hope of destroying the Ogre before it can escape.

Comments: the GEV-centered defense is built on three distinct phases: First, slowing the Ogre somewhat; second, disarming the Ogre almost completely; and third, bringing the Ogre to a complete standstill. It is very important to execute each phase in a crisp, disciplined way. When GEV-centered defenses fail, it is often because the defensive commander fails to pay attention to the basics. For example, the commander fails to slow the Ogre early on, and hence loses too many GEVs to follow through with later phases of his attack. Or the commander continues the middle phases of his attack too long, only to see a disarmed but quite mobile Ogre flatten his Command Post. If you use the GEV-centered defense, do you best to complete each phase of your attack in the proper sequence.

Commanders should be wary of the Ogre's attack algorithms. We have reason to believe the Ogre can recognize a GEV-centered defense, and that is it programmed to do all it can to disrupt early phases of the GEVs attack. For example, an Ogre may respond to early GEV attacks by moving laterally or rearward to pursue escaping GEVs. If the Ogre employs these tactics, it is important for you to regroup your forces and calmly proceed with your battle plan. If you let yourself be thrown by unpredictable moves on the Ogre's part, you are apt to lose sight of your combat goals. Steady nerves and sound tactics can help prevent from happening.

On a tactical level, we suggest you pay close attention to the escape paths your GEVs take after they first fire on the Ogre. All too often, commanders take the unsophisticated approach simply of ordering their GEVs to get as far from the Ogre as possible. The problem with this approach is that it also tends to leave small groups of GEVs isolated far from each other. This approach can even leave GEVs trapped behind the Ogre. Beware such "divide and conquer" ploys on the part of the Ogre. When your GEVs escape, they need to think not only of temporary safety, but also of second and third attacks to come!

The GEV-centered defense can be very successful against both the Mk III and Mk V Ogres. Be aware, though, that the defense requires discipline, insight, and a keen sense for split-second timing.

[=====  
[End Part One]

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[=====]
[
[           Ogre Strategy and Notes
[           Part Two
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[=====]
[           [Ogre Strategy and Notes Continued]
[=====]
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The Mixed Defense  
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The Mixed Defense does not rely on any one class of armor or artillery; instead, it is built around a varied armor force. Like the GEV-centered defense, the Mixed defense calls for initial intercept forces to slow the invading Ogre. Once the Ogre is slowed, though, the Mixed defense adopts a unique attack style of its own. The Mixed defense's flexibility allows it to throw a variety of weapons at the Ogre simultaneously.

Typically, defensive actions start with a group of GEVs attempting to shoot away about one third of the Ogre's tread sections (the "slow the Ogre" phase of the attack). The first wave(s) of FEVs are backed up by a mixed force of heavy tanks (placed closer to the Combine lines) and missile tanks (placed closer to the CP). This mixed force is very flexible and can attack both the Ogre's weapons systems and its tread sections. Finally, the "front" mixed force is backed by an additional "rear" mixed force, typically formed of missile tanks, missile howitzers, and infantry (some commanders choose additional armor vehicles in lieu of howitzers). The "rear" mixed force surrounds the Command Post with a protective ring of fire, and does its best to stop and/or disarm the (presumably) badly damaged Ogre as it lumbers toward the Command Post.

The precise strategy of the "rear" mixed force is to some extent determined by the condition of the Ogre as it draws close to the Command Post. If the Ogre has few tread sections remaining, the "rear" force can attack the Ogre's weapons first, and then attack tread sections at the penultimate moment. Most typically, the Ogre arrives with few weapons remaining, but with a (fairly) healthy complement of tread sections intact. In this case, the "rear" force throws almost all its firepower at Ogre tread sections, addressing Ogre weapons later on.

The Mixed Defense relies on the same principle which makes the GEV defense work; namely, striking the Ogre with a greater level of fire than the Ogre can return. The GEV defense accomplishes this goal by using fragile but fast vehicles which can fire on the Ogre and then escape beyond its range. The Mixed defense accomplishes this goal by using all available units which may vary in defensive firepower and firing range. Just as the GEV defense forces the Ogre to decide which group of GEVs to pursue, the Mixed defense forces the Ogre to decide which types of vehicles to pursue. The main idea is to force the Ogre to make so-called "no-win" decisions, and to hit the Ogre with crippling fire in the process.

Key Points: Many of the comments made about the Howitzer-and-GEV-centered defenses apply for the Mixed Defense. We mention a few specific items the Mixed defense commander must watch.

Early Attack: It is very important to slow the Ogre before it crosses too deeply into the Conflict Zone. The Mixed defense is in some ways more sensitive to this problem than the GEV defense. If the Ogre runs into your "front" mixed force at full speed, there is a real possibility that it will sweep past your heavy tanks and then win the "footrace" to your Command Post. Placement of the "front" mixed force is critical. If the force is placed too far forward (toward Combine lines), your first wave of interceptors will not have enough time to slow the Ogre. If your "front" mixed force is placed too far to the rear (toward your Command Post), you will miss valuable opportunities to make the Ogre pay for every one of its forward movements. Experienced commanders try to arrange the first, second, and third wave forces so that the Ogre is under continuous attack (i.e., there are absolutely

no moments of respite for the Ogre).

Middle Attack: it is important to keep your "front" and "rear" mixed forces truly mixed. While we do not fully understand the Ogre's attack algorithms, we believe the Ogre usually had a harder time dealing with varied types of vehicles as opposed to clusters of identical vehicles (GEVs excepted). The Mixed defense derives much of its flexibility from striking the Ogre simultaneously with short and long range weapons. Don't lose this advantage when you don't have to. Be wary of Ogres which seem to break off their attack and instead maneuver diagonally across the Conflict Zone. Experience has shown that this is often an Ogre ploy calculated to draw out your forces, separating them into groups of fast, faster, and fastest vehicles. Once the Ogre separates your force into distinct classes of vehicles, it has a much easier time methodically eliminating one class of vehicle at a time.

Final Attack: As mentioned under other defense sections, above, you must have a keen sense of timing to know when to begin your all out drive to immobilize the Ogre. Infantry are again required to play a critical, and sadly, self-sacrificial role in shooting away Ogre tread sections. As the Ogre closes on your Command Post, you must make sure that your infantry squads are in correct position to intercept the Ogre. We remind you once again that a disarmed but mobile ogre is a deadly weapon!

Comments: The Mixed defense is effective against both Mk III and Mk V Ogres. Of the "classic" defense schemes mentioned here, the Mixed defense is probably the easiest for an inexperienced commander to master. This is true mostly because the Mixed defense offers extra flexibility in selecting targets (at the mid-point of an invasion, both Ogre weapons and tread sections are suitable targets), and because the mixed armored force tends to help the commander recover from (small) tactical mistakes.

[=====  
 [Strategic Suggestions for Ogre AI Programmers]  
 =====]

Basic Strategy  
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This manual addresses the particular type of cybertank mission where a single "Ogre-class" cybertank invades an Alliance-occupied Conflict Zone on its own. In such a mission the cybertank's prime directive is to eliminate the Conflict Zone Command Post. As a secondary priority, the cybertank should strive to eliminate all (or almost all) Alliance ground forces. As a final priority, the cybertank should return to a friendly service center after clearing the Zone.

Given these priorities, the cybertank's basic strategy revolves around a deceptively simple question:

"How should the cybertank destroy the Alliance Command Post?"

The cybertank's attack algorithms must continuously review and reassess this question as the attack proceeds. Ultimately, the cybertank's options will be to take the Command Post either by firing weapons or by ramming the Post directly. But this is a complex decision, a decision the cybertank can make only in the later stages of its attack.

Experience has shown us a potential problem. Cybertanks can sometimes be diverted from their primary goal (destruction of the Command Post) if they are offered enough enticing opportunities to pursue secondary goals (e.g. destruction of Alliance ground forces). While reaching secondary goals is important, pursuit of secondary goals must never prevent the cybertank from fulfilling its prime objective. As you prepare cybertanks for combat missions, we suggest you install strong "initiative refocusing" blocks which prompt the system to look again and again at the unit's primary objective. This should help keep the cybertank focused on the task at hand.

Assessing Alliance Defenses  
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Alliance defense strategies are as numerous and varied as are our own attack plans, However, experience has shown that Alliance defense strategies

usually fall into three fairly distinct categories. We describe these categories below. We believe these descriptions will be useful for you as you refine the cybertank's pattern-recognition and strategy-planning algorithms.

Howitzer-Centered Defense  
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Basic Characteristics: Howitzer-centered defenses arrange three or more Howitzers as a protective screen shielding an Alliance Command Post, and are arranged so that their circles of fire overlap. This overlap creates a broad, deep area which the cybertank can penetrate only by exposing itself to concentrated fire. The theory is that the cybertank will lose all of its weapons and most of its mobility (or vice versa) as it struggles to break through the howitzer line. Although the cybertank will eventually knock out the howitzers, it will be so badly damaged in the process that it will become easy prey for Alliance ground forces.

Response Strategy: The cybertank should determine early on if howitzer-centered defense is being used. If so, the cybertank has several options. One of the best is to enter the Zone only part way, then to spend time moving laterally, thus drawing out Alliance mobile ground forces. The key here is to deal with mobile armor units while they are outside of the howitzer defense circle (if possible). Once a number of mobile units are eliminated, the howitzers' "ring of fire" becomes much easier to penetrate.

The cybertank must study the arrangement of the howitzers, probing for weak spots. In some cases, for example, the cybertank can all but bypass a howitzer defense simply by taking a roundabout route to the Command Post. If there are no apparent weak spots, the cybertank should, all other things being equal, strive to attack whichever howitzer appears to form the cornerstone for the entire line. The attack should be as simple and direct as possible, minimizing the cybertank's exposure to fierce howitzer fire.

GEV-Centered Defense  
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Basic Characteristics: In a GEV-centered defense, the defending commander may well select GEVs as the only armor units he places in the field. Even if he adds other types of units for balance, GEVs will be the dominant element of his defense. The case for the GEV-centered defense is nearly an inverse of the argument for the howitzer-centered defense. The howitzer defense relies on tightly concentrated fire coming from a small number of stationary units; the GEV defense relies on broadly distributed fire coming from a large number of extremely mobile units.

At the start of a typical defensive "scramble," GEVs make individual "hit and run" attacks on cybertank treads (with perhaps a few joint attacks on main batteries). In theory, this approach enables GEVs to overwhelm the cybertank with their superior speed, movement range, and numbers. The intent is to trade off a few GEVs early on for a dramatic and swift cutback in the cybertank's mobility. If the cybertank can be slowed, GEVs and infantry have much more time to stop the cybertank (and attacks will be safer since the damaged cybertank can't give pursuit). The GEV defense is based on the assumption that GEVs can attack cybertanks and then escape to positions of safety. As we shall see, this assumption is not always sound..

Response Strategy: The cybertank has the advantage of knowing where GEVs are stationed before deciding where to enter the Conflict Zone. If possible, use this advantage to enter the Zone at a point where GEV coverage is thin. Once under attack, the cybertank must maneuver to cut off and eliminate small groups of fleeing GEVs. This may entail lateral (or even reverse) movement for the cybertank. This is one situation where it is unwise for the cybertank to press straight toward the enemy's Command Post. Instead, a zig-zag pattern enables the cybertank to trap fleeing GEVs before they can turn around to make repeat attacks.

Standard Defense  
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Basic Characteristics: The standard Alliance defense deploys an even blend of different types of armor along with infantry. Typical forces to commit against a single Mk III cybertank might include: 20 Squads of Infantry,

2 Howitzers, 2 Heavy Tanks, 2 Missile Tanks, and 4 GEVs. The standard defense is very flexible, and enables the Alliance commander to resist the cybertank in several ways. The defense can be optimized to target either cybertank treads or weapons. The standard defense is perhaps the most difficult for the cybertank to "read," since the defense permits Alliance Commanders to mask their intentions until the last moment before their units close on the cybertank. If skillfully managed, a standard defensive force can bring numerous types of weapons to bear on the cybertank simultaneously.

Response Strategy: Our cybertanks do quite well against the standard defensive force provided only part of that force is engaged at any given moment. It is often useful for the cybertank to play a waiting game, using some lateral movement to draw the Alliance's faster units forward. The main idea is to string out Alliance forces across the length of the Conflict Zone. In this way, the cybertank can tackle separate groups of armor rather than attempting to forge its way straight through a highly concentrated group of armor units. As the cybertank encounters small groups of armor, it should, where possible, take the added precaution of "sideslipping" past the edges of the groups. The sideslip maneuver helps keep the cybertank from being trapped, and helps ensure that the cybertank will arrive at the enemy Command Post with adequate mobility and firepower in reserve.

Entry to the Conflict Zone  
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Alliance commanders almost always locate Command Posts at the rear edge of the Conflict Zone, near the Center. Thus, to minimize travel distance across the Zone, and to permit greater flexibility of movement within the Zone, the cybertank should usually enter from a central location. There are a few exceptions to this rule. Some Alliance Commanders run the standard defense by placing both their Command Post and the bulk of their defensive forces in a rear corner of the Conflict Zone. When facing forces deployed in this way, the cybertank might benefit from entering the Zone at the opposite front corner of the Zone. In this case, an entry from the opposite corner tends to lure Alliance forces away from their strong position near the Command Post.

Use of Missiles  
 =====

Because missiles are the most powerful and longest range weapons in the cybertank arsenal, many AI programmers instruct cybertanks to hold at least a few missiles in reserve to handle contingencies arising late in the attack. On an intuitive level this strategy makes sense, but recent combat analysis by Combine intelligence indicates that the strategy simply does not work. In far too many cases, missiles are destroyed without ever leaving their launching tubes. Thus, the latest Combine doctrine holds that missiles should be held back only so long as the cybertank's "conventional" guns are able to handle nearby Alliance armor units. In all other cases, the missiles should be treated like any other weapon in the cybertank arsenal, and should be used as needed. This does not mean that missiles should be used haphazardly (e.g., to attack a single squad of infantry). It does mean that missiles can and should be used on a wide range of appropriate targets (e.g., to destroy Command Posts, or to eliminate Howitzers or armor units blocking the cybertanks path). Over a century ago, the first builders of nuclear weapons said it best: "Use 'em or lose 'em."

Use of Terrain  
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Since both Mk III and Mk V cybertanks are free to move over all but the most difficult land surfaces, most AI programmers give little attention to terrain (apart from avoiding such obvious hazards as full-size bomb craters and swamps). To be blunt, this is a mistake. While terrain does little to affect the cybertank, it does affect the cybertank's enemies (in particular, very few vehicles can cross huge piles of battlefield rubble the way a cybertank can). In many cases, the cybertank can use rubble or bomb craters to block pursuit from Alliance armor units.

Some AI programmers send cybertanks along the very edges of impassable

areas. The theory is that, in following this path, the cybertank can be attacked from one side only. This approach carries some merit. However, recent Combine combat analysis shows that the "edge" movement is not a good solution. The cybertank must trade freedom of movement for (relative) safety. The tradeoff is not a good one. We suggest you program cybertanks to search for travel paths which lie somewhere between the center and the perimeter of the Conflict Zone.

[=====]

[End of Part 2]

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Ogre from any given target hex and the summation of these values will be the target hex's DamageVal.

The remainder of this section explains the techniques that are used in determining strategic targetting and in performing the four steps outlined above for computing the next best hex.

Strategic Long-Range Intelligence  
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Due to the long-range striking power of howitzers, it is necessary for the Ogre to be able to plan an overall strategy concerning howitzers. If it weren't for the howitzers, the Ogre could play a good game without looking more than 1 move ahead (except for being drawn towards the CP). Sometimes it is best to make the CP the only long-range target and disregard any howitzers. Other times it is necessary to target certain howitzers, or a sequence of howitzers, before heading for the CP.

There are two main considerations when planning Ogre strategy strictly around the howitzers and the CP. 1) getting to the CP in the least number of turns, and 2) suffering the fewest number of howitzer hits in the process.

The strategies the Ogre will consider will vary in value based on the defenders howitzer setup. One approach will be to target the CP alone. Another will be to target each howitzer, prior to the CP, in varying orders. The prime strategy will be the one that gets the Ogre to the CP in the fewest number of turns with the least number of hits.

The final long-range goal the Ogre will consider is leaving the map. This is a goal the Ogre will never consider unless the CP has been destroyed. Once the CP has been destroyed, the Ogre will try to leave the map as quickly as it can.

Tactical Short-Range Intelligence  
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A finite number of PATHS are available to the Ogre and a complete list of these paths was compiled. The list consisted of 58 paths for any one of the six facings from a source hex.

Selecting a Path  
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| <p>The factors involved in determining the value of a hex are:</p> <ol style="list-style-type: none"> <li>1) The distance of the hex from the current long range target (i.e. Howitzer or CP.)</li> <li>2) The value of the defenders the Ogre can attack from that hex.</li> <li>3) The amount of damage the Ogre may suffer in that hex.</li> </ol> <p>The steps in determining the Ogre's best move look something like this:</p> <ol style="list-style-type: none"> <li>1) Find a legal path to a target hex.</li> <li>2) Determine the value of the defenders the Ogre can attack from the target hex (henceforth referred to as "AttackVal").</li> <li>3) Determine the amount of damage the Ogre may suffer in the target hex (henceforth referred to as "DamageVal").</li> <li>4) Determine the value of the target hex using its distance from the current long-range target, and the hex's AttackVal and DamageVal.</li> </ol> | <p style="text-align: center;">Diagram #1 Here<br/>(See Ogre Strategy<br/>Diagram Pic)</p> | <p>In the path representation, the letter "S" denotes the Source hex (or starting hex), and the letter "T" denotes the Target hex (or destination hex). The arrows show direction of movement. The numbers label each move. The shaded circles represent craters. The example below illustrates using two movements to go a distance of two hexes.</p> |
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The Ogre will start looking at paths that have a distance of 1 and work up to paths that have a distance equal to its current movement value.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>These steps are performed for every hex the Ogre can reach from any given position. The Ogre then moves to the hex with the highest value.</p> <p>Each defender is assigned a relative value by which the Ogre assesses their worth. For each hex the Ogre can reach, every defender that can be fired upon from the target is assigned a percent chance of being hit (%HIT). As the Ogre rams, overruns, or hits the various targets, those targets %HIT will be increasing (usually). As soon as the Ogre has completed its simulated attack from the target hex, each piece will have its relative value modified by the Ogre's percent chance to hit it. The summation of the piece's modified relative values will be the target hex's AttackVal.</p> <p>The same %HIT will be used to modify each piece's ability to damage the</p> | <p style="text-align: center;">Diagram #2 Here.<br/>(See Ogre Strategy<br/>Diagram Pic)</p> | <p>Certain paths are designated as RAM paths (Rpath). An Rpath is a path that does not use the direct route to the target hex. The purpose of an Rpath is to attempt to ram a defender (or to overrun infantry) while enroute to the target hex. Illustrated is an Rpath that is almost identical to the above path. Both paths have the same source and target hexes. The difference is that upon arriving at the target hex the Ogre expends a third move to potentially ram a defender a second time.</p> |
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DOCUMENT ogre.strategy.3
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[=====]
[
[           Ogre Strategy and Notes
[           Part Three
[
[=====]
[           [Ogre Artificial Intelligence]
[=====]
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The first step in designing the Ogre's Artificial Intelligence (OAI), was to determine just what an Ogre should do. This required much research into how "experts" played the game, in addition to many hours of game play to test various OAI concepts. The single most difficult aspect of designing the OAI was the fact that Ogre is a game based on probabilities. Every time the Ogre fires at a defender there is a chance of hitting, disabling, or missing. Assessing all of these chances for every possible combination of targets the Ogre may have, for every possible move the Ogre can make, evolved into a monumental task.

The Ogre's ultimate goal is to destroy the Command Post (CP) and get away. Its highest priority is to destroy the CP. Its secondary priority is to get away. On its way to the CP, the Ogre will be trying to destroy as many defenders, while sustaining as little damage to itself, as it can. This means the Ogre must not blindly dog a path straight to the CP, or the defense would merely set up a gauntlet that would destroy the Ogre before it could reach the CP.

The Ogre employs two intelligence techniques: strategic and tactical. Ogre Strategy involves long-range targetting of howitzers and the CP and avoiding terrain traps created with the editor. Ogre Tactics involve short-range maneuvers while enroute to its next long-range target.

At any given time, there is a limited number of hexes the Ogre can't legally move to. Some of these hexes are more advantageous to the Ogre than others. The Ogre's tactical intelligence determines which hex has the highest value.

The factors involved in determining the value of a hex are:

- 1) The distance of the hex from the current long range target (i.e. Howitzer or CP.)
- 2) The value of the defenders the Ogre can attack from that hex.
- 3) The amount of damage the Ogre may suffer in that hex.

The steps in determining the Ogre's best move look something like this:

- 1) Find a legal path to a target hex.
- 2) Determine the value of the defenders the Ogre can attack from the target hex (henceforth referred to as "AttackVal").
- 3) Determine the amount of damage the Ogre may suffer in the target hex (henceforth referred to as "DamageVal").
- 4) Determine the value of the target hex using its distance from the current long-range target, and the hex's AttackVal and DamageVal.

These steps are performed for every hex the Ogre can reach from any given position. The Ogre then moves to the hex with the highest value.

Each defender is assigned a relative value by which the Ogre assesses their worth. For each hex the Ogre can reach, every defender that can be fired upon from the target is assigned a percent chance of being hit (%HIT). As the Ogre rams, overruns, or hits the various targets, those targets %HIT will be increasing (usually). As soon as the Ogre has completed its simulated attack from the target hex, each piece will have its relative value modified by the Ogre's percent chance to hit it. The summation of the piece's modified relative values will be the target hex's AttackVal.

The same %HIT will be used to modify each piece's ability to damage the

If no ram, or overrun, has occurred upon reaching the end of an Rpath, then no attempt is made to evaluate the target hex for its AttackVal and DamageVal, since the target hex will already have been evaluated by a previous, more direct path.

Actual game play allows a 50% chance of destroying a mobile armor unit with a single ram. For simulation purposes, however, if an active mobile armor unit is rammed, it will be marked as disabled and assigned a 75 %HIT. If a disabled, or immobile, unit is rammed it will be assigned a 100 %HIT. If an INF 1 is overrun it will be assigned a 100 %HIT. If an INF 2 or INF 3 is overrun it will be reduced to an INF 1 or INF 2, respectively, and AttackVal will be increased by the value of an INF 1.

Ramming an armor unit costs the Ogre 1 tread unit. It was therefore necessary to assign a value to the Ogre's treads so that the DamageVal could be increased whenever the Ogre decides to ram. Decreasing this tread damage constant causes the Ogre to ram more frequently.

If, after all legal paths have been simulated and the Ogre is actually moving along the selected path, a single ram destroys an active, mobile armor unit anywhere before the end of that path, then the Ogre will re-evaluate a new path using the remainder of its movement value. This is necessary due to the fact that, in actuality, the Ogre has a 50% chance of destroying a mobile, active armor unit with one ram only, whereas the simulation logic always counts a single ram as a disable with a 75 %HIT.

The Ogre must have at least 3 treads to ram a heavy tank and 2 treads to ram all other armor units, except the CP (so it won't immobilize itself).

Evaluating a Hex's Attack Value  
=====

The "attack value" of a position to the Ogre is represented by AttackVal. Each defender will have a relative value assigned to it, referred to as AttackVal (defender). These relative values look something like this:

|                 |      |               |      |
|-----------------|------|---------------|------|
| 1) CP           | :255 | 5) Heavy Tank | :100 |
| 2) Howitzer     | :200 | 6) Infantry 3 | :60  |
| 3) GEV          | :100 | 7) Infantry 2 | :40  |
| 4) Missile Tank | :100 | 8) Infantry 1 | :20  |

AttackVal will be based upon the cumulative AttackVal(defender) for each defender the Ogre can bring weapons against. The Ogre will deploy its weapons against all possible defenders and assess the potential value of those defenders. The weapons are deployed in this order:

- 1) Antipersonnel (AP)
- 2) Secondary Batteries (SB)
- 3) Main Batteries (MB)
- 4) Missiles (MSL)

If there are no defenders at exactly 3 hexes away from the Ogre's targetted hex then MB's will be processed before SB's. This is because there is no point in holding the MBs for a target out of reach of the SBs if there aren't any.

Each time the AttackVal of a hex is determined, every defender will be initially assigned a 0% chance of being hit (%HIT) by the Ogre. As the Ogre simulates a hit against a target, the target's %HIT will be increased. As soon as the Ogre has completed its simulated attack for all weapons, each piece will have its %HIT multiplied by its relative value. The summation of the piece's modified relative values will be the target hex's AttackVal.

In Determining a target's %HIT for any given weapon, the ratio of the Ogre weapon's attack strength to the target's defense strength is used. The %HIT values for both enabled and disabled targets for each of the various odds are as follows:

| Odds | Percent Chance To Hit Enabled Pieces | Percent Chance To Hit Disabled Pieces |
|------|--------------------------------------|---------------------------------------|
|------|--------------------------------------|---------------------------------------|

|                 |      |      |
|-----------------|------|------|
| less than 1-2   | 0%   | 0%   |
| 1-2             | 25%  | 33%  |
| 1-1             | 50%  | 67%  |
| 2-1             | 67%  | 83%  |
| 3-1             | 83%  | 100% |
| 4-1             | 92%  | 100% |
| better than 4-1 | 100% | 100% |

Infantry 1 targets are counted as disabled pieces.

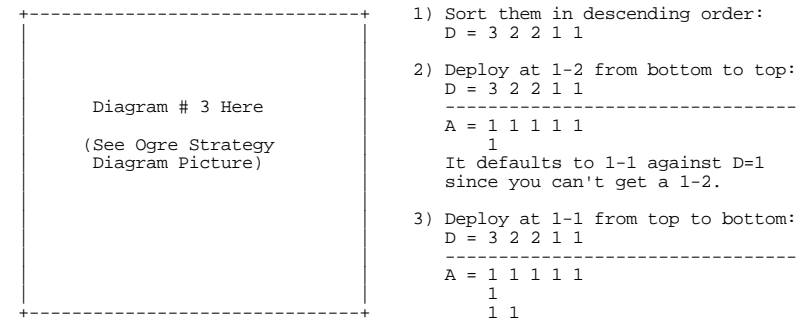
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1) Antipersonnel  
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Since the Ogre only gets one attempt with antipersonnel (AP) against infantry, it must deploy its AP with optimum efficiency. The algorithm outlined below assumes optimum deployment consists of hitting as many pieces as possible, it, therefore, deploys starting with the lowest odds (1-2) and works its way up.

The Algorithm goes as follows:

- \* Sort the infantry within 1 hex of the Ogre in descending order of defense points (D).
- \* Go 1-2 starting at the bottom of the list and working up.
- \* Go 1-1 starting at top and working down.
- \* Go 2-1 starting at top and working down, skipping 1s (D=1).
- \* Go 3-1 starting at top and working down, skipping 1s.
- \* Go 4-1 starting at top and working down, skipping 1s.
- \* Go 2-1 starting at top and working down, including 1s.
- \* Go 3-1 starting at top and working down, including 1s.
- \* Go 4-1 starting at top and working down, including 1s.
- \* Put remaining AP on lowest infantry.

The diagram below depicts the Ogre surrounded by 5 infantry units that have a combined defense value (D) of 9. The following example uses the above algorithm to determine the AP values represented in the diagram.



The last AP was deployed against the first "2" in the list, so the loop is exited.

The AP deployment now equals the values you see in the diagram above.

Once the AP are deployed, they will be used in a simulated attack against the selected targets. The ratio of AP to DP will be used to determine the %HIT used in modifying the AttackVal(defender) and the defender's damage potential next turn. If, for example, the Ogre deploys 2 AP against an infantry 3, then the ratio will give 1-2 odds which renders a 25% chance to hit the infantry.

2) Secondary Batteries  
 =====

First, all targets within range (2 hexes) of SBs are listed. Then the cumulative %HIT for those targets is computed. Deploy 1 SB against the defender with the most valuable target with the lowest cumulative %HIT. If there is a tie for the most valuable target, then the defender that is closer to the Ogre's current long-range target has priority. Using the ratio of the attack strength of the SB and the target's defense strength, determine the cumulative %HIT. Use the new %HIT to re-compute the target's value. Repeat the SB deployment until all SBs are used or until all targets have a 100 %HIT.

3) Main Batteries  
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This is done the same way as the SBs.

4) Missiles  
 =====

Missiles will be deployed similarly to the main and secondary batteries but with a few modifications. It is desirable that missiles be reserved as long as possible for use against howitzers or the CP. The missiles will, however, be deployed if it appears they may be destroyed.

Once all weapons have been deployed, the targetted pieces will have heir relative values modified by their %HIT and the total of there values will be assigned to AttackVal.

Evaluating a Hex's Damage Value  
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All of the defenders that can strike against the Ogre for a particular move contribute to a hex's DamageVal.

It was necessary to establish a meaningful relationship between AttackVal and DamageVal. The first step in doing this was to determine what the Ogre would consider an even trade of damage inflicted for damage received. A constant was arrived at that is multiplied by the total attack points of the defenders that can reach the Ogre in the target hex.

The formula to determine DamageVal for a particular hex looks something like this:

$$\text{DamageVal} = (\text{Defender Attack Points}) \times \text{Damage Constant}$$

Modifying the Damage Constant makes the Ogre play more aggressively or more cautiously.

All defenders are checked to see if they can strike the Ogre on their turn (taking into account the defender's attack range, movement value and terrain). The attack strength of each defender is modified by their %HIT computed by the attack evaluation logic.

[=====]  
 [Evaluating the Draw of a Long-Range Target]  
 [=====]

TargetVal is the variable that causes the Ogre to move towards the current long-range target (i.e. a howitzer or the CP). There are three situations when considering the Ogre's movement relative to its current target:

- 1) decreasing its distance (a positive effect)
- 2) not changing its distance (a negative effect)
- 3) increasing its distance (a strong negative effect)

When moving towards its current target, the best the Ogre can do is decrease the distance by the amount of its movement value. Anything less than this is suboptimal when considering movement only. If the Ogre can increase its advantage by not moving as close to its target as it can in order to

destroy a defender(s), then it should do so.

The technique for determining TargetVal is to divide a constant by the Ogre's maximum movement value and multiply the result by the number of hexes that the Ogre moves towards its current target (a positive value) or away from its current target (a negative value).

Several factors may modify the attraction of a target. Some of the factors are:

\* Often it is desirable to move away from the current target in order to destroy a relatively defenseless defender(s). Thus, a path that shows a high attack value with little or no damage value is weighed positively, whether it is far away from the current long-range target or not.

\* If the Ogre is in a howitzer umbrella, then the Ogre will have a greater tendency to move towards its current long-range target, thus keeping the howitzer from getting too many shots at it.

\* If the current long-range target shows at least 50% chance of being destroyed (which is also a sure disable), then the Ogre will be pulled to the next long-range target. This will keep the Ogre from getting closer to the current target than it has to in order to destroy it.

\* In order to keep the Ogre from "wimping out" (i.e., running scared), a path that moves away from the current long-range target that shows zero AttackValue, is weighted negatively.

Once all of the factors for a hex have been evaluated, they can be combined to arrive at the overall value for that hex.

The formula for determining the value of a hex is:

$$\text{HexVal} = \text{AttackVal} - \text{DamageVal} + \text{TargetVal}$$

The Ogre performs these computations for every legal move it can make from its current location, then selects the hex that has the greatest value.

[=====]

[End of Ogre Strategy Notes]

Courtesy of L.S.D. Remember-you always have a friend in Texas!  
 Strategy Notes typed by Sector Seventeen.

===== DOCUMENT ogrel =====

Ogre Docs Part I

typed up by

Digital Monk

HISTORICAL PERSPECTIVE:

The tank-type vehicle, considered obsolete by the end of the 20th century, ruled the battlefields of the 21st.

Several factors led to the reappearance of mechanized warfare. The first was the development of biphasic carbide armor (BPC). Stronger than any steel, it was also so light that even an air-cushion vehicle could carry several centimeters of protection. The equivalent of a megaton of TNT was needed to breach even that much BPC armor - which meant that, in practice, nothing less than a tactical nuclear device was likely to be effective.

Infantry, which had for a time eclipsed the tank, declined in importance. Although an infantryman could carry and direct a tactical nuclear missile, he had to be extensively (and expensively) protected to survive the nuclear battlefield. Thus, the "powered suit" was developed. Four cm of BPC, jet equipped, it could guard a man for about a week (in increasing discomfort) from shrapnel, background radiation, and biochem agents. However, the cost of equipping infantry reduced their value. They were still more flexible and maneuverable than armor, and now they were almost as fast - but they were no longer cheaper.

Long-range nuclear missiles, which had been expected to make a mockery of "conventional" operations, likewise declined in value as jamming technology and laser countermeasures improved. Without satellite guidance, no missile could hit a less-than-city-sized target at more than 30 km - and no combatant could keep a spy satellite operational for over an hour. Missiles big enough to carry jam-proof guidance systems were sitting ducks for the big laser batteries - for, although lasers had proved too temperamental and fragile for battlefield use, they were fine as permanent anti-aircraft units.

Thus, the tank-type vehicle - fast, heavily armed and armored, able to break through enemy positions and exploit disorganization - returned to wide use. And once again, planners fretted over priorities. More guns? More armor? More speed? Increase one and lose on the others? Increase all and build fewer units?

Some interesting compromises appeared. The 21st-century infantryman, especially with the later "heavy powered suit", was a tank in his own right, at least by 20th-century standards. The armed hovercraft or ground effect vehicle (GEV), equipped with multi-leaf spring skirts for broken ground, could attain speeds of 120 kph on any decent terrain, and 150 on desert or water. Conventional tanks were slower but tougher. All fired tactical nuclear shells.

The ultimate development of the tank-type weapon, though, was the cybernetic attack vehicle. The original tanks had terrorized unsophisticated infantry. The cybertanks terrorized "everyone", and with good reason. They were bigger (up to 50 meters), faster (hovercraft models proved to be vulnerable, but atomic-powered treads moved standard units at 45 kph or better), and more heavily armed (some had firepower equal to an armor company). And two to three meters of BPC armor made them nearly unstoppable. What made the cybertank horrifying, though, was its literal inhumanity. No crew was carried; each unit was wholly

computer-controlled. Although true mechanical intelligence had existed as early as 2010, and fully automated factories and military installations were in wide use by the middle of the century, the cybertanks were the earliest independent mobile units - the first true war "robots".

Once the first cybertanks had proved their worth, development was rapid. The great war machines aroused a terrified sort of fascination. Human warriors devoutly hoped never to confront them, and preferred to keep a respectful distance - like several kilometers - even from friendly ones. They were just too big.

One fact, more than anything, points up the feeling that developed toward the cybertank. Unlike other war vehicles, they were never called "she". Friendly units of the speaker's acquaintance were "he"; others were "it". And the term "cybertank" was rarely used. People had another name for the big war machines - one drawn from the early Combine units and, before that, from dark myth. They called them Ogres...

THE GAME:

Ogre is a game of mechanized tank warfare set in the 21st century. A cybernetic fighting unit - the Ogre - has been sent to destroy the opponent's strategic Command Post, which is guarded by an armor battalion. The Ogre's primary objective is to destroy the Command Post; destruction of all other units is its secondary objective. The armor battalion has but one objective: Defend the Command Post. To do so, they must destroy the Ogre.

Making Choices: Choices are made in OGRE through the use of the pointer, a black, triangular object that can be moved around with a mouse joystick, or keyboard.

Clicking: Some selections in OGRE are made by first moving the pointer to the desired object or option, then pressing and quickly releasing the button. This is referred to as clicking.

Dragging: Another method of designating choices is by dragging. Dragging is accomplished by placing the pointer over the desired object then pressing and holding the button while moving the pointer to another location. Releasing the button completes the drag.

Pulling Down the Menu: In the upper right corner of the screen are two menus that can be pulled down. The first is titled "Menu" and the second is "OSI". To pull down either menu place the pointer over the desired title and press and hold the button. The selected menu title will become highlighted and a list of commands will appear beneath the title. Releasing the button without moving the pointer will cause the menu to disappear.

Choosing Menu Commands: Menu commands are chosen by using the dragging technique. Position the pointer over the selected menu title and pull down the menu by pressing the button. While holding the button down, drag the pointer to the desired menu command. As the pointer moves through the menu, each command is highlighted releasing the button selects it. If you change your mind about choosing a command, move the pointer off the menu, or back up to the title, then release the button. Nothing is chosen unless you release the button while one of the commands is highlighted.

Using the Keyboard: A mouse (if available) or joystick is highly recommended for playing OGRE. OGRE can be played using the keyboard to move the pointer and to simulate clicking or pressing a button, or it can be played entirely with pointing, clicking, and dragging without reference to the various input devices.

Dimmed Commands: When "Menu" is pulled down, some of the commands are less distinct than others. These less distinct commands are referred to



as dimmed. Dimmed options are ones that cannot be used at that time.

Dialogue Boxes: Whenever additional info is required to complete a command, a dialogue box appears. Dialogue boxes usually have special areas called buttons to click, such as "ok" or "cancel". Sometimes they present further options for selection. Dialogue boxes are also used to warn you if you're about to do something that is irreversible. For an example of a dialogue box with general information, select "About Ogre" from the OSI menu. Clicking the "ok" button removes the dialogue box.

THE BATTLEFIELD:

General: The defender's Command Post has been located in the most defensible terrain available - a battered stretch of land 22.5 kilometers wide by 33 kilometers long (14 miles by 20.5 miles). It is bounded on three sides by impassable swamp and on the fourth by a very deep wide river. A map representing the standard battlefield is displayed on your computer screen. The map is divided into hexes, each representing an area 1500 meters (0.93 miles) across.

Viewing the Map: Only half of the map can be viewed at one time. The map can be moved vertically by clicking on one of the arrows positioned at the four corners of the map. At the upper left and lower left corners of the map are arrows with horizontal bars at their tips. These arrows are used to display the top or bottom half of the map. Clicking on arrows in the upper right and lower right corners moves the map up or down one hex at a time.

Craters: The battlefield is scarred with craters from past nuclear detonations. Craters are represented on the map by solid circles. Nothing may move into or over a crater. It is possible, however, to fire across craters.

Rubble: The battlefield is further obstructed by great piles of earth and rubble. These piles of rubble are represented on the map by solid black lines along the edges of hexes. Only the Ogre and infantry are capable of moving across this rubble. Other armor units cannot cross. Any unit can fire across the rubble.

Areas: The standard battlefield is divided into two basic areas. The majority of the map (the top 16 rows of hexes) is referred to as the "obstructed" area. This is the area containing all of the craters and rubble. The bottom 6 rows of hexes, free of craters and rubble, are referred to as the "clear" area. Both the left-most and right-most column of hexes contain only one crater. These craters are located in the 7th hex down from the top. A line drawn between these two crater hexes is referred to as the "crater line". The obstructed area, clear area, and crater line are referred to during the initial deployment of defensive forces.

THE COMBATANTS:

The combatants are rated by Combat Factors. The main combat factors are a weapon's Attack Strength, Attack Range, and Defense Strength. Attack Strength reflects a weapon's destructive power. The effective distance a weapon can reach is its Attack Range, and a unit's capability to withstand an attack is referred to as its Defense Strength. These factors will be further expanded upon when discussing combat.

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OGRE: There are two types of Ogres, the Mark III and the Mark V. The Ogre is a cybertank, approximately 30 meters in length, equipped with guns, missiles, antipersonnel weapons, and 3 meters of biphasic carbide armor.

An undamaged Ogre can travel at about 45 kph, i.e., 3 map hexes per turn. The Ogre's goal is to destroy the Command Post and, if possible, the entire defensive armor battalion. The Mark V is a larger, more formidable version of the Mark III.

Ogre Mark III Attributes

| PART              | QUANTITY | Def.S | Att.S | Att.R |
|-------------------|----------|-------|-------|-------|
| Missiles          | 2        | 3     | 6     | 5     |
| Main Battery      | 1        | 4     | 4     | 3     |
| Secondary Battery | 4        | 3     | 3     | 2     |
| Antipersonnel     | 8        | 1     | 1     | 1     |
| Treads            | 45       | 1     | 0     | 0     |

Ogre Mark V Attributes

| PART              | QUANTITY | Def.S | Att.S | Att.R |
|-------------------|----------|-------|-------|-------|
| Missiles          | 6        | 3     | 6     | 5     |
| Main Battery      | 2        | 4     | 4     | 3     |
| Secondary Battery | 6        | 3     | 3     | 2     |
| Antipersonnel     | 12       | 1     | 1     | 1     |
| Treads            | 60       | 1     | 0     | 0     |

COMMAND POST: Att.S. - 0 Att.R. - 0 Def.S - 0 Movement - 0  
 This is the defender's strategic communications center. The Command Post, once positioned, cannot be moved. The Command Post is incapable of attacking the Ogre, or of defending itself. An attack from any of the Ogre's weapons automatically destroys Command Post. At times the Ogre will, with seeming cruelty, elect to destroy a Command Post, not quickly and mercifully with one of its nuclear weapons, but instead by crushing it and its inhabitants beneath the cybertank's massive treads.

Armor Units - There are four types of defensive armor units: the Heavy Tank, the Missile Tank, The Howitzer, and the Ground Effect Vehicle (GEV).

HEAVY TANK: Att.S. - 4 Att.R. - 2 Def.S. - 3 Movement - 3  
 This is the defender's main battle tank. A heavy tank is big, powerful, and heavily armored. Its speed is such that it can keep pace with the Ogre, except when maneuvering around rubble. Unfortunately, a heavy tank must get within 3 km. (2 hexes) of the Ogre in order to fire upon it. This leaves the heavy tank vulnerable to almost all of the Ogre's weapons, including the possibility of being crushed beneath the Ogre's treads.

MISSILE TANK: Att.S. - 3 Att.R. - 4 Def.S. - 2 Movement - 2  
 A missile tank is smaller and less heavily armored than a heavy tank. The broad, sturdy surface from which the missile tank commander fires long-range missiles sits atop a set of wide crawler treads that move the missile tank slowly across the battlefield. The missile tank cannot keep pace with the Ogre, thus requiring the missile tank commander to continually anticipate the Ogre's movement in order to keep it within

range of his missiles. The missile tank's saving grace is that it can fire upon the Ogre from 6 km. (4 hexes) away, allowing it to pound the Ogre while staying out of range of most of the Ogre's weapons.

**HOWITZER:** Att.S. - 6 Att.R. - 8 Def.S. - 1 Movement - 0  
The howitzer is the defender's hardest hitting and longest range weapon. A howitzer can reach an Ogre up to 12 km (8 hexes) away. This allows a howitzer to get 2 to 3 shots at an Ogre before the Ogre can get within striking distance. Howitzers are permanently installed and cost twice as much as any other armor unit. The fact that a howitzer cannot move is its greatest weakness. In addition, it is all but defenseless. The defenders must try to buy a howitzer with the mobile armor units so that the howitzer may wreak considerable damage upon the Ogre.

**GROUND EFFECT VEHICLE (GEV):** Att.S. - 2 Att.R. - 2 Def.S. - 2 Move - 4,3  
Propelled by air-cushion suspension, the GEV is the defender's fastest moving vehicle. It can move more than twice as fast as any other unit including the Ogre. GEVs move once in the defender's regular movement phase - and again after firing in the GEV movement phase. The seasoned GEV commander will swoop in close enough to fire at the Ogre and then dart away just beyond the reach of the Ogre's weapons.

**INFANTRY:** Att.S. - 1,2, or 3 Att.R. - 1 Def.S.- 1,2, or 3 Movement - 2  
Infantry travel in groups of one, two, or three squads (6 - 8 men to a squad). Infantry are armed with conventional and anti-tank weapons and used powered "battlesuits" to greatly increase their mobility (allowing them to cross rubble that stops other armor units) and provide some protection from radiation and shrapnel. Infantry cannot move as fast as a fully functional Ogre, and a squad leader will, if not careful, find his squad falling behind the Ogre, unable to reach it before the Command Post is destroyed. Infantry must get within 1500 meters (1 hex) of the Ogre in order to fire at it. This makes them extremely vulnerable to the Ogre's antipersonnel weapons, as well as to being overrun by the Ogre. Many infantrymen swear the supposedly emotionless Ogre derives great pleasure from the feel of battlesuits being crushed beneath its treads.

#### DEPLOYMENT:

The defending player must deploy forces in anticipation of attack. Battlefield alterations and force deployment are controlled in the field editor. A detailed discussion of the Field Editor can be found in the "Field Editor" section. To quickly get started playing Ogre (oh boy!!!), use one of the predesigned fields or battles.

**Loading/Saving Fields:** There are five predesigned fields from which the player may choose. In addition to the five predesigned fields the player may save five fields of original design. To load a field, select "Load a Field" from the Menu. A dialogue box will appear from which one of the original or preset fields can be selected for loading. Click on the field of choice and then click "ok". The selected field will be loaded in and displayed.

**Loading/Saving Games:** A previously saved game can be loaded at any time. If a battle is in progress when another game is loaded, the current game will be lost unless it is saved first. To load a game, select "Load a Game" from the Menu. A dialogue box will appear from which one of five saved games can be selected. Select the desired game and then click "ok". The selected game will be loaded in and the battle will proceed from where it was saved. The current status of a battle can be saved for continued play later. To save the battle status, select "Save a Game" from the Menu. A dialogue box will appear, from which one of five games can be selected for saving. Select the desired game and then click "ok". The game will be saved and play can continue. Alternate tactics for a given encounter can be explored by saving the battle status prior to performing the tactic in question. After the outcome has been determined, the prior battle status can be loaded in, allowing an alternate tactic to be employed.

#### PLAYING OGRE:

**Starting the Game:** Once the player chooses the field configuration and weapon deployment, then selecting "Play a Game" from the Menu will start the actual battle. A dialogue box will appear asking which battle option the player desires. There are two battle scenarios: Mark III or Mark V. Either scenario can be played with two players or the computer can control the Ogre. Select the desired option and click "ok". If this is a continuation of a previous game, a dialogue box will ask whether to start a new Ogre or continue the game with the original Ogre. Select the desired option and click "ok". When starting a new game under the two player option, the player controlling the Ogre must select one of the hexes at the bottom of the map as an entry point for the Ogre. Click "ok" on the dialogue box asking for an entry hex and then select an entry hex by clicking on it. Once it has entered, the Ogre can move two more hexes. Most player options are locked out at this point until an entry hex has been selected for the Ogre. The map can be moved in order to scan the battlefield.

**Changing Between One and Two Player Games:** It is possible to change from a one player game to a two player game and vice versa. To do so, enter the Field Editor by selecting "Edit the Field" from the Menu, during actual game play. Select "Play a Game" from the Menu. When the battle option dialogue box appears, select the desired scenario and click "ok". When the next dialogue box asks to start a new Ogre or continue with the old one, select the "Keep old Ogre" option. This process allows the battle to continue but with someone (or something) else controlling the Ogre. This operates somewhat differently when changing between Mark III and Mark V scenarios. If "Keep old Ogre" is selected, when changing between Mark III and Mark V scenarios then the number of players will change but the original Ogre type will be maintained. If "Start new Ogre" is selected then the new Ogre type will enter at the bottom of the map with full weapons and no damage.

**Game Phases:** The Phase window near the top of the sidebar displays the current phase of game play. The first phase is the Ogre Entry phase which occurs only at the beginning of a game. During that player's turn, that player may move any or all of his units, and fire with any or all of them. The phase sequence is:

- 1) Ogre Enters
- 2) Ogre Moves
- 3) Ogre Fires (After the Ogre fires, all armor units disabled the previous turn become active again)
- 4) Defense Moves
- 5) Defense Fires
- 6) GEVs complete their movement

**The Sidebar:** The sidebar is different while playing the game than when in the Field Editor. The area directly beneath the OGRE caption is the phase window, which shows the current phase of the game. Directly below the Phase Window is the Tactical Display. The Tactical Display is used to show the various attributes and conditions of the pieces. Clicking on a piece will display that piece's attributes. In addition, the tactical window is used to display messages in response to any erroneous action performed by the player(s). Beneath the Tactical Display are the command buttons. Just as in the Menu, if a button's text is dimmed, then the button is inactive. The "Range" and "Done" buttons are always present (although not always active). During a movement phase, the top buttons are labeled "Undo" and "Group". During an attack phase, the same top buttons are labeled "Clear" and "Fire". The buttons work as follows:

**Range Button:** The "Range" command is used to view a piece's movement and

attack range. To view a piece's range, select the piece by clicking on it; then click the "Range" button. All of the hexes within a piece's movement value (disregarding having to move around rubble) are turned blue. Any piece that falls within this "umbrella" is highlighted. Clicking anywhere on the screen will remove the umbrella.

Done Button: The "Done" button is used to end a phase. If a player has not moved or fired all of his pieces when the "Done" button is pressed, a dialogue box will require verification from the next player before proceeding to the next game phase.

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Undo Button:

The "Undo" button allows any piece's move to be undone, or restarted at any time during the Movement Phase. To undo a move, select the desired piece by clicking on it; then click the "Undo" button. The piece will move back to its original location. The "Undo" button remains dimmed unless a piece that has moved is selected. If the Ogre has rammed or overrun a defender, it can only be undone back to the hex where the ram or overrun occurred.

Clear Button:

The "Undo" button changes to the "Clear" button during an attack phase. The "Clear" button is used to deactivate weapons that have been aimed at a target.

Group/Split Button:

Explanation of the button is covered in Grouping Infantry and Splitting Infantry in the Movement section.

Fire Button:

The "Group/Split" button changes to the "Fire" button during an attack phase. Once weapons have been aimed at a target, clicking the "Fire" button fires them.

MOVEMENT:

Moving a Piece:

To move a piece, click on it, and while holding the button down, drag the pointer to another hex and release the button. If an illegal move is attempted (i.e., moving onto a crater, across rubble, off the map, moving a piece that has already moved, or moving a piece farther than it can) you will hear a beep and a message informing you of your error will be in the Tactical Display. Once a piece has moved at all, it appears dimmed (green). This alerts the player that any solid (black) pieces have not moved yet. A piece can move up to its maximum movement value. It is not necessary to move a piece at all if it is already well located.

Ogre Movement:

The Ogre's movement depends on the number of treads it still has intact. A Mark III starts with 45 treads; a Mark V with 60. When the Ogre's treads are reduced to two thirds their original total (30 for Mark IIIs and 40 for Mark Vs), the Ogre's movement value is reduced from 3 to 2. When the treads are reduced to one third their original total (15 for Mark IIIs and 20 for Mark Vs), the Ogre can move only one hex per turn. When the Ogre's treads are completely destroyed it can no longer move. It can still attack anything within range.

Selecting the Ogre will display the "Ogre Summary" in the Tactical Display and will show the Ogre's current movement value as well as the number of treads remaining.

Movement Through Occupied Hexes :

In general, only one unit at a time may occupy a hex. Any unit may move through a hex occupied by a friendly unit. When moving onto a hex occupied by a friendly unit, the top piece will be highlighted. Clicking

on this hex brings the bottom piece to the top. One of these pieces must be moved before any other action can be taken. Attempting any other action (except moving the map, undoing, or moving one of the stacked pieces) elicits a beep and the message "Please move from one full hex".

### Grouping Infantry:

The maximum number of squads of infantry that can occupy a single hex is three. Two 1-squad units may be grouped into a 2-squad unit. Three 1-squad units, or a 1-squad and a 2-squad unit may be grouped into a single 3-squad unit. To group two infantry units, move them to the same hex and click the "Group" button. WARNING - When two infantry units are grouped together, the newly merged unit will have a remaining move value equivalent to whichever of the two original units has moved the farthest. Also, grouping infantry CANNOT be undone.

### Example:

an INF 1 uses its first move to move onto an INF 2 that hasn't moved at all. At this point, the INF 1 has moved 1 hex and has 1 move remaining. The INF 2 hasn't moved at all, therefore, has 2 moves remaining. If so desired, the INF 1's move can be undone at this point. Clicking the "Group" button combines the INF 1 and INF 2 into an INF 3. The Tactical Display will show a 3-squad unit that has move 1. Also, the "Undo" button will be dimmed, indicating this piece can, however, be split.

### Splitting Infantry:

2-squad or 3-squad units may be split into two infantry units. Whenever a 2- or 3- squad infantry unit is selected, and is not currently sharing a hex with another piece, then the "Group" button, will change to the "Split" button. Clicking the "Split" button will cause a 1-squad infantry unit to be split off and share the hex with the remaining squad unit. The two new infantry units will have the same "moved" status as the original unit.

### (Example:

If an INF 2 is split after having moved one hex, then the two new INF 1 units will both have moved 1 hex and can be undone back to the same hex as the original INF 2). The "Split" button will immediately change back to the "Group" button allowing the two infantry units to be recombined if so desired.

### Ramming:

An Ogre can damage or destroy an armor unit by ramming it. This is accomplished by moving onto its hex. Any immobile armor unit (i.e., a howitzer or any unit that has been disabled) is destroyed when rammed by the Ogre. Any mobile armor unit has a 50% chance of being disabled and a 50% chance of being destroyed when rammed. The Ogre however, pays a price. Ramming a heavy tank, the Ogre loses 2 treads. Ramming any other armor unit costs the Ogre 1 tread. An Ogre can completely destroy the Command Post with a single ram at no tread loss to itself. If the Ogre disables a piece when ramming it, then the Ogre will be highlighted to indicate that a piece is underneath it. If the Ogre has any movement left it can ram the piece again, thus destroying it. If the Ogre moves off the disabled piece, the piece will be dimmed (blue) as an indication that it is disabled. THE OGRE CAN ONLY RAM TWICE IN ONE TURN. Armor units may in turn, ram the Ogre. This ram, however is sacrificial and destroys the ramming armor unit. (Sort of like using your compact car to ram the crawler that carries the Space Shuttle to the launching pad). The Ogre loses 1 tread due to this. This ploy is not recommended except in dire emergencies.

### WARNING:

A Ram CANNOT be undone. Therefore, any time a piece moves onto an opponent's hex, a dialogue box appears requesting verification of the ram. Clicking "ok" allows the ram to proceed. Clicking the "cancel" will abort the move.

### Overruns:

Infantry are not rammed by an Ogre, but overrun. If an Ogre moves onto

a hex occupied by infantry, that infantry is reduced by one squad IF THE OGRE HAS ANY ANITPERSONNEL WEAPONS LEFT. If the Ogre does not have any antipersonnel weapons, the infantry is not reduced. There are no limits on overruns; the Ogre can overrun for as many moves as it has. In addition, overruns do not cause the

Ogre any damage. An infantry unit may move onto a hex occupied by an Ogre without any immediate effects. The infantry will, however, be reduced by one squad at the beginning of the Ogre's Movement

Phase, providing the Ogre has any antipersonnel weapons, without the Ogre having to expend movement points to do so. WARNING:

Overruns cannot be undone. Therefore, any time an Ogre moves onto a hex containing infantry, a dialogue box appears requesting verification of the overrun. Clicking "ok" allows the overrun to proceed. Clicking "cancel" will abort the move.

### GEV Double Movement:

A GEV may move twice per turn - once (up to four hexes) during the defender's Movement Phase, and again (up to three hexes) during the GEV Movement Phase following the defender's attack phase.

### Ending Movement:

To end the Movement Phase, click the "Done" button. If all of a player's pieces have not been moved when the "Done" button is clicked, a dialogue box appears requiring a verification to end the Movement Phase.

### One-Player Ogre Movement:

During the Ogre Movement Phase in the one-player game, the pointer will disappear while the Ogre is thinking about where to move. When done, the Ogre automatically moves. If the Ogre rams a piece, there may be another pause while the Ogre considers a different move.

### COMBAT:

A Combat Phase occurs after each Movement Phase (except for GEV second-phase movement). During a Combat Phase, the "Undo" and "Group/Split" buttons in the sidebar change to "Clear" and "Fire", respectively. These buttons are dimmed initially, and remain so until weapons have been aimed.

### Weaponry:

Most weapons are heavy rapid-fire cannon using tactical nuclear shells, capable of fire in any direction. Each unit may apply its attack strength once per turn. Each intact Ogre weapon may apply its attack strength once per turn, with the following exceptions:

### Antipersonnel:

The Ogre's antipersonnel weapons are effective only against infantry and the Command Post. No infantry unit may be attacked more than once per turn by antipersonnel. When all antipersonnel weapons are gone, an Ogre can no longer reduce an infantry unit's strength by overrunning it.

### Missiles:

Each of the Ogre's missiles are one-shot weapons. Once fired (or destroyed before firing), they are gone.

### Ogre Attacks:

An Ogre may attack an enemy unit by dragging from the Ogre's hex to the enemy hex. If the Ogre has any unfired weapons that can reach the enemy, a dialogue box will appear offering the available weapons. Weapons that have been fired, destroyed, or are out of range will be dimmed and cannot be selected. Clicking on the desired weapon highlights it and displays the weapon's attributes in the sidebar. Clicking on the up arrow in the dialogue box will increase the number of the selected weapon to be fired (up to the maximum number of this type weapon available). Clicking the down arrow will decrease the number. At the very bottom of the sidebar is a window displaying the probability of

killing the target with the selected weapons. Any number and type of weapons can be fired in combination to increase this chance. The probability of killing will not always be increased by combining weapons. This probability is derived from the ration of the total Attack Strength of the attacker(s) to the Defense Strength of the target. Sometimes the combined attack strengths are not enough to reach the next highest ratio. The following table contains the probabilities for all he possible ratios.

| Ratio of Attack Strength to Defense Strength | Prob. of Killing an Active Piece | Prob. of Killing a Disabled Piece |
|----------------------------------------------|----------------------------------|-----------------------------------|
| less than 1 - 2                              | 0%                               | 0%                                |
| 1 - 2                                        | 17%                              | 33%                               |
| 1 - 1                                        | 33%                              | 67%                               |
| 2 - 1                                        | 50%                              | 83%                               |
| 3 - 1                                        | 67%                              | 100%                              |
| 4 - 1                                        | 83%                              | 100%                              |
| greater than 4 - 1                           | 100%                             | 100%                              |

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PREFERENCES:

OGRE lets you customize various game features to suit your own taste, and can be used before or during a game. Selecting "Preferences" from the "OSI" menu will display the Preferences dialogue box. This presents you with five options to modify. Clicking on an option will change it. If an option has more than one choice, click on it until the desired choice is displayed.

The Options are:

Sound Effects: The default is "yes" (meaning sound effects will be heard). Turning sound effects off not only makes OGRE play more quietly (in case someone in the house is trying to sleep) , but also causes the program to operate a little faster.

Reminders: During play, various dialogue boxes will appear as reminders that you have not performed all of the actions available to you, or that you are about to perform an irrecoverable action. If, for example, "Done" is clicked during the Defender Move phase and all of the defenders that can move have not done so, then a reminder dialogue box appears. There is a reminder for the end of each game phase as well as areminders for ramming and overrunning. The default for reminders is "yes".

Skip Empty Turns: There are times when there is no possible action during the phase. If, for example, the Ogre has had all of its weapons destroyed, then there is nothing for the Ogre to do during the Ogre Attack Phase. Nonetheless, the Ogre Attack Phase appears and "Done" must be clicked to go on to the next phase. These "empty" turns can be bypassed automatically by setting "Skip Empty Turns" to "Yes". The default for skipping empty turns is "No".

Ogre Message Speed: During the one-player game where the Ogre is controlled by the computer, various messages will appear informing the player as to what the Ogre is doing. The time that these messages remain visible can be modified with "Ogre Message Speed". the choices are "low", "med", and "high". The default is "low". this option appears dimmed during a two player game.

Ogre Skill Level: This option allows the player to modify the level of intelligence with which the Ogre plays during the one player game. The levels are "low", "med", and "high". The default is "low". This option appears dimmed during a two player game.

DETERMINING COMBAT RESULTS AND THE COMBAT RESULT TABLE:

Here is how combat results are determined in the original OGRE as designed by Steve Jackson. The computer version of OGRE computes combat results in the same fashion, but in a manner totally transparent to the player.

In general, each attack is resolved by comparing attack and defense strengths of the units involved, and then rolling a die. specifically: For each attack, all attack strengths involved are totaled, and then

compared with the defense strength of the target in ratio form. This ratio is then rounded off in the defender's favor to one of the ratios shown on the COMBAT RESULTS TABLE. In other words, the target of the attack, be it Ogre or standard unit, gets the benefit of the rounding-off. Examples: 2 attack points against 1 defense point would be a "2 to 1" attack. 2 attack points vs. 2 defense points = 1 to 1; 3 attack points vs. 2 defense points = 1 to 2; 6 attack points vs. 1 defense point = 6 to 1 (treated as 5 to 1; see the Combat Results Table). Once the ratio is determined and rounded off, the attacker rolls the die and consults the proper column of the Combat Results Table to find the result. Results are applied immediately.

| COMBAT RESULTS TABLE : COMBAT ODDS |     |     |     |     |     |  |
|------------------------------------|-----|-----|-----|-----|-----|--|
| Die Roll                           | 1-2 | 1-1 | 2-1 | 3-1 | 4-1 |  |
| 1                                  | ne  | ne  | ne  | d   | d   |  |
| 2                                  | ne  | ne  | d   | d   | x   |  |
| 3                                  | ne  | d   | d   | x   | x   |  |
| 4                                  | ne  | d   | x   | x   | x   |  |
| 5                                  | d   | x   | x   | x   | x   |  |
| 6                                  | x   | x   | x   | x   | x   |  |

Attacks at less than 1 to 2 are always ne  
Attacks at 5 to 1 or better, are always and automatic x

#### Explanation of Symbols:

ne: "no effect", The unit attacked is undamaged.

d: Four Possible results, depending on the unit attacked.

1) An Ogre is undamaged. (This shows as "glanced" in the sidebar)

2) An infantry unit has its strength reduced by 1

3) An armor unit is disabled. the unit can neither move nor fire next turn. An armor unit remains disabled until the end of the enemy's next Combat Phase.

4) A disabled armor unit is destroyed if it receives a second "d" result while disabled.

x: If the unit attacked is an Ogre, the part of the Ogre that was attacked is destroyed. If the defender is any unit other than an Ogre, it is destroyed.

#### FIELD EDITOR MESSAGES:

Command Post Already Present: Appears when the player attempts to put more than one Command Post on the field

Crater in the Way: Appears when the player attempts to move the Ogre onto a crater.

Please stay on the Map: Appears when a click occurs anywhere except in a legal area.

#### GAME MESSAGES:

2 units in hex Please move 1: When two defenders are in the same hex, one of them must be moved off before any action may be taken elsewhere. This message appears if any action is attempted with a defender other than the two are residing in the same hex.

Can't move onto a crater: Appears when attempting to move a piece onto a

crater.

Can't move that far: Appears when attempting to move a piece more than its movement allowance.

Command Post can't attack: Appears when the player attempts to target the Ogre with the Command Post.

Disabled Can't attack this turn: Appears when the player attempts to target the Ogre with a disabled piece.

Disabled Can't move this turn: Appears when the player attempts to move a disabled piece.

Entire squad has aimed or fired: Appears when the player attempts to target the Ogre more frequently than the number of units in the squad.

No attacker: Appears when the player attempts to target opponent by dragging from a hex that doesn't contain a piece.

No clear path: Appears when the player attempts to move a piece from one hex to another, and there is no path of empty hexes short enough to complete the move.

No combined on attacks on treads: Appears when the player attempts to combine pieces in an attack against the Ogres treads

No Target: Appears when the player attempts to target the opponent by dragging from a piece to a hex that doesn't contain an opponent.

No treads left!: Appears when the player attempts to move an Ogre that has no treads.

Not enough treads to ram: Appears when the player attempts to ram that will cost the Ogre more treads than it has remaining.

Ogre can't enter on a crater: Appears when the player attempts to bring the Ogre onto the field on any row other than the bottom one.

Only two rams per turn: Appears when the Ogre player attempts to ram more than two pieces in one turn.

Piece cannot move: Appears when the player attempts to move the Command Post or howitzer.

Please move a piece: Appears when the player attempts to move a crater, an opponent's piece, or from a blank hex.

Please stay on the map: Appears when a click occurs anywhere except in the legal area.

Target one unit at a time: Appears when the Ogre attempts to target more than one defending unit at a time.

Target out of attack range: Appears when the Ogre is beyond the range of the attacking piece, or when the ogre attempts to target a piece beyond the range of its available weapons.

This hex is full: Appears when the player attempts to move a defending unit onto a hex that already contains the Ogre and another defending unit.

This unit has moved: Appears when the player attempts to move a piece that has already moved it's full movement allowance.

Unit already aimed this turn: Appears when the player attempts to target the Ogre with a piece that is already aimed at the Ogre.



CHANCE TO MINE SOME OF THOSE DEEPLY BURIED OIL PELLETS. BE CAREFUL, THOUGH- THE LAND MINES ARE NOT AFFECTED BY PERTROMINS.

AS YOU MINE EACH OF YOUR EIGHT OIL FIELDS, CONSTRUCTION WORKERS ARE BUSY OVERHEAD BUILDING A REFINERY. CLEAR OUT ALL THE FIELDS AND YOU REFINERY WILL BE FINISHED. YOU CAN SELL YOUR REFINED OIL, AND LIVE ON EASY STREET FOR THE REST OF YOUR LIFE!

WHAT ARE YOU WAITING FOR? YOUR FIRST FORTUNE IS ONLY MINUTES AWAY!!!

-----  
THE PLAYERS  
-----

DRILL BITS  
(THAT'S YOU!) YOU GET 3 TO START WITH, AND ANOTHER EVERY 10,000 POINTS. EACH HAS A LIFE SPAN OF 990 TICKS.

LAND MINES  
(BOMB-LIKE) YOUR DRILL BIT WILL DETONATE THIS, BUT IT WON'T HURT YOUR PIPE.

OIL PELLETS  
(DOTS) GOBBLE UP EVERY ONE >10 POINTS< OF THESE TO ADVANCE TO NEXT FIELD.

PETROMINS  
(LOOKS LIKE A SUN)SPECIAL OIL NUGGETS THAT SLOW DOWN THE OOZIES.

OOZIES  
(LITTLE SNEAKER MEN!)THESE >20-170 PTS.<THESE WILL DESTROY YOUR PIPE, BUT YOUR DRILL BIT WILL DEVOUR THEM (POINTS INCREASE AS YOU DIG DEEPER

GOBLETS  
YOUR DRILL BIT CAN MINE >1000 PTS.< THESE SUPER-RICH DEPOSITS; THEY PASS HARMLESSLY THROUGH YOUR PIPE

=====

DOCUMENT one.on.one

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-----  
ONE ON ONE  
BY THOMAS COLLINS  
-----

BASKETBALL- A VERY FAST GROWING SPORT. THE GAME OF BASKETBALL HAS NOW BEEN RE-INTRODUCED INTO THE COMPUTER GAME IN DUSTRY. WITH THE HELP OF TWO BASKETBALL STARS, DR. J & LARRY BIRD; ELECTRONIC ARTS HAS OUTDONE THEMSELVES AGAIN BY COMING OUT WITH THE NEWEST IN REAL-ACTION SPORTS GAMES- ONE ON ONE. IN THE NEXT FEW PAGES I WILL TRY AND GIVE YOU AN OVERVIEW OF THIS GAME AND SOME STRATAGIES AT PLAYING IT.

-----

OBJECT- THE OBJECT OF COURSE IN ONE ON ONE IS TO MAKE MORE BASKETS THAN YOUR OPPONENT, JUST LIKE IN ANY GAME OF BASKETBALL.

-----

CONTROLS- THE CONTROLS USED IN ONE ON ONE ARE EITHER THE KEYBOARD OR THE JOYSTICK. I HAVE FOUND THAT JOYSTICK IS MUCH EASIER TO USE. IF YOU DO USE KEYBOARD YOU MAY CHANGE THE KEYS TO YOUR LIKING.

-----

THE CHOICE PALET- AFTER THE GAME HAS BEEN RUN YOU WILL SEE A DEMO, PRESS THE BUTTON OR <SPACE BAR> AND YOU WILL BE PROMPTED WITH THE "CHOICE PALET" THIS IS WHERE YOU CUSTOMIZE YOUR GAME. YOU MAY FIRST CHOOSE WHETHER YOU WISH TO HAVE THE WINNER (ONE WHO MAKES THE BASKET) OR THE LOSER TAKE OUT THE BALL AFTER EACH SHOT. YOU MAY THEN CHOOSE TWO-PLAYER OR ONE PLAYER. IF YOU CHOOSE ONE PLAYER YOU MUST DECIDE WHO THE COMPUTER WILL PLAY (DR.J OR BIRD). IF YOU CHOOSE TWO PLAYER YOU HAVE THE CHOICE OF PLAYING WITH TWO JOYSTICKS (IF YOU HAVE TWO JOYSTICKS) OR DEFENSE ON KEYBOARD. (PLAYING WITH TWO JOYSTICKS IS, OR COURSE, MUCH EASIER) SINCE MOST PEOPLE DO NOT HAVE TWO JOYSTICKS YOU WILL HAVE TO CHOOSE THE KEYS YOU WISH AND PLAY THAT WAY. WHEN YOU DO PLAY EVERY TIME THE BALL SWITCHES OVER TO THE OTHER PLAYER YOU MUST SWITCH CONTROLS (ACTUALLY CHANGING HANDS). THAT CAN BECOME A REAL DRAG.

THE NEXT THING YOU MUST CHOOSE IS WHAT TIME OF SKILL LEVEL YOU WISH TO PLAY AT. THERE ARE FOUR:

- LEVEL 1 (EASIEST) IS PARK & REC
- LEVEL 2 (EASY) IS VARSITY
- LEVEL 3 (MODERATE) IS COLLEGE
- LEVEL 4 (VERY HARD) IS PRO

THE LAST THING YOU HAVE TO CHOOSE IS THE ACTUAL GAME PLAY, WHAT I MEAN IS DO YOU WANT TO START A NEW GAME OR RESUME THE GAME YOU LAST WERE PLAYING OR JUST GO TO A DEMO, USING YOUR CHOICES.

IF YOU DO FOLLOW THE BASKETBALL SCENE YOU WILL SEE FROM THIS GAME THAT MANY OF THE PLAYERS' REGULAR SHOTS IN REAL LIFE ARE USED. FOR INSTANCE IF YOU PLAY PRO, WITH YOU BEING THE BIRD, DR. J BLOCKS YOU LIKE CRAZY WHEN HE'S ON DEFENSE. AND WHEN HE'S ON OFFENSE, HE'S HARD TO BLOCK.

-----

PROPS-

\* THE CLOCK -  
DISPLAYS, OF COURSE, TIME REMAINING IN THE QUARTER, THE NUMBER OF



## Apple II Computer Info

FOULS YOU HAVE (DISPLAYED AS DOTS UNDERNEATH EACH PLAYER'S NAME); AND THE QUARTER YOU ARE IN.

\* THE SHOT CLOCK - THIS DISPLAYS THE AMOUNT OF TIME YOU HAVE LEFT TO SHOOT THE BALL. IF YOU DON'T SHOOT BEFORE TIME IS UP, YOUR OPPONENT GETS THE BALL.

\* THE BACKBOARD - YOU KNOW WHAT THIS IS AND SOMETIMES YOU CAN BREAK IT, BUT BETTER NOT, OR YOU'LL GET YELLED AT.

\* THERE IS EVEN A REFEREE THAT COMES OUT AND BLOWS A WHISTLE IF YOU FOUL, AND THEN DISPLAYS YOUR FOUL. THEN YOUR OPPONENT USUALLY GETS ONE OR TWO FREE-THROWS.

\* ON THE BOTTOM OF THE SCREEN ARE TWO BARS OR ROWS OF DOTS WHICH DISPLAY THE PLAYER'S FATIGUE (THE MORE THE FATIGUE THE WORSE HE PLAYS). THE MORE YOU JUMP AROUND AND THE FANCIER SHOTS YOU MAKE, THE MORE YOUR FATIGUE GOES UP.

-----  
SPECIAL COMMANDS:

IF YOU WANT TO GET RID OF ALL THAT FATIGUE YOU HAVE, JUST PRESS "T" WHEN YOU HAVE THE BALL AND YOU WILL CALL A TIME OUT, BUT YOU CAN ONLY CALL ONE PER QUARTER, AND YOUR OPPONENT ALSO GETS TO REST DURING THAT TIME OUT, SO HIS FATIGUE GOES DOWN TOO. SO USE IT WISELY.

IF YOU WISH TO CHANGE THE CHOICES YOU MADE AT THE BEGINNING OF THE GAME JUST PRESS (CTRL-R) AND YOU WILL GO BACK TO THE CHOICE PALET. AFTER YOU FINISH, YOU MAY "RESUME GAME".

IF YOU NEED TO DO SOMETHING, JUST HIT THE <ESC> KEY AND THE GAME WILL PAUSE UNTIL YOU TOUCH THE <SPACE-BAR>.

ANOTHER COMMAND THAT YOU MAY WISH TO USE IS THE <SHIFT-!> COMMAND. IF YOU PRESS THIS YOU WILL PLAY IN SLOW MOTION. TO SWITCH BACK TO NORMAL PLAY, JUST TYPE IT AGAIN.

-----  
WHILE PLAYING:

IF YOU GET THE BALL AFTER YOUR OPPONENT MISSED, MAKE SURE YOU COME BACK AND CLEAR THE BALL, OR BRING THE BALL BEHIND THE CENTER LINE, OTHERWISE YOUR POINT (IF YOU MAKE A SHOT) WILL NOT COUNT.

YOU MAY THINK THAT YOU CAN NOT BLOCK YOUR OPPONENT'S SHOTS, WELL, LETS JUST SAY IT'S HARD.

WHILE YOU ARE PLAYING, ON OFFENSE YOU CAN PRESS BUTTON (0) JUST SLIGHTLY AND YOU WILL SPIN TOWARD OR AWAY FROM YOUR OPPONENT. IF YOU PRESS BUTTON (0) HARD OR LONG YOU WILL SHOOT THE BALL. (SPACE BAR FOR KEYBOARD).

ON DEFENSE BUTTON (0) IS USED FOR:

- A) JUMPING TO BLOCK A SHOT
- B) TRYING TO STEAL THE BALL

WHEN YOU ARE "ON TOP OF" YOUR OPPONENT AND PRESSING THE BUTTON YOU WILL BE TRYING TO STEAL THE BALL, OTHERWISE IF YOU ARE AWAY FROM YOUR OPPONENT AND PRESS BUTTON (0) YOU WILL JUMP UP. (THE MORE FATIGUE YOU HAVE THE LESS YOU CAN JUMP).

IF YOU GET THE BALL IF YOUR OPPONENT MISSES THE SHOT, BUT IT CAN BE DONE, A HINT IS TO TRY AND JUMP BEFORE HE DOES, OR DO IT AS SOON AS

YOU THINK HE MIGHT TRY AND SHOOT, OR YOU COULD TRY AND GO BACK FARTHER AND WAIT UNTIL IT GETS NEAR THE BASKET AND TRY TO TIP IT OUT.

MOST PEOPLE ALREADY KNOW THIS, FROM JUST KNOWING HOW TO PLAY BASKETBALL, BUT FOR THOSE OF YOU WHO DON'T, YOU CAN GET THREE POINTS, INSTEAD OF TWO, IF YOU SHOOT THE BALL, AND MAKE IT, FROM THE BIG HALF-CIRCLE ON THE OUTSIDE.

IMPLANTED IN THE GAME IS A MODE CALLED "HOT STREAK". IF YOUR PLAYER MAKES THREE CONSECUTIVE SHOTS (IN) THE NEXT SHOT WILL AUTOMATICALLY GO IN, FROM WHEREVER YOU ARE. THIS CAN BE HELPFUL IF YOU ARE ONLY BEHIND BY ONE OR TWO POINTS. YOU COULD QUICKLY GO DOWN TO THE WIDE HALF-CIRCLE ON THE OUTSIDE AND SHOOT, AND YOU'D KNOW IT WOULD GO IN. THAT'S IT, HAVE FUN!

1) ACCELEROMETER: an instrument that measures the rate of acceleration changes. Located on the Bridge control panel by the co-pilot chair.

2) AIRLOCK: a chamber that adjusts air pressure for passage from on-board to extravehicular environment and vice versa. Located mid-ship on the port side.

3) APOGEE KICK MOTOR: a rocket motor that fires at the apogee of an oval transfer to launch the craft into a circular geostationary orbit. Located in the Port Engine Room.

4) AVIONICS: the electronics system and instruments that monitor and control ship functions in flight. Located on bridge.

5) COMPUTER CARD UNIT: storage for individual Universal Activan Data Cards to control various computer information functions. The cards can easily be exchanged and updated to the most recent banks. Located in the Main Computer on the port side before entering the Bridge.

6) CRYON PURIFIER: a filter that intensifies cryon particles emitted by the power cylinder. Located in the Port Engine Room.

7) ENERGY CONVERTER: an "Xchanger" energy converter that uses zellium-based internal coils to convert various forms of energy created by the power cylinder into usable light drive energy. Located in the Port Engine Room.

8) EXTRAVEHICULAR HELMET: a self-sealing headgear used in conjunction with Extravehicular Space Suit and Thermo Gloves for extravehicular activity in hostile or no-environment situations. Contains light activated face shield and portable oxygen recirculator.

9) EXTRAVEHICULAR SPACE SUIT: a self-sealing and regulation thermo-spacesuit used in conjunction with Extravehicular Helmet and Thermo Gloves for hostile and no-environment extravehicular activity.

10) GYRO-MATIC LEVELER: a system that stabilizes the spacecraft during flight. Controls stability along linear (roll), planer (pitch) and vector (yaw) axes. Located in the Bridge control panel.

11) HYDRO-PARTICULATOR: a life-support component that purifies and recycles condensation from internal atmosphere of the craft into the water system. Located in the Life-Support Center.

12) KRYLLIAN CHIP: a vital component of the transmission beacon. Located on the Bridge.

13) LIGHT-ROD: a short-term source of light that absorbs energy from available light when not in use. Required in the Life-Support Center during flight and removable for emergencies.

14) MAIN SHIELD UNIT: a portable protective unit that, when installed, creates a "cushioning" shield around the spacecraft to prevent damage from micro-meteoroids and other space debris. Installs on the garon ray transfer housing in the Starboard Engine Room.

15) NAVCHIP: a computer component that contains current interstellar causeway information and navigational beacon. It controls firing of the external retro-rockets during flight. Located in the Bridge control panel.

16) OXYGEN RECIRCULATOR: a vital component of the Life-Support Center that removes condensation and harmful gases from the internal atmosphere of the ship. Whater particles are channeled into the hydro-particulator and gasses are jettisoned into open spaces. Located mid-ship on the starboard side.

17) THERMO GLOVES: self-sealing hand protection used in conjunction with Extravehicular Helmet and Extravehicular Space Suit for hostile and no-environment extravehicular activity.

18) TACHYON POWER CYLINDER: a power intensifier that creates a radioactive

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DOCUMENT oo.topos

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Complete OO-TOPOS Docs written by:

Juan Matus & KnightWriter

The Blue Chip Exchange: (606)-291-6502

This documentation contains the Operators Manual, Letter from the President of the Space Ecological Society, and the Auto Flight Log.

OPERATORS MANUAL

-----

This operator manual contains important information regarding operation of the Intergalactic star fleet Astro Mega Class series of intermediate-range spacecraft.

In order to obtain maximum usage of this spacecraft, we suggest all craft pilots familiarize themselves with the contents of this booklet and follow the recommendations outlined.

Astro Mega Class vehicles should be operated only by a trained, licensed pilot. This book is NOT meant to be used as space flight instruction.

The Astro Mega Class meets or exceeds all applicable Intergalactic Federation star fleet safety standards. Effectiveness of these safety features can best be continued through regular craft inspection and maintenance. Proper repair of this craft should be done only by a qualified Astro Development technician. Always specify Astro Development parts for maximum performance and economy.

Observe all flight regulations.  
Make safety a habit!

Main Computer

-----

Using advanced technology, the Astro Mega Class craft is virtually self-operational. The on-board computer system provides all engine control, navigational maneuvers, and systems monitoring necessary for intermediate-range space travel.

The Main Computer is entirely voice-activated. The system receives audio input only at the Main Computer Console, located behind the bridge on the port side. However, the system provides audio output anywhere on-board.

COMPUTER OPERATION-When the vehicle is in total shutdown, the computer must be re-activated for flight. Audio input of the MISSION CODE is required to begin computer functions. Audio input of the word "STATUS" initiates a computer check of all on-board systems. Audio output will notify the pilot of malfunctions, safety hazards, or any other disorder that would imperile space travel. Intergalactic Federation safety codes requier that ALL SYSTEMS MUST BE IN PROPER OPERATING CONDITION IN FOR THIS CRAFT TO ENTER FLIGHT. Audio output will notify the pilot of lift-off condition with the ALL SYSTEMS CHECK response.

The Main Computer performs other functions besides standard ship operation. For example, with audio input of the word "VALUE," it will appraise any item and supply currency exchange rates for nearby star systems.

Bridge Controls

-----

Bridge controls are automatically activated and monitored by the Main Computer. Override Systems will function only during an emergency landing situation.

Primary Components

zone around the engine core using intense alpha-coronic waves. Supplies limitless engine power and life support capabilities. Located in the Port Engine Room.

CARGO BAY  
-----

The Cargo Bay is located in the center of the spacecraft and measures 8 x 7 x 7 fteegs. The entrance to this area of the ship is airlocked since the CARGO BAY doors must sometimes be opened during flight. The Cargo Bay is designed to accommodate most cargo and payload support equipment (i.e.- for specialized atmospheric control). The size and weight of all cargo support equipment must be included with data that is fed into the Main Computer to determine exact payload limit.

PAYLOADS  
-----

The Mega Class spacecraft is capable of carrying two types of payload:

- 1) ATTACHED PAYLOAD: remains in the cargo bay during flight and unloaded only at fixed landing destinations.
- 2) FREE-FLYING PAYLOAD: is deposited in space through the Cargo Bay airlock during flight. Free-flying payload requires proper orientation training and instruction. It is best to check the payload manufacturer for recommended disembark information.

EMERGENCY LANDING  
-----

The Main Computer operates all emergency landing functions. However, in an emergency landing situation, the pilot can engage the Main Computer auto-pilot override system. This enables the pilot to combine Main Computer scanning data with optic visualizer input.

SPECIFICATIONS  
-----

Ship type: Mega Class Tachyon Drive  
Model 12,288  
Identification Code: XX4357G900S5.1  
Weight (fueled): 75,000 BS (165,000 LM)  
Cargo Capacity: 1,000,000 BS (2,200,000 LM)  
Wingspan: 25.73 FG (84.42 T)  
Length: 35 FG (114.83 T)

External Hull Composition: Ablative Nuvonic Trainium  
Inner Hull Composition: Spanedar Voraxion  
Engine Type: Taychon-convert 5000  
Engine Thrust: 14,900,000 KN  
Maximum Speed: 4.5 LPM  
Fuel Capacity: 400,000 Lemperes~

~NOTE: Use ONLY ungarbonized fuel.

SPACE ECOLOGICAL SOCIETY  
OFFICE OF THE PRESIDENT

J. Castor Nebulus  
President

Date: 51.7.290  
Time: 06.13.00  
Communication: Argo HQ, President  
To: Flight Commander Argo Base

Mission Code: TSE957X  
Priority: Urgent--red level  
Depart: White Bay 2. Maximum speed, immediate upon receipt of this directive.  
Destination: Observation Labport 5V, Station 5 Omega Sector 12  
Objective: Transport protective compound to Labport  
Background: Outside the boundaries of star system 69 Omega is Observation Labport 5V. Subject of this Labport is star 69B and surrounding planets. The third planet of this system (Earth) is inhabited. Earth has no knowledge of or contact with the numerous members of the Intergalactic Society. An interstellar transport carrying power transfusion waste collided with a meteor and its toxic contents have scattered into open space. These contents are being drawn toward star 69B (Sol) and Earth is in the path. The transfusion waste is so deadly that all lifeforms on Earth could be destroyed on contact. Earth is not aware of the problem and does not have the technology to avert a disaster. A protective compound has been synthesized by SES scientists. With seeds of this compound, Labport 5V can produce the chemical and secretly introduce it into Earth's atmosphere. It is IMPERATIVE that no attempt be made to communicate directly with lifeforms on Earth. Earth is within a restricted travel zone. Sudden contact with other lifeforms could cause irreparable damage to Earth's development.  
Comments: The SES has great hopes for the inhabitants of Earth. It is of the utmost importance that we do whatever possible to avert this disaster.

Good Luck,

J. Castor Nebulus  
PRESIDENT

JCN:ps

AUTO FLIGHT LOG  
-----

Date: 54.7.290  
Mission code TSE957X

Time: 07.23.12 Mission code accepted. Prepare for departure. Audio input received. Executing on-board systems check. Please be seated and fasten your safety harness.

Time: 07.24.11 ALL SYSTEMS CHECK. Proceeding with departure sequence. Taychon drive engaged. Output: full thrust.

Time: 08.01.09 Departure successful. Mission course preset. Destination: Observation Labport 5V. ETA: 310 minutes.

Time: 12.14.30 ALERT. Course deviation detected. Cause unknown. Initiating auto-course reset.

Time: 12.16.14 ALERT. Course reset unsuccessful. Scanners indicate probable cause of deviation: tractor beam. Origin: Theta Sector 6. Commencing evasive maneuver sequence. Please standby.

Time: 12.22.07 ALERT. Evasive maneuver sequence complete. Unable to escape tractor beam. Rapidly approaching planetoid located in Theta Sector 6. Scanners indicate tractor beam located on planetoid. Data suggests deliberate action to force landing of this craft. Transmitting MAYDAY code. Please standby.

Time: 12.29.17 ALERT. All transmissions jammed by unidentified device on planetoid. Estimated collision with planetoid: 4 minutes. Scanners seeking emergency landing site. Auto-pilot override system engaged. Now accepting input from optic visualizer.

Time: 12.30.58 Planetoid identified. Name: Oo-Topos. Planet type: 40 Gamma Gamma Titan Class Fel iron moon. Gravity: 1/1. Position: variable. Orbit: no data. Indigenous sapient life forms: no data. Last recorded contact: Delta Sector 5, merchant ship, Gladiator. Crew and ship missing. ALERT. Audio input received. Scanners confirm emergency landing site location. Commencing emergency landing procedures. Prepare for sea landing estimated: 2 minutes. Please be seated and fasten your safety harness.

Time: 13.01.22 ABORT EMERGENCY LANDING! Scanners indicate sea composed of highly corrosive materials. Auxiliary emergency landing site located. Prepare for hard landing on beach.

Time: 13.07.19 Emergency landing successful. Minimal damage to ship. Tractor beam still engaged. Lift-off impossible. Scanners indicate life-support conditions hostile. Atmospheric composition: 74.2% ammonia, 15.7% nitrogen, 10.1% other trace elements. No natural water supply. Preliminary life readings indicate no indigenous sapient life forms.

Time: 14.00.12 Scanners indicate buildings due west of beach. Unidentified life forms approaching ship on port side. Life forms not indigenous to Oo-Topos. CAUTION: data analysis suggests Oo-Topos is a likely base for space pirates. Scan.....ALERT! Breach in outer airlock.....

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DOCUMENT oo.topos.check1
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Command:

[Ctrl-S Stop/Start] [Spacebar to Exit]

/\/\\/\\/\Uploaded by Dos Ranger/\

[Ripco] Which 1-291 ?=menu,<CR>=abort:

#23 : Oo-Topos Inventory

-----  
Oo-Topos Inventory

-----  
Apple Manor Fantasy BBS (716) 654-POOF!  
-----

Presented by BETS C.

An Extraterrestrial Adventure  
By Michael Berlyn  
Sentient Software

The object of this 142 room text adventure is to rebuild your ship and gather up your scattered cargo. There are about 45 items to find. When you're done, and the items are in the hold type SCORE.

Object List

-----  
Laser  
Dart

Needler  
Seeds  
Tachron Power Cylinder  
Gyroscope  
Oxygen Recirculator  
Seamless box (compass)  
Navigation Chip  
Repair Manual  
Converter  
Water System  
Goggles  
Vibroaxe  
Gloves  
Pressure Suit  
Flask  
Cage  
Field Nullifier  
Light Rod

Translator  
Plaque  
Small Ring  
Library Crystal  
Plasma Sphere  
Vega Silver  
Psi Cube  
Elixir Energy  
Double Helix Healer  
Atom Transmuter  
Emerald Flower  
Terran Relics  
Harmonica  
Ruby Seashell  
4-D Mirror  
Betamax Cassette  
Moon Jewel  
Rainbow Cloth

Food Packet  
6502 Chip  
Jade Seahorse  
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=====
DOCUMENT oo.world.pws
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=====
DOCUMENT outpost
=====

Table with 3 columns: Crime Ring International, Out of This World GS Level Codes (Presented by The Magnet, Thanks to Blue Adept & Thrashin, The Magnetic Field : 708/498-5189), Crime Ring International.

Here are ALL the level codes for Out of This World GS....From Level 1-

- LDKD
HTDC
CLLD
FXLC
KRFK
XDDJ
LBKG
KLFB
TTCT
DDRX
TBHK
BRTD
CKJL
LFCK
BFLX
XJRT
HRTB
HBHK
JCGB
HHFL
TFBB
TXHF
JHJL

eof

Special Thanks to Bill Heineman for Believing in the Apple IIGS
Support Him and Others Like Him by PURCHASING Quality Software!

:-----:
OUTPOST
:-----:

CONTROLS:

- LASER: I - UP K - RIGHT M - DOWN J - LEFT
SHIELD: W - UP S - RIGHT Z - DOWN A - LEFT

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DOCUMENT oversampler

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Oversampler v1.0

April, 23. 1992

The Oversampler isn't anything special at all. It's just a small program demonstrating the oversampling technique on the Apple II GS. The other major feature of Oversampler is the ability to play digitized sound directly from disk without loading them into memory. The advantage is that you can instantly play long long sounds without waiting to load them from disk and you don't need to have 8 MB ram to play sounds of 8 MB - in fact Oversampler only requires 16 KB of free space!

## Oversampling

-----

If you own a CD player you may have read in the manual that your CD player uses four or eight times oversampling to improve sound quality. Oversampler is doing the same. With 2-times oversampling the program loads 8 KB of sound into memory, doubles the wave to 16 KB in sound ram by adding an intermediate value between every two values (e.g. 10, 20, 40, 25, 15, ... becomes to 10, 15, 20, 30, 40, 32, 25, 20, 15, ...) and doubles the frequency in order to play the sound at the correct speed. 4-times oversampling quadruples wave size and frequency by inserting 3 intermediate bytes and so on...

```

50
45
40      x                               x
35
30          ==>                         *   *
25          2-times                      *   *
20          oversampling                  *   *
15          ==>                         *   *
10      x      x                          x   x
 0          ...                            ...
-10
-15

```

## Using the program

-----

Open first a sound file by selecting 'Open' from the 'File' menu. You can select files of any type but Oversampler treats every file as raw data. Zeros in the data are converted to \$01 so you're able to play Macintosh sounds as well. (Otherwise the oscillator would stop when detecting a zero.) A dialog box appears with following options:

- Volume: Set the volume of the selected output channel. Explained in section 'Output'
- Frequency: With this scroll bar you can set the playback rate. When you open a file the auxtype is taken as default frequency (if 10 < auxtype < 900 else freq = 200.) To get the frequency in Hertz just multiply the shown rate by 51.406.
- Echo Delay: Use this scroll bar to set the echo to off (default) or to the delay you desire. A delay of 16 is about 1/3 second (16/60) so the echo source would be approximately 55 m (180 ft) away. Echo and oversampling mode won't work together (yet)! The echoed channel (right) has about 3/4 the volume of the original channel (left).
- Output: Stereo (default): Select this if you own a

stereo card. The volume control will affect the oscillators volumes.

Left & Right: Use these options to test you stereo card...(well, actually I don't know why I added these options.)

Internal: If you use your internal speaker or if you have connected your GS to an external speaker via phone plug select 'Internal'. The volume scroll bar will only change the system volume.

- Oversampling: Off: (default) No oversampling.  
 2-times/ 4-times: Enables the oversampling mode as explained earlier. Please remind that Oversampler internally doubles/ quadruples the frequency rate and disk access will be twice/ four times as fast as at normal playback. Your disk might be too slow then. (-> Play)
- Close: Closes the file. (Shortcut: Command-W)
- Play: Starts playing the sound from disk. Press the ESC key to stop the playback. If your disk device is too slow to keep up with the playback rate you'll get a message. In this case try decreasing the frequency or disabling the oversampling mode. The highest rate for the Apple 3.5" drive is about 375 (with Transwarp and w/o oversampling). My Vulcan - and most harddisks I think - won't have any problems at rates above 900.

---

Oversampler was written in 100% assembly language on Merlin 16+ (the best programming environment!) Resources were created on Genesys (the best resource editor!).

---

## Write to:

|                 |          |                         |
|-----------------|----------|-------------------------|
| Andre Horstmann | GENie    | A.HORSTMANN             |
| Hoehenweg 3d    | Internet | shadow@beiz.mediatex.ch |
| CH-6300 Zug     | Fax      | +41-42-22 45 72         |
| Switzerland     |          |                         |

## C(URVES (CONT)

```
=====
DOCUMENT paint.box
=====
```

```
*==*==*==*==*==*==*==*==*==*==*==*==*
*      PAINT BOX DOCUMENTATION      *
*==*==*==*==*==*==*==*==*==*==*==*==*
```

1. PRESS <ESC> TO GET TO AND FROM MENU. SELECT A MENU ITEM WITH THE ARROW KEYS. PRESS <RETURN> TO CARRY OUT THE ACTION SELECTED.
2. SELECT THE ITEM "COLOR:" AND PRESS <RETURN>. CHOOSE A COLOR.
3. DRAWING WITH PEN: OFF

PRESS <ESC> TO LEAVE THE MENU. THE PADDLE CONTROLS "PDL(0) AND PDL(1)" MOVE A SPOT ON THE SCREEN. BUTTON 0 MAKES A MARK; BUTTON 1 DRAWS A LINE TO THAT MARK IN THE CHOSEN COLOR. THE OLD ENDING POINT BECOMES THE NEW STARTING POINT.

4. DRAWING WITH PEN: ON PUSH BUTTON 0 TO MAKE A MARK ON THE SCREEN, THEN PRESS <ESC> TO GET TO THE MENU. SELECT THE ITEM "PEN:" WITH THE ARROW KEYS AND PRESS <RETURN>. THE PADDLE CONTROLS NOW WORK LIKE THE KNOBS ON AN "ETCH-A-SKETCH".

5. SPECIAL EFFECTS: F(ILL)

FILL IS USED TO FILL AREAS WITH A SOLID COLOR. USE BUTTON 0 TO SET 4 POINTS IN THE FOLLOWING ORDER:

```
      1      2
      *      *

      *      *
      3      4
```

THEN PRESS <ESC> TO GET THE MENU, SELECT "SPECIAL EFFECTS", AND PRESS "F" FOR FILL. THE AREA INSIDE THE 4 POINTS WILL BE FILLED WITH THE SELECTED COLOR. OF COURSE, THE POINTS CAN BE ENTERED IN OTHER ORDERS & OTHER THINGS WILL HAPPEN.

6. SPECIAL EFFECTS: C(URVES

THIS SPECIAL EFFECT WORKS SOMEWHAT LIKE A SPIROGRAPH. MARK 2 POINTS WITH BUTTON 0 IN THIS FORMAT:

```
      1
      *

      *
      2
```

## C(URVES (CONT)

THESE POINTS DETERMINE THE SIZE AND LOCATION OF THE CURVE. PRESS <ESC> TO GET THE MENU, CHOOSE "SPECIAL EFFECTS", AND PRESS "C" FOR CURVES. ENTER VALUES FOR A AND B (THESE DETERMINE THE SHAPE OF THE CURVE). NEGATIVE NUMBERS INVERT THE CURVE. THE CURVE "BOUNCES OFF" THE TOP, BOTTOM, & SIDES OF THE SCREEN. NEXT ANSWER "MODULATE THE CURVE?" WITH Y OR N. MODULATION ALTERS THE BASIC SHAPE. ENTER NUMBERS FOR "% AMPLITUDE" AND "FREQUENCY". USING 3,3 FOR A AND B (WHICH PRODUCES A CIRCLE), TRY:

```
AMPLITUDE=20,FREQUENCY=9
AMPLITUDE=30,FREQUENCY=9
AMPLITUDE=30,FREQUENCY=-9
```

OTHER INTERESTING SHAPES ARE PRODUCED BY

```
A=4, B=4;
A=10, B=23;
A=33, B=33;
A=12, B=6.
```

FINALLY, TRY A=-3, B=-3, AMPLITUDE=30, FREQUENCY=3. SURPRISE!!

\*\*NOTE\*\*

BUTTON 1 CAN BE USED TO BREAK OUT OF EITHER EFFECT AT ANY TIME. IN CASE OF ACCIDENTAL EXIT, RETURN TO BASIC BY ENTERING 3D0G AND <RETURN> IF REQUIRED. THEN TYPE GOTO 1000 AND <RETURN>.





```
Nice try suckweed
Enter Username: I.M. HACKED
Enter Password: BUG
```

```
Nice try suckweed
Enter Username: I.M. HACKED
Enter Password: STOPS
```

```
Nice try suckweed
Enter Username: I.M. HACKED
Enter Password: HERE
```

```
Sorry suckweed, 4 strikes
and you're more than out.
Goodbye...
Disconnecting...
```

```
)(*~~~@!
CARRIER LOST
```

(Notice: this system and its outputs are purely fictitious. Any resemblance to systems living or hacked is purely coincidental.)

Now look at the sample dialogue above. ("Scrolled into the Twilight Zone" you say? Should have used your printer.)

Line 0 represents the PPP dialing and connecting to the victim (I mean system). Line 1 indicates that the PPP ignores the system (SYS) immediately after connect and proceeds to line 2, where the PPP sends a carriage return to activate the SYStem. (Hence the "<C/R>" for Carriage Return at line 2). At line 3, the PPP waits for the system (SYS) to send "ENTER USERNAME:" at which point the PPP sends "I.M. HACKED", the name of our poor unsuspecting user (line 4). The PPP then waits to receive "ENTER PASSWORD:" from the SYS (line 5), after which the PPP tries a password from the database in memory (line 6). (the "<P/W>" at line 6 stands for <P>ass<W>ord as you might have guessed)

From this example you should see the correlation between the dialogue and the sample hack attempt. You might want to think of the SYS and PPP lines as INPUT and OUTPUT, respectively. If your computer displays lower case then you should have noticed that all Dialogue entries were in upper case, even though the hacked system's messages contained lower case letters. The Penetrator ignores case on incoming data, so all dialogue info is stored as upper case. The dialogue editor is simple yet versatile, and can be used to create a dialogue sequence for virtually any system.

### DIALOGUE EDITOR COMMANDS:

Use the arrow keys to move the lightbar through the dialogue.

Press [I] to input new lines in PPP/SYS pairs.

Press [D] to delete lines in PPP/SYS pairs.

Press [C] to clear the dialogue in memory.

Press [F] when finished editing the Dialogue to specify other hack parameters.

Press [ESC] to exit the Dialogue Editor.

Press [E] to edit the dialogue line highlighted in the lightbar.

During editing, any embedded control characters (including ctrl-P's and ESCape characters) will be displayed in the line.

While editing a line you can:

Enter [ESC] as the first character in any dialogue line to instruct the program to ignore that line and move immediately to the next.

Enter ctrl-P as the first character in a PPP (not SYS) dialogue line to specify the location of the password from the database. The Penetrator will display the ctrl-P in dialogue listing as "<P/W>", just as it displays an ESCape character as "<IGNORED>".

NOTE: The ctrl-P and ESC characters must be entered as the >FIRST< characters on a Dialogue line in order for them to function as password and ignore flags, respectively. If either a ctrl-P or an ESCape is entered in a dialogue line beyond the first position, it will be taken literally by the Penetrator.

Enter a semicolon [;] as the last character in a PPP (output) dialogue line to suppress the implied carriage return at the end of the line just as in BASIC when using the PRINT command. If the last character in a PPP line is not a semicolon, the program automatically adds a carriage return after sending the line.

IMPORTANT! You should enter all dialogue UP TO THE POINT at which the PPP should wait for the message sent by the system in response to an incorrect password. DO NOT ENTER THE SYSTEM'S BAD PASSWORD MESSAGE IN THE DIALOGUE! You will enter it after typing the <F>inished command. After you have finished creating your dialogue, you \*MUST\* exit using the <F>inished command. You will then be asked to enter a series of other hack parameters.

Immediately after you type <F>, the Penetrator will ask "MAINFRAME RESPONSE TO INVALID PASSWORD". Here, enter the text (or part of it) displayed by the mainframe after it receives a bad password. For the sample system above, you would enter "NICE TRY SUCKWEED" or "NICE TRY" or "SUCKWEED", or something else from the bad password message.

The Penetrator's next question is "BRANCH ON BAD PW TO LINE:". Immediately after the prompt, the current bad password branch line is displayed in parentheses. Use the arrow keys to move the lightbar to the line to which the PPP should branch after receiving the bad password message entered just previously. For the sample system above, you would move the cursor to line 3 where the Penetrator waits for the SYS to display "ENTER USERNAME:", since the system drops back to this prompt after displaying "NICE TRY SUCKWEED."

Next Penetrating question... "# OF PW ATTEMPTS BEFORE RESET?" Here you enter the number of passwords the Penetrator should attempt before bagging it, or resetting. Many mainframe systems, like the sample system above, let you screw up the password a fixed number of times after which they hang you up or shut down. For the sample system above, you would enter "4", since the system hangs up after 4 botched passwords.

Moving right along..."DELAY BEFORE RESET <0-255 SEC.>:". Some systems, rather than hanging up after a number of password screwups, lock up and ignore input for a period of time. An example is some Data General systems, which say "TOO MANY ATTEMPTS, CONSOLE LOCKING FOR 10 SECONDS." For such a system, you would enter 10 at the prompt. For the sample system above, you would enter 0, since the system hangs up and the PPP will have to redial anyway.

WAKE UP! YOU AREN'T READING THIS FOR YOUR HEALTH. The next prompt is: "RESET TO LINE:". As with the "BRANCH ON BAD PW TO LINE" prompt, you use the arrow keys to move the lightbar to the line to which the PPP should branch after trying the specified number of passwords and waiting the specified time before reset. For the sample system above, you would move the lightbar to line 0, to make the PPP to redial the mainframe system. Some other systems, like the type of Data General mainframe described above, do not require redialing. They will often just revert back to their initial activation sequence in which case the reset line in the dialogue would not be line 0.

Once you have selected the reset line, the PPP displays "MAINFRAME RESPONSE TO INVALID PASSWORD ON LAST ATTEMPT BEFORE RESET." On many mainframe systems, the mainframe's response to the final bad password before reset will be the same as for any bad password. On some systems, however, like the imaginary one described above, the response to the final bad password before reset will differ. For the sample system above, you would enter "SORRY SUCKWEED", "GOODBYE", "DISCONNECTING" or something else from the mainframe's final message before reset.

Next prompt: "TIME TO WAIT FOR PAD PW MESSAGE: (TIMES APPROXIMATELY 5 SECONDS) " After the Penetrator finishes with the dialogue, it waits to receive the bad password message you entered. If that message is not received in the amount of time you specify at this prompt, the Penetrator assumes it is a good password. At this prompt, enter a value which will produce a delay sufficiently long to receive the bad password message. The actual amount of time delayed by the PPP will be roughly (in seconds) 5 times the number you enter here.

The PPP will then ask you "OUTPUT SPEED <0-255>: ." Since some systems cannot receive data from the PPP at full speed, especially during times of heavy use, the speed at which the Penetrator sends data to the victim (I mean system) can be varied. Enter a value between 0 and 255, with 255 being the fastest.

The next option is "CASE TOGGLE ON PASSWORDS? ". If you answer [Y], the PPP will automatically resend every password in lower case. Normally, the PPP uses only upper case in passwords since many mainframe systems are case-insensitive on passwords.

Go ahead and sleep; this is the last one anyway: "START AT PASSWORD # ". Here you enter the number of the password in the database at which the PPP will start hacking. This is especially useful if you know either the first or last name of the user whose account you are hacking, and would like to try hacking his initials from the INITIALS password databases (supplied on the Hackamatic disk). If you stopped the PPP on a previous hack before it had reached the end of the password database, the number of next password in the list will be the default.

If you are using a previously created dialogue and accompanying set of hack parameters, then you do not need to use the [F] command and go through all of its options unless you plan to change them. Once you have completed these options, it is safe to hit [ESC] to exit the dialogue editor, rather than typing [F].

Finally. Now back to the main menu options...(there are others you know)

### 6: EDIT PASSWORD DATABASE

The Password Database Editor is essentially the same as the Dialogue Editor, but there are a few minor differences. It allows you to enter and edit a database of up to 500 passwords.

#### PASSWORD DATABASE EDITOR COMMANDS:

Use the arrow keys to move one password at a time through the list.

Use the < and > keys (unshifted) to move ten passwords at a time through the list.

Press [I] to insert a password.

Press [D] to delete the password in the lightbar.

Press [B] to jump to the beginning of the list.

Press [N] to jump to the e<n>d of the list.

Press [C] to clear the database in memory.

Press [ESC] to exit the Password Database Editor

Press [E] to edit the password in the lightbar.

Note that in the Password Database Editor all characters placed in passwords are taken literally.

Press [F] to find a password in the list BELOW THE LIGHTBAR. The find command searches only the passwords below the lightbar. This was done to facilitate scanning for repeated passwords. If you wish to search the entire list, use the [B] command to jump to the beginning of the list, then the [F] command to search.

The passwords are stored and hacked in the order in which they are entered. I considered alphabetizing the list, but decided against it so they could be hacked in order of precedence and frequency of use.

### 7: SET MODEM PARAMETERS

This section is essentially the same as that in the Prefix Prowler and the Code Crusher. There is nothing particularly new or tricky. See the DOC files for the Prowler and the Crusher if you have questions. Don't forget to enter the mainframe fone number before attempting to hack at it.

### 8: RESTORE DEFAULTS

This option clears the currently loaded Mainframe Data File values and resets to the original defaults. If you have loaded a mainframe datafile, you will be prompted before the memory is cleared.

### 9: TERMINAL MODE

This option puts you into the terminal program from the Super Serial Card firmware. From here you can send commands to your modem, call victim systems to get the dialogue format, etc. To send output to your printer, type ctrl-A and at the "APPLE SSC:" prompt (or ? if you are using a //c) type nS, where n is the slot of your printer. To set the baud rate, type ctrl-A 6B for 300 baud, or ctrl-A 8B for 1200. Consult your SSC manual for further Ctrl-A commands. Type ctrl-A and Q at the SSC prompt to exit terminal mode and return to the main menu. It is advisable to hang up your modem before exiting terminal mode.

### 10: HACK AT IT

This option frees the Penetrator to do what it does best. It will not work, however, unless you have entered or loaded a dialogue and some passwords. The Hack Screen is similar to those of the Prowler and Crusher. The top window displays commands sent to your modem and the conversation as it occurs between the PPP and the victim (system). When waiting for input from the system being hacked, the Penetrator displays "SYS: " and then displays the characters as they are received from the system (with optional sound effects). The incoming data is displayed in upper case only. From this display you can see exactly what the Penetrator has received, and make corrections to the dialogue if characters are missed during input. Occasionally seemingly strange characters will appear immediately after the "SSC:". These are usually system echoes of the last few letters from the PPP's last output line. The center window displays passwords as they are attempted. A password will flash if the PPP finds it a possible success. The bottom window displays the runtime commands summarized below.

If, after you select the "HACK AT IT" option you get:

1. "PASSWORDS AND/OR DIALOGUE NOT ENTERED," it means that you haven't loaded a password database, or that you haven't entered sufficient Dialogue info through either a datafile or the keyboard.

2. "STARTING PASSWORD POINTER IS GREATER THAN THE NUMBER OF PASSWORDS IN THE CURRENT DATABASE," it means that the starting password number, entered through the Dialogue Editor, was greater than the number of passwords currently in memory. Fix it by entering the Dialogue Editor, pressing [F] to get the hack parameters in the bottom window, and go through all the options until you reach the "START AT PASSWORD #" prompt. Here you can change the value accordingly.

3. "CURRENTLY LOADED PASSWORD DATABASE DOES NOT MATCH LAST-USED DATABASE. CONTINUE ANYWAY?," it means that the password database in memory does not match the name of the last-used password database which was stored in the Mainframe Data File. If you do not care, type [Y] to continue. NOTE however, that the PPP will start at the password in memory with the same number as the last-used password in the last-used database.

#### PPP RUNTIME COMMANDS

-----

Before the Penetrator starts hacking passwords, it goes through a modem initialization sequence, and sends the necessary dialing commands. During these processes you can press [ESC] to exit and return to the main menu. Once password hacking is in progress, press [ESC] to get the "COMMAND?" prompt (in flashing video at the bottom of the password window). Notice that the PPP will not stop to accept commands until it reaches a convenient stopping place. (After it knows whether the password it is currently hacking is good or bad). Be patient, it knows you pressed [ESC]. The PPP will beep when it sends the "COMMAND?" prompt. At the prompt you may enter any of the following characters:

[S]: Toggles the sound effects on incoming data on and off.

[G]: Pops up Hires page 2. Due to the length of the Penetrator, the hires screen will always be filled with trash -- loading a picture before running the PPP won't work. Tell your mommy that it is a school project on randomness and that you are trying to generate simulated static. You will notice small distortions in the image as the program hacks. Point out these glitches to your mommy if she is not convinced. Note that the text screen is restored at the "COMMAND?" prompt if you press [ESC] while in graphics mode.

[T] to enter terminal mode. This is somewhat dangerous as it is difficult to get the PPP re-started after exiting terminal mode, and you will probably have to press [RESET] to abort hacking.

[Q] to quit and save Mainframe Data File, if one was used. The Mainframe Data File must be saved if you plan to later start the PPP where it left off.

If the PPP finds a possibly successful password, it will stop and beep the speaker until you press a key. You are then dropped into terminal mode to hack at your leisure. After you exit terminal modem with ctrl-A Q, the PPP will quit and allow you to re-save the Mainframe Data File. You can restart the PPP where it left off, if necessary, with the HACK AT IT option on the main menu.

If the Penetrator stops during hacking because the data it is waiting for has not been received, (due to errors in your Dialogue or other unforeseen difficulties) you can enter the awaited messages from the keyboard. The PPP handles input from the keyboard the same as input from the connected mainframe. If you cannot restart the Penetrator by typing data from the keyboard, you can press RESET to return to the main menu. You can then manually save the Mainframe Datafile if needed. This RESET option is most useful for aborting a hack to correct problems in your Dialogue entries.

11: ENTER DOS COMMAND

This option allows you to enter any DOS command, especially CATALOG's.

12: QUIT

Funny, I seem to have forgotten what this does.

III. Password Penetration tactics:  
-----

For best results, use sections of the mainframe's responses which begin a few characters into the message in the dialogue editor to minimize the possibility of lost characters during hacking. In the example system in the Edit Dialogue explanation above, good dialogue representations of the system's "SORRY SUCKWEED" message would be "SUCKWEED" or "WEED". The same applies to the "MAINFRAME RESPONSE TO BAD PASSWORD" inputs.

The dialogue line containing the ctrl-P password flag can hold more data, (including the semicolon carriage return suppression flag) provided it comes after the ctrl-P.

If you do not know an account or user name, and need one to successfully logon, try using the "ACCOUNT NAMES" password database. Note that this is effective only on (wimp) systems which tell you if your account name is invalid. On not-so-wimpy systems like VAXes, the "FIRST NAMES" password database can be effective. I

forgot to mention above that the ctrl-P password flag can be entered more than once in the Dialogue. Suppose you just connected to a Data General system and decided to use the name "John" as both the username and the password. It would look something like this:

(you press RETURN here)

```
Username: JOHN
Password: JOHN
```

Invalid Username/Password pair

```
Username:
.
.
.
```

The corresponding dialogue could look like this:

```
0 - PPP:[CONNECT TO MAINFRAME SYSTEM]
1 - SYS: <IGNORED>
2 - PPP: <C/R>
3 - SYS: USERNAME:
4 - PPP: <P/W>
5 - SYS: PASSWORD:
6 - PPP: <P/W>
```

Thus, if you used the FIRST NAMES password database, the PPP would enter a name from the list as both the Username and the Password. Since many people use their first name as both username and password, this can be particularly effective if you cannot get a valid username used on the system.

The "INITIALS1" and "INITIALS2" files contain all possible combinations of two letters except for those extremely unlikely to be used as initials for normal human beings. They are useful if you have a valid username which consists of either a first or last name. Suppose you knew that "FRED" was a valid account name, but you had not yet found a password. You could then load the "INITIALS1" password database, hop into the Password Database Editor, and find the number of the "FA" password in the list. You could then select that number in response to the "START AT PASSWORD #" prompt in the Dialogue Editor section of the PPP. This would allow you to attempt all 26 possible two-letter initials combinations starting with the letter F. To use three-letter initials combinations starting with the letter F, you could place the F in the Dialogue on a PPP output line, followed by an ignored SYS line, followed by a ctrl-p password flag in the next PPP line like this:

```
.
.
.
5 - SYS: ENTER PASSWORD:
6 - PPP: F;
7 - SYS: <IGNORED>
8 - PPP: <P/W>
```

You would then run the Penetrator through both the entire INITIALS1 and INITIALS2 databases to hack all possible (likely) 3-letter combinations starting with "F". Nice eh? Similarly, suppose you knew that "SMITH" was a valid username, and wanted to try all possible 3-letter initials combinations ending with "S". A section of the dialogue could look like this:

```
.
.
.
5 - SYS: ENTER PASSWORD:
6 - PPP: <P/W>S
```

Where line 6 was entered as "ctrl-P S". This example illustrates the capability of the Penetrator to accept more text after the ctrl-P on a password-containing line. With line 6 entered in this way, the Penetrator would send two-letter combinations immediately followed by an "S" like this:

AAS  
ABS  
ACS  
ADS  
.  
.  
.

If you feel the need, you can easily create your own password databases using a program or word processor rather than the PPP's Database Editor. The databases are standard ASCII sequential text files containing the number of passwords as the first record, and then that number of passwords each separated by a carriage return. A database containing the passwords "THIS", "IS", "A", and "TEST" would look like this:

4  
THIS  
IS  
A  
TEST

Knowing this format, you could easily create a database of numerical passwords, etc. using a simple BASIC program.

If you are new to hacking, try to find a DEC-20 system to practice on. They are VERY wimpy since a simple "SY" command reveals a list of valid logged-on usernames even before you log on. In addition, DEC's will tell you immediately if an attempted username is invalid.

I hope you find the PPP as quick and versatile as I have. The world is in severe need of more good hackers.

Happy Hacking.

Call El Infierno BBS (312) 623-6761  
novelist.

=====  
DOCUMENT pbi.fix  
=====

Running Monte Carlo (and other software from PBI) from a hard disk.

The problem: Too many CDA's or NDA's loaded cause Monte Carlo to fail with a "Memory allocation error" when launched from a hard disk.

The reason: Poor memory management by PBI (Or perhaps a poor method of attempting to do Copy Protection). Anyway, PBI tries to allocate a specific storage location that may not be available if CDA's or NDA's have been loaded.

The solution (At least one anyway):  
Two small programs to execute at boot-up time to reserve the memory that PBI wants later on. One program reserves the memory before any CDA or NDA loading takes place, the other releases the memory after loading has been completed.

REQUIREMENTS: You MUST be booting into Prosel's START program in order for all this to work correctly and automatically. I have been using this set-up for a while and have seen no problems so far.

The set-up: There are two programs included in this download.

MEM.SAVE is a File Type \$B6 file. This type of program is executed by Prodos-16 at Boot time. This file MUST be copied into your /system/system.setup directory AND MUST be moved to the TOP of the directory! Of course, since you must be a Prosel user to use this, you can use CAT.DOCTOR to re-sort your directory and move this file to the TOP.

MEM.CLEAR is a File Type S16 file. I recommend that this file be copied into the /system directory.

IMPORTANT!!!!!!!!!!!!!!

The START program from Glen Bredon needs to be modified via Block Warden:

Glen has included a feature in Block warden to detect if the program being edited supports the Prosel start-up pathname feature. See the Prosel documentation for mote details. The program START must be modified to set the start-up path to:

\*/system/mem.clear

NOTE: If this step is NOT done then you will probably have BIG problems since the memory has already been reserved by MEM.SAVE but NOT made available again by MEM.CLEAR.

For the curious: The two programs were written using APW assembler and contain tool calls to the memory manager to perform the allocation/de-allocation functions.

This set-up appears to work for me. If you have any questions, I can be reached at:

Compuserve: [73177,2323]  
GENie: D.G.SHIELDS

Special Note: If you manage to win a Large sum of money at Monte Carlo (I have accumulated over \$1,000,000 on the video poker machine) I will accept any and all donations from the proceeds.

- Dale G. Shields -

following fomrat: mm/dd/yy (mm=month, dd=day, yy=year).

If the date shown on the screen is already correct, you need not enter it again. Just press return.

The program automatically saves the date to disk so you need not type it in next time.

## CONFIGURATION

If it is the first time you have booted, you will need to configure. You will be asked several questions, and they will be saved to the disk, so you need not enter them again.

## MODEM TYPE

```
[1] Novation Apple Cat
[2] Hayes Smartmodem
[3] Other
```

Enter the correct modem type by pressing the number indicating it on the left hand side of the correct modem type.

GS USERS ONLY: GS users many need to change DCD and DTR settings on their modems to provide for true carrier detect ability and support (as opposed to ignore). DCD and DTR handshakes should also be set in the control panel to 'NO'.

GS USERS ONLY: USE GS MODEM PORT?

If your modem is in the gs modem port, not in a slot, select this option.

## SLOT OF MODEM

Simply enter which slot your modem is in. If you own an Apple //c, it is slot 2.

## SLOT OF PRINTER

Enter the slot your printer is in. If you don't have one, simply press '0'. On the Apple //c, the slot is slot 1.

Then the program will save your setup, and continue on.

## USING THIS PROGRAM ON A HARD DRIVE OR UNIDISK

There is no need to specify a prefix within the Pcp Hacker. All you must do is copy ALL the files and ALL the DIRECTORIES to your 3.5" disk or Hard Drive. Then make a program that does PREFIX /your.directory/ and then runs STARTUP.

Example: You copy ALL the files to /hard.drive/pcp.hacker/

You then make a program called /hard.drive/pcp.run

```
]NEW
]10 D$ = CHR$(4)
]20 PRINT D$"PREFIX/HARD.DRIVE/PCP.HACKER/"
]30 PRINT D$"-STARTUP"
]SAVE /HARD.DRIVE/PCP.RUN
```

and then you just "RUN PCP.RUN" anytime you want to use the PCP hacker.

## TITLE PAGE

The title page will be shown on the screen. Press any key to continue once you have viewed it.

## MAIN MENU

=====
DOCUMENT pcp hack
=====

THE PHANTOM VIPER

PRESENTS

P C P H A C K E R

The First PCP Hacker Available For The Apple!

Pcp Hacker Beta, Prelude

## Contents:

One Pcp Hacker, Beta  
One Pcp Scanner, Beta

The sheer size of these docs require that they should be printed out. Several portions of the program may get to be confusing, so it is wise to have a copy of the documentation ready in case you have an problems.

Notice to all programmers : Feel free to improve upon and release future versions of this program. If you do release future versions, please keep credit to me for the original version.

## I. Introduction

For awhile now the Apple users who use PCP have been living like parasites on the IBM world. IBMers have had the technology, and the patience to get PCP codes much longer than Apple users ever thought of the idea. A HACKER THAT HACKS THEM OUT FOR YOU? Gee whiz boz, what a thought there. Well, I decided enough was enough. I mean, sure I can hack on Sprint, Mid-America, ITT or whatever. But I can sure get busted too. Yeah, yeah, Extender Bender will help me cover myself, and lessen the chance of getting caught, but the danger STILL exists of getting caught every second you USE THE CODE! So, I designed a PCP hacker for the Apple // series. Fully capable of changing with the (seemingly constant changing) new PCP formats. It's got it all. (And for only \$19.99! That's right, the TI-99, the COMMODORE-64, the...).

Seriously.

This is the second file release in the "HAYES HACAMATIC [[: THE NEXT GENERATION" series production. This program is compatible with Novation Apple Cats, Hayes Smartmodems, "OTHER"s, and the Multimodem 224.

```
EXTENDER BENDER 1.0 -- RELEASED <get version 2.0 if you own this>
                  2.0 -- RELEASED AND AVAILABLE AT A BBS NEAR YOU
                  3.0 -- SOON TO BE RELEASED
```

```
CREDIT CARD NUMBER GENERATOR 1.0 -- RELEASED <get version 2.0 if you own this>
                                2.0 -- RELEASED
```

## II. Documentation

### BOOT UP

Stick the disk in the drive. Flip the power switch into the "ON" postion.

### DATE

If you don't have a clock, you will be asked for the date. Enter it in the

From the main menu you have six options. View good codes. Delete good codes. Start hacking. View these docs. Reconfigure. And a hidden option, the credit screen.

## VIEW GOOD CODES

First you must enter the correct prefix. Use the correct ProDOS format.  
Example: /proterm/pcp.codes

At the input prompt, where you are asked to enter the prefix, press 'esc'ape to return to the main menu.

This allows you to view a list of saved PCP codes you have, and if you wish, print the list out.

Use the arrow keys, and when the file you want is highlighted, press return.

## DELETE GOOD CODES

First enter the correct prefix. Use the correct ProDOS format.  
Example: /proterm/pcp.codes

At the input prompt, where you are asked to enter the prefix, press 'esc'ape to return to the main menu.

This allows you to delete a list of saved PCP codes you have.

Use the arrow keys, and when the file you want is highlighted, press return.

## CREDIT SCREEN

Press ? to access this. It is a simple explanation of the program and a quick credit for me, the author of the program. Also you may choose CREDITS.

## START HACKING

<see hacking procedures, roman numeral III>

## VIEW THESE DOCS

Hell, you got here, you should remember!

When it asks if you wish to print the docs out, you may press 'esc'ape to abort to the main menu.

## RECONFIGURE

This takes you back, and allows you to change your modem type, modem slot and printer slot.

## PCP SCANNER

Final addition to the program. Scans out pcp addresses. No documentation, pretty simple to use.

## III. Hacking Procedures

First the program will load in Modemworks, the correct driver, and Amperworks.

Then it will run the PCP Hacker. You must again answer a couple more questions.

## PCP NUMBER [xxx-xxxx]

Enter the number of your local PCP port in the format shown. If you wish to call a port that is not local. Enter it in as 1-(xxx)-xxx-xxxx (you'll overun the brackets - but that doesn't matter).

## STATE AND CITY DESTINATION

This is the abbreviation of the state and city put together you use to connect. You can get a list of these from your local PCP port by entering at the @ prompt, C PURSUIT - at username and password type guest - then go to the main menu, then go to the downloads. Look through the downloads, and you should stumble across a list. Some popular examples: MNMIN, CALAN, NJNEW, TXDAL, TXHOU, etc. It's usually best to pick a less popular state - for sometimes the PCP ports can get congested and that would ruin your hacking efforts because an error message would be sent back, and the program would be unable to connect.

## SPECIFIED PCP FORMAT

This next question will allow you to choose whether you wish to hack with a specified pcp format (this is very selective, and allows by far the best accuracy when hacking) or what I call the controlled chaos format. The controlled chaos format basically allows the user to add a suffix and prefix to the id and password, and it allows you to control the length of the id and password, by allowing you to set limits for randomizing the lengths.

Comparison between formats:

### CONTROLLED CHAOS

Will allow the randomization of length of the password and id.

Will allow a suffix and prefix to be added to both the password and id.

### SPECIFIED PCP FORMAT

One specified length.

Allows the pinpointing of exactly what should be a number, letter, copying of other characters, selection from a preassigned list format, and an unknown mark.

## SPECIFIED PCP FORMAT

If you choose the specified pcp format option, a row of numbers will appear.

```
0000000001111 etc.
1234567890123
      x
```

The numbers are to be read from top to bottom. Example: See where the x is? Notice it is under a 2. And notice above the two is a 1. So reading it from top to bottom you get 12. The x is in space 12. This will be used later with the copy function.

## ENTERING THE FORMAT

You can use any of the following commands.

```
CONTROL-L or } = Limited Set.
CONTROL-C or { = Copy.
?              = Unknown.
#              = Number.
$              = Letter.
,              = Separation of Id and Password.
any # or letter = Preassigned Specified Characters.
```

### CONTROL-L or } (LIMITED SET)

This basically allows a random choice from a list that you enter. Let's say you know the first character is always either an A a 6 or a Z. The first thing you would press is CONTROL-L or }. Down the screen the following will appear: [Set]: at this you would enter the set. A;6;Z - making sure to separate each character with a SEMI-COLON. (;). Example

```
000000 etc.
123456
}
```

```
[Set]: A;6;Z
```

Now you will be returned to space 02. Now when hacking, the first characters will either be an A a 6 or a Z, depending on how the randomization turns out.

Example: C D/MNMIN/12,A < that first character will either be an A, a 6 or a Z.

NOTE! You can only have one character inbetween the seperating markers. In other words, you can't have "16;20;30" because they would each take up too many spaces, and these are only good for ONE space.

## CHANGING THE RANDOM PROBABILITIES IN A LIMITED SET

The way the set command works is, let's say you entered [Set]: A;6;Z - okay, so then you finish entering everything, and the program calls up Pcp and starts a nice little hacking job. It goes through, printing the characters to the screen, then it comes to the set command. It says "Hmmm, I see there are three characters that aren't semi-colons in that set. So, I'll pick a random number 1-3. Then I'll compare it to the set to come up with a number. Okay, here goes. \*\*\*\* 3 - so we'll use the Z". - get it? Pretty simple.

What you can do to offset the outcome some, is enter more of the desired character. Let's say you know the second character of the id is either a 0 or a 1. You also know the 0 is used more frequently. You would go like this: [Set]: 0;0;0;1 or [Set]: 0;0;1 or [Set]: 0;0;0;0;1 - or however much you want to offset the balace. In the first set [0;0;0;1] there would be a 3 in 4 chance the 0 would be picked, and a 1 in 4 chance the 1 would get picked. So in the [0;0;1] set, there would be a 2 in 3 chance the 0 would get picked, and a 1 in 3 chance the 1 would get picked. It is very simple.

CONTROL-C or { (COPY)

This fuction allows you to duplicate another character. Here's an example.

```
00000000 etc.
12345678
#$$#$$#
```

As later you will learn, # picks a random number, \$ a random letter. So, let's say you know the pcp format is number,letter,number,letter,number,letter, number, and then the next character (the 08 character) is the same as the first character (01). So let's say a 9 comes up in 01, then a 9 should be in 08. So all you do is go to 08 and hit { or CONTROL-C.

```
00000000011
12345678901
#$$#$$#{
```

```
[Copy]:
```

Now, at the [Copy]: prompt, you should enter the space you wish to copy. Since you want the (08) space to be the same as the (01) space, you should enter 01, or just 1.

```
[Copy]: 1
```

Now, when the program hacks the 08 space will be the same as the 01 space.

```
00000000
12345678
```

Example: C D/MNMIN/12,9Z2C4Z79

Notice the 08 space and 01 space are the same.

(Note, when copying, you must use a number BEFORE the number you are copying. In other words you CAN COPY 01 if you were at 08, but you CAN'T COPY 13. If you wanted 08 and 13 to be the same, you would put the correct sign at 08 (like are 08 and 13 always numbers? then put a #, or letters? put a \$) and then when you get to 13 you would do a COPY and then [Copy]: 08.)

? (UNKNOWN)

The unknown marker is basically for if you don't know if it's a letter or a number. Example:

```
00000
12345
#$$#?
```

Number, letter, number, letter, then either a number or a letter.

# (NUMBER)

You would use this to signify a number in the format.

For example, if you knew the format was always number, letter, number, you would put #\$\$ (the # represents a number).

\$ (LETTER)

You would use this to signify letter in the format.

For example, if you knew the format was always number, letter, number, you would put #\$\$ (the \$ represents a letter).

, (Seperating the id and password)

As you know, when you enter the id and password when connect to pcp, you enter the id,password. Example: PLL000000L,L0000L - Notice the comma separates the id and password. Well, when entering the format, you will use the comma to separate the id and password also. Example: #\$\$#\$\$#, \$\$#\$\$# would mean the id consists of number, letter, number, letter, number, letter, number and the password consists of letter, number, letter, number, letter, number.

## PREASSIGNED SPECIFIED CHARACTERS

You would use this if you knew a character was ALWAYS THE SAME.

Example: Let's say you knew the format ALWAYS STARTED WITH PCP then had a number. You would go: PCP# - not too hard.

## PUTTING IT ALL TOGETHER

Let's pretend (boys and girls) that after studying 80 old Pcp id's, you suddenly discovered a pattern. The pattern goes like this:

The id always starts with the letters PLL. The next character is either a 0 or a 1 followed by three numbers, a L and then two more numbers.

The password starts with a letter, followed by a number, then a 3, followed by two more numbers, and then the last character is always the same as the first in the password.

```
00000000011111111
12345678901234567
```

```
PLL}###L##,$#3##{
```

That is what you would enter (PLL)###L##,\$#3##{).



Here's why:

The id always starts with PLL, so you simply type PLL.

Then next character is either a 0 or a 1, so you would use the LIMITED SET command. You would hit CONTROL-L (or the } character) and at the [Set]: prompt, you would enter 0 and 1 like this: [Set]: 0;1

NOTE! YOU MUST REMEMBER TO USE A SEMI-COLON (;) TO SEPERATE THE ITEMS.

IF EXTRA IGNORED? APPEARS - THAT MEANS YOU FORGOT, AND EITHER USED A COMMA OR A COLON (:) TO SEPERATE THE ITEMS WHICH IS A \* NO-NO \*.

The next three characters are numbers. So you enter a # for each of them.

Then there is always a L, so you press L.

Then there are always two more numbers, so press a # for each of them.

The password starts with a letter, so enter \$.

The next character is always a number, so enter #.

The next character is always a 3, so enter a 3.

The next two characters are always numbers, so enter a # for each.

The last character is always the same as the first in the password. So you would use the { or CONTROL-C, the copy command. At the [Copy]: prompt you would enter 12, since you want the character to be the same as the 12th character. (Haha! Lost? Did the example roll off into the twilight zone? Should have printed the docs out!). (Hmm, where have I heard that before?).

## CONTROLLED CHAOS FORMAT

This applys only if you chose not to use the specified pcp format option.

## PCP ID TO USE OR RETURN

If you want to hack a specific PCP Id you, lets say, accidently saw after accidently reading someone's email or something, at this point you would enter the id (like if you only found the id, and not the password).  
EXAMPLE: PLL000000L or PCP1234LLL

If you don't have a specific ID you want to hack, simply press return.

## PCP PASSWORD TO USE OR RETURN

Similar to the PCP ID TO USE input, except in this case, lets say you stumbled accross a PCP password, but not the ID, then you enter the password at this prompt.

If you don't wish to hack a specific password, press return.

## RANGE OF NUMBER OF DIGITS NOT INCLUDING PREFIXES AND SUFFIXES

Lets say you know that the ID's always have 8 digits, and the passwords always have between 3 and 6 digits. But the ID'S always begin with PCP. Here is how you would enter that.

## NUMBER OF DIGITS IN PCP ID

From [5] (since you don't include the PCP, since that is a prefix - it's always the same).

To [5] (There are only 5 random digits in the ID, so you type the same number in the TO box that is in the FROM box).

## NUMBER OF DIGITS IN PCP PASSWORD

From [3]

To [6] - not too tough.

## TOTAL NUMBER OF CHARACTERS

Lets say you only know that the passwords have at least 6 digits, and that there are always a total of 16 digits if you add both the digits of the password and id together. Here's how you would enter that.

## NUMBER OF DIGITS IN PCP ID

From [1] > Remember, you know at least 6 digits are in the

To [10] > password, so that means there is always anwhere between one and 10 digits (16-6=10) in the ID.

## NUMBER OF DIGITS IN PCP PASSWORD

From [1]

To [6]

## TOTAL NUMBERS OF CHARACTERS IN BOTH THE ID AND PASSWORD

[16]

Not \*too hard.

Now, it will ask you if you wish to add a prefix to the ID. See up before, in the first example where we said that all the ID's began in PCP (what, did that scroll off into the twilight zone you say? \* you should have printed this sucker out!) (Hmmm? Where did I hear that before?) well, this is where that comes in. When it asks if you want a prefix to the ID, you enter "PCP" - (prefixes come before, suffixes are attached to the end). When it asks if you want a suffix, if we were using the above example, we would hit RETURN. We would hit return when it asks if we wanted a prefix or suffix for the password too, since there was none. But lets say you think all codes end with the letter Z. You would enter Z instead of return when it asked you SUFFIX FOR THE PASSWORD?

## DOCUMENTATION THAT APPLYS FOR BOTH FORMATS

Okay, back to the documentation that applys to both formats.

## BAUD RATE

Use the arrow keys, and when you have your selection highlighted, press return.

Remember, you can only use 2400 baud in pcp ports that are made for 2400 baud. NOT ALL PORTS WILL WORK WITH 2400 baud. Sorry, modemworks doesn't support 4800 or 9600, so therefore this program cannot.

## SPEAKER ON/OFF

This will either turn the speaker on or off when it dials the PCP port.

## NUMBER OF CODES TO FIND

This allows you to set how many codes to be found before the program shuts down.

## NUMBER OF TRIES

This allows you to set, lets say 100 tries, and after the program attempts

100 tries, it will automatically turn itself off.

## OUTPUT OF VALID CODES

You can either select PRINTER, DISK or BOTH.

### PRINTER

Prints a found code onto the printer, using the printer slot given when you configured.

### DISK

Appends the code onto a file. If you choose this you must choose the prefix and filename to store the file at. Use the correct prodos format. Example: /PROTERM/PCP.CODES - the program will print the code and the date.

### BOTH

Puts it to both the PRINTER and DISK.

Press a key to start or escape to abort. Your final desicion. Go for it, or not?

While it hacks... PRESS CONTROL RESET for an instant abort. This is the only way the modem will shut off immediately.

### OTHER

How do you know you have the wrong driver? The program will say "Beginning Hack Procedure..." and freeze up on you. I personally use the "OTHER" driver with my //c, Apple Modem 1200. (Fully hayes compatable).

At the top of the screen, across from my credit line, it says FOUND: there it will print how many codes have been found.

How the program works - the program enters a code in the correct format. Then it searches for the @ prompt. IF it finds the @ prompt, it assumes it is a bad code. If it does not get the @ prompt, it will continue and wait for the prompt for 60 seconds, and if the prompt is still not given, assume that it is a good code.

This is based on how Pcp works.

Example run:

```
@C D/MNMIN/12,PLL000000L,L0000L
INVALID ID OR BAD PASSWORD
```

here the program will wait for the @ prompt, and get it, so it will continue to hack.

```
@C D/MNMIN/12,PLL000001L,L0000L
```

```
CONNECTED /MNMIN/
```

here, the program will wait 60 seconds, and since no @ prompt appears, it will assume it is a good code, and same the code.

## IV. HOW TO USE THIS PROGRAM (AND WHEN)

No one I've ever heard of has gotten busted using PCP. So, let it hack all night. Set it up at about 8pm, and go away, do whatever. And let it hack until 8pm or 10pm the next morning. Remember, the only drawback to hacking PCP accounts is ---- THEY TAKE A LONG TIME TO GET!! Basic estimates into how much time it does take was given to me by an IBM user as one day per code.

## V. CREDITS

Thanks to...

Ar Zimrathon for techincal support, ideas, and some IBM information.

The author of modemworks, for whether he knows it or not, he's helping the apple phreaking world more and more everyday.

The users who use this program. We need PCP CODES and NOW. That's my motto.

---

This has been a    
Ltd. Production

---

=====
   
DOCUMENT pedit
   
=====

PD-Edit Users Guide

By Rosemary Robertson-Smith

I DISCLAIMER

Copyright (c) 1989 Rosemary Robertson-Smith

PD-Edit is Shareware. You may distribute it freely, but to use it legally after a 10-day evaluation period you must send \$15 to:

Rosemary Robertson-Smith  
 Ramtrack Software  
 72 Bowers St.  
 Nashua NH 03060

(603) 889-6521

In return, you will receive the latest copy of PD-Edit and a registration number entitling you to technical support from the author. You will also receive the next update free. Your honesty will enable Ramtrack Software to continue distributing quality Shareware products. All comments are welcome.

Please include a brief description of your system when you register.

PD-Edit v1.0

II INTRODUCTION

PD-Edit is a simple screen editor, designed for use by programmers and other users who don't want to deal with the overhead of word processors. It is command key driven and avoids modes of operation whenever possible.

III GETTING STARTED

PD-Edit is a binary program designed to run under the BASIC.SYSTEM program or any other ProDOS system program that can start a BIN program. Upon startup, it immediately requests a file-name to edit. If no filename is entered, the program will exit.

When running, you may type in characters just as you would any word processor. You are only limited by the memory limitations of the ProDOS operating system.

The binary version of PD-Edit is called PEDIT.BIN and the Aztec-C Shell version is call PEDIT.PRG. You may rename the programs to the names of your choice.

PD-Edit

Page 2

IV COMMAND KEYS

Command keys are editing commands that invoke editor features. The following describes each key:

Left-Arrow

Move left one character.

Right-Arrow

Move right one character.

Up-Arrow

Move up one line.

Down-Arrow

Move down one line.

Delete

Delete previous character.

Tab

Insert spaces to next tab stop. Tab stops are user adjustable, but default to 4 character intervals.

Control-E

Toggle edit mode. The two modes are insert and overstrike. The current mode is always displayed in the status line.

Control-T

File statistics. Displays the current line number and total number of lines, including the start and end markers.

Control-Z

Clears buffer.

Escape

Execute special command. Special commands are:

READ [file-name]

WRITE [file-name]

EXIT

QUIT

TABS [Width from 1 to 32]

Return  
 Start a new line.

Open-Apple-Left  
 Move left one tab-width.

Open-Apple-Right  
 Move right one tab-width.

Open-Apple-Up  
 Move up 16 lines.

Open-Apple-Down  
 Move down 16 lines.

Open-Apple-Return  
 Move to beginning of next line.

Open-Apple-A  
 Insert a special character. It requests a ASCII code to insert at the current position. The special character will be represented by the checkerboard character.

Open-Apple-B  
 Move to bottom of buffer.

Open-Apple-C  
 Cut selected area. PD-Edit attempts to write the selected area to the file /RAM/PASTE.EDIT; however, if you do not have sufficient space in the /RAM directory, the file will be written to the current directory. This implies that the cut lines can be repasted in another editing session.

Open-Apple-D  
 Delete current line.

Open-Apple-E  
 Move to end of line.

Open-Apple-F  
 Find text. The search is case sensitive.

Open-Apple-G  
 Goto a line number. Line numbering begins with the [Start of Buffer] marker.

Open-Apple-I  
 Insert a new line after the current line.

Open-Apple-K  
 Start selecting lines for cut. Only whole lines may be cut and pasted.

Open-Apple-L  
 Toggle macro mode. When macro mode is started, the status line will display the word LEARN. Until the Open-Apple-L command is pressed again, all keystrokes are recorded.

Open-Apple-M  
 Execute the macro that was most recently recorded by the Open-Apple-L command.

Open-Apple-N  
 Find next occurrence of search string that was entered using Open-Apple-F.

Open-Apple-P  
 Paste previously cut lines.

Open-Apple-R  
 Set a repeat count. A repeat count will cause the next command to be repeated the specified number of times.

Open-Apple-S  
 Substitute for text. It will request a search string and then a replacement string. You have the option of replacing none, the high-lighted characters, or all occurrences of the search string. You may type in any printable or non-printable character for the search.

Open-Apple-T  
 Move to the top of buffer.

Open-Apple-U  
 Undelete a line. Undelete only recalls the last deleted line. Two deletes in a row will only permit the undo of the most recent delete.

Open-Apple-W  
 Move the cursor forward to the first character after the next white-space. If there are no white-space characters on the line, the cursor will be placed at the first non-white-space character in the next line.

## Open-Apple-X

Delete current character.

## Open-Apple-Z

Refresh screen, placing the current line near the middle of the screen.

## V REQUESTING MORE INFORMATION

For certain commands, you will be prompted for more information. The routine that requests the input has the following edit features and restrictions:

- o Control-Z will clear the current input buffer.
- o Delete will erase the previous character.
- o Escape will cancel the input and return to the editing window.
- o Cursor key movement is not supported.
- o A beep will sound when you reach the maximum number of characters or you attempt to insert an invalid character.
- o To insert non-printing characters such as a TAB or FORMFEED, you must hold the Open-Apple key down while pressing the desired key.
- o If the input has a default value, the cursor will be placed after the last character in the default.

## VI EDITING TIPS

If your line exceeds 80 characters, an exclamation mark will appear at the end of the line. This indicates that there are hidden characters. You can still use all the cursor movement and search commands; however, while accessing characters past the 80th column in a line will keep the cursor at physical column 80.

If you move the cursor down to a line that is actually shorter than the previous line. The cursor will not be placed at the end of the line; instead, it will maintain its horizontal position. If you do not insert any characters, the original end-of-line will not change; however, if you do insert a character, PD-Edit will fill the line with spaces until the end-of-line is at the current cursor position.

Tabs insert spaces and not the ASCII tab character. This costs more memory; however, it makes your text files compatible across

many platforms.

## VII RUNNING PD-EDIT FROM THE BASIC SYSTEM PROGRAM

The following EXEC file should be created to properly run PD-Edit from Apple BASIC:

```
BRUN EDIT -BASIC.SYSTEM
```

The reason for reloading BASIC after running the PD-Edit is that some global information is overwritten by the editor. This will prevent proper BASIC operation.

## VIII EDITING AN APPLE BASIC PROGRAM

To edit an Apple BASIC program, you must first convert the program to a text file by placing the following lines at the beginning of the BASIC program:

```
1 PRINT CHR$(4);"OPEN PROGRAM.BAS"
2 PRINT CHR$(4);"WRITE PROGRAM.BAS"
3 LIST
4 PRINT CHR$(4);"CLOSE PROGRAM.BAS"
```

This will cause a listing of the current program to be placed in the file "PROGRAM.BAS", which can then be edited by PD-Edit.

To convert the text program back to BASIC, issue the following command:

```
EXEC PROGRAM.BAS
```

## IX PROGRAM TAMPERING

If you suspect program tampering, or you just want to reassure the integrity of the editor code, there is a checksum program that can be run. Execute the following procedure:

1. Get into Apple BASIC
2. BRUN CHECKSUM
3. It will then prompt you for the editor file name. You must provide the complete ProDOS path.
4. The program will print out 3 numbers.
5. Call the author and request a program checksum validation. You must provide the numbers printed out by CHECKSUM and the PD-Editor version number. The author will confirm whether the program has been modified by an unauthorized user.

X TECHNICAL INFORMATION

PD-Edit has approximately a 17,000 character limit on the size of a file. If you attempt to load a file that is larger than this limit, PD-Edit will truncate it. The 17,000 value may vary due to file attributes. A line in a file requires 9 bytes for overhead, so the amount of memory available to the editor is directly proportional to the number of lines in the file and each line length.

The maximum line size is 250 characters.

The maximum file-name length is 64 characters.

The maximum repeat-count is 5000.

The maximum search/replace string is 32 characters.

The maximum tab width is 32 spaces.

The maximum length of the macro buffer is 255 characters.

PD-Edit is written using the C language and 6502 assembler.

=====
   
DOCUMENT pegasus
   
=====

PHM Pegasus Docs By The Doistributor & Chief Justice
   
Broken By: The Psycho
   
Thanx To: Touch Tone and Chief Justice

Part I: Getting To Know Your Hydrofoil

Preliminary Training: If this is your first experience controlling a Hydrofoil, you may want to sit back and watch a demonstration.

Here's how:

When you have your computer up and running, you will be presented with a selection of assignments. Each assignment is a mission taking you to various sensitive parts of the world. These are described in detail in Part II of this manual. To watch the demo, select MISSION 0 from the list of nine. As you watch, take note of the two 'view modes' (Bridge and Operations Map) and the features you can control from each. You may want to read Part III of this Manual as you watch the demo.

When you feel you are ready to undertake a real mission, press Shift-Q to quit the demo and then select another one. We suggest you start with one of the early missions before attempting the more advanced ones.

Part II: Assignments

Once you have received basic Hydrofoil training, you will be in a position to undertake the following assignments as part of the TAG task force. Of these eight assignments, the first two are part of your advanced training, and provide you with simulated combat experience. We strongly recommend that you gain proficiency in the first two assignments before you proceed to the more advanced missions.

At the end of each assignment you will receive a score and a rank, based on your performance during that mission. Scores are calculated on the basis of five factors, as described below. Note that the actual values will vary from mission to mission, because of the different objectives of each one. For example, in the first assignment (Battle Training), speed and destruction are the most important factors, while survival is not. By contrast, in the fourth mission (A Better Part of Valor), survival is most important, while destruction of enemies is relatively unimportant.

Scores:
   
-----

1. Main Objective: Full points are awarded if the mission is successfully completed; no points if the main objective was not accomplished.
   
Range: 1000 - 5000 points.
2. Enemies Destroyed: Points are awarded for each enemy destroyed.
   
Range: 50 - 500 points.
3. Enemies Damaged: Points are awarded for each enemy hit but not destroyed.
   
Range: 25 - 250 points.
4. Time Remaining: Points for time remaining are awarded only when the mission is successfully completed before time runs out. Points are for each minute remaining.
   
Range: 1 - 4 points/minute.
5. Survival Bonus: Survival points are awarded when the mission is successfully completed or when time runs out, assuming you haven't been blown to shit by the enemy. Points are awarded for each of the twelve sections of

the ship that are capable of sustaining damage (six for the hull and six for the systems). Full points are awarded for undamaged sections, half for slight damage (yellow on the damage display), and no points for heavy damage (red on the display).

Range 20 - 200

### RANKS:

Ranks are based on points earned, with different scales for each mission, depending on their relative difficulty. For example, because the training exercise is the easiest of all the missions, you can only advance to Lieutenant, no matter how high you score [Sucks]. More difficult missions, such as Search For Terrorists, allow you to achieve rank of Captain, while the most difficult ones, such as Supply Convoy, allow you to reach the top rank of Admiral [w0w!]. In any case, to achieve the top rank in a assignment you must accomplish the main objective.

The ranks, in ascending order, are as follows:

Deck Mopper  
Ensign  
Lieutenant  
Commander  
Captain  
Commodore  
Rear Admiral  
Admiral

### The Missions:

#### 1) Battle Training:

Ten enemy ships will be introduced to your training area off Key West, one at a time. These vessels will range from simple patrol boats all the way to powerful Nanuchka II missile corvettes. This exercise is designed to familiarize you with the PHM and its weapon systems.

Objective: Sink all simulated enemy ships.

Rank Attainable: Lieutenant

Enemy Vessels: Patrol Boat; OSA I, Nanuchks II.

Strategy Tips: This is a good learning assignment, Use your gun on the patrol boats, and save your missiles for the bigger ships.

#### 2) Graduation Exercise

In this exercise, all the enemy vessels you seen in the first assignment will be coming at you all at once, doing their best to blow the shit out of you. Sinking all the enemy vessels as quickly as possible is more important than surviving undamaged.

Objective: Sink all simulated enemy ships.

Rank Attainable: Lieutenant

Enemy Vessels: Patrol Boat; OSA I, Nanuchka II.

Strategy Tips: Get moving right away; you're a sitting duck if you don't. Use you missiles on the more distant ships and your gun on the closer ones. Watch your radar for fast-moving dots approaching your ship. These are enemy missiles. Use chaff to deflect them. (See Part III).

#### 3) Terrorist Attack

Approx. eight hours ago, terrorists attacked a seaside resort, killing dozens of vacationers and wounding hundreds. The terrorists were seen fleeing west in various patrol craft. Witnesses estimate seven to ten vessels of varying types, some suspected to be OSA I missile boats, others small patrol vessels. Your mission is to seek and intercept these vessels, and sink them.

Objective: Sink all simulated ships.

Rank Attainable: Commander.

Enemy Vessels: Patrol Boats, OSA II, Zhuk.

Strategy Tips: The terrorist vessels are to the west of your starting

position and moving rapidly north. Try to cut them off, while avoiding their allies coming in from the northeast. Save you missiles for the OSA class ships.

#### 4) A Better Part of Valor

War is brewing in South America. Your PHM is needed there as soon as possible. From your base at Key West, you will need to navigate the dangerous Yucatan Straits between Mexico and Cuba in order to reach southern waters. To accomplish your objective in this assignment, you need only to get PHM to the southern edge of the map. Look out for enemy vessels who will be trying to stop you. Use your SeaSprite helicopter to screen your PHM and help you avoid the enemy, or to help you seek out and destroy the bastards.

Objective: Escape with your Hydrofoil off the south edge of the map with as little damage as possible.

Rank Attainable: Commander.

Enemy Vessels: Komar and the Assad missile boats.

Strategy Tips: Keep moving at full speed. Engage enemies at extreme range with your missiles if they are in your path.

#### 5) Search for Terrorists

To missile corvettes have unsuccessfully attacked an American base off the southern coast of Sicily. A Sparviero Hydrofoil and an AB 212 helicopter are available to help hunt them down. The mission objective is to sink both attackers (who will be fleeing south) before they escape. They are thought to be fleeing toward Tripoli, and can be distinguished from similar vessels by their course. Although a variety of enemy ships will be patrolling along a line north of Tripoli, remember that the fleeing ships are your main objective!

Objective: Sink the two fleeing Nanuchka II class ships.

Rank Attainable: Commander.

Enemy Vessels: OSA I, OSA II, Nanuchka II.

Strategy Tips: Try to avoid the other ships on your way to your objective. Save your missiles for them.

#### 6) Supply Convoy

A South American country has been taken over by a dictator, who has succeeded in turning the Caribbean into a war zone. Your mission is to escort a high-speed cargo ship carrying medical supplies and food to a group of refugees. The dictators forces consist of two varieties of a convertible Vosper-Thornycroft ship that comes with either two missiles and a small caliber gun, or just a 76mm cannon identical to your own.

Objective: Get you convoy ship to the southern part of the eastern edge of the map.

Rank Attainable: Admiral

Enemy Vessels: Vosper-Thornycroft 121 ft class

Strategy Tips: Conserve fuel by keeping your engine setting at 2 or less as much as possible, sprinting ahead at high speed only when you spot enemies or when you fall behind your convoy ship. Keep the convoy moving at full speed toward the south one-third of the east edge of the map, an use your helicopters to spot attackers before they can get close. Keep your ship between the attackers and the convoy.

#### 7) Surveillance Mission

It is suspected that the military equipment is being smuggled to the dictator through an outwardly neutral South American country. A cargo ship has been photographed loading up with tanks and aircraft parts in the Baltic, and is believed to be approaching Nicaragua. Seven ships of similar construction carrying farm machinery and building supplies are also entering the area to provide cover for the arms ship. Your mission is to find all eight ships and photograph them at close range so their identities can be established and compared with that of the suspected arms ship. Photography is accomplished automatically by approaching to within 1500 feet of the ship and training your binoculars on it (by choosing it as a target), BUT be careful not to sink them. Sinking one of these vessels will result in an international incident, and will immediately end the mission in failure. Use your two SeaHawk helicopters to scout out the cargo ships. Some of the dictators forces are believed to be in

this area, so try to identify any ships you find at as long a range as possible. Watch your fuel usage!!

Objective: Find and photograph all eight cargo vessels in the Caribbean without sinking any.

Rank Attainable: Rear Admiral.

Enemy Vessels: Cargo ships, OSA II missile boats.

Strategy Tips: The cargo ships move slowly, but they are scattered all over the sea and will eventually reach a safe port. Move fast, and use your helicopters to find them as soon as possible.

### 8) Jihad

Your mission is to escort a supply ship out of the Persian Gulf. The only complication: a war is going on [christ, thats all?], and innocent ships are being fired upon without warning. The supply ship is trying to evacuate western workers from the war zone, but the captain is too frightened to try and escape through the maelstrom of warring factions that fill the Gulf. You will need to make your way through the Straits of Hormuz to Kuwait where you will rendezvous with the supply ship. The supply ship will respond to your controls in the same was an auxiliary helicopter (see Part III).

Try to avoid conflict if possible. Enemies are less likely to attack if you are peaceful. However, if you take hostile action or if you get too close, they will pass the word to their fleet to attack. The supply ship will be a tempting target for them at all times, so guard it well. In any case, remember that your primary mission is to get the supply ship out safely - damage to your Hydrofoil is important only insofar as it compromises that mission. Use your Seahawk helicopters to provide you with critical info on ship movements.

Objective: Escort the supply ship safely into the Indian Ocean.

Rank Attainable: Admiral

Enemy Vessels: OSA I and OSA II missile corvettes.

Strategy Tips: You're on your own for this one...

## Part III: Hydrofoil Operation

### Introduction:

The Hydrofoil is an all weather, high speed, compact weapons system, making it ideal for strike, patrol and surveillance missions. Because of its fully submerged foils, the Hydrofoil is capable of sustained high-speed runs across heavy seas, with a maneuverability of a 76mm gun, missiles, and chaff for radar deflection.

As Hydrofoil commander, you can switch between the view from the Hydrofoil bridge and a top-down view of the operations map. Each uses its own set of the keyboard and joystick controls. Specific operating instructions are given in the command summary card, included in your information packet. [what a joke]

### The View From The Bridge:

The top half of the screen shows the view from bridge. The cross is the aiming cursor, while the blinking little line is the aim correctors light, and the think that looks like a shoe is the binocular view. The bottom half shows the Weapons indicator on the lower left side (where it says gun, chaff, HASM) the middle where the circle is, is the radar screen, and on the right side, the damage indicators appear. The bottom has the time compression on the lower right half of the screen. The Hydrofoils Instruments are composed of:

- Gyrocompass - Indicates Hydrofoil current bearing; north being straight up
- RPM - Indicates Hydrofoils engine speed
- Speed - Indicates Hydrofoil speed in knots
- Radar - Shows all craft within Hydrofoils radar range
- Weapons Status - Indicates which weapons are currently active and the number of rounds remaining
- Fuel - Indicates the amount of fuel remaining
- Warning Indicators - Red warning indicators show a potential problem
- Depth - Indicates danger of running aground. Flashes when heading

towards land

Lock - One or more enemy missiles are locked onto you. Fired or are about to be fired upon by enemy ships

Damage - Shows which parts of the ship (yours) are damaged.

### Operations Map:

The Operations Map shows the helicopters, convoys, and the Hydrofoil. The circle with one dot is helicopter 1. If it has 3 dots, its helicopter 2, the diamond is a convoy, and the small circle is your ship. You can switch from the view from the bridge to a map of the surrounding area. The map shows the entire area of operations for the current assignment. It shows all the major land masses, the borders of the assignment area, the current location of the Hydrofoil, the locations of all the friendly forces and its radar range. In addition, the operations map shows the locations of your helicopters. Control of such helicopters or an escorted convoy is maintained from the Operations Map.

### Weapons and Defenses:

76mm cannon: Its fire rate is 90 rounds per minute, its effective against Aircraft and missiles, its range is about ten miles. Because of the needed time for a shell to travel to its target, the effective range against moving targets is approx. six miles. Thus, even though your fire control radar allows you to lock on to a target, you will need to 'lead' your cannon ahead of moving targets further then one or two miles away.

Chaff rockets: These allow you to fire exploding rockets filled with aluminum foil into the air. When they explode, the rockets disperse their chaff into the air, attracting the enemy missiles and deflecting them from your ship. Your best strategy on using the chaff rockets is to fire them when you are moving at a right angle to the oncoming missile. Chaff is best fired when the enemy missile is about a mile away.

Harpoon Missiles: These are the most accurate and most potent weapons. They will hit their target 90 per cent of the time and will destroy most small ships with a single hit. Because your radar is likely to be more accurate over a greater distance than enemy's, you can destroy an enemy vessel by firing a Harpoon at your maximum (40 mile) sighting range even before the enemy has a chance to launch against you.

Gabriel Missiles: This missile has a shorter range then the Harpoon missiles, but their guidance systems are reputed to be slightly more accurate then those of the Harpoons. They carry a 400 pound high explosive warhead. Use these suckers against ships beyond gun range.

Exocet Missiles: Same as Harpoon Missile.

Radar: Your radar system's range is about 40 miles, although it is greater from the front or the back of the Hydrofoil. You can take advantage of this by turning the Hydrofoil towards the target. Your Hydrofoil is represented by a flashing 'blip' in the center of the display. If this 'blip' isn't flashing, another ship is very close to you.

Auxiliary Craft: Some assignments involve the use of search helicopters. In such cases, helicopters are controlled from the Operations Map, same applies to Convoy ships.

Damage: Your Hydrofoil is capable of operating even if it sustains damage.

Hull Damage: The Hydrofoil's hull is separated into six watertight compartments. Light damage to any or all of the six compartments does not affect the ship, but serves as a warning that continued hits will cause heavy damage. Heavy damage to a critical number of compartments can sink your Hydrofoil. This critical number varies among the different Hydrofoils, as follows: the PHM can sustain heavy damage to four compartments before sinking, the Israeli Flagstaff II will sink after heavy damage to two compartments.



### System Damage:

76mm Cannon: Light damage may cause your gun to misfire; heavy damage will disable it completely.

Radar: Light damage restricts your radar to 20 miles; heavy damage restricts the range to 10 miles.

Chaff: With light damage, the chaff rockets may misfire, expending a round in vain. With heavy damage, they will not work at all.

Missiles: Light damage causes misfire, while heavy damage knocks them out all together.

Fuel Tanks: Light damage increases fuel drain; heavy damage increases it even more.

Engines: Light damage decreases your max speed; heavy damage decreases it even more, sometimes to the point of immobility.

### Operating Instructions:

You can operate your Hydrofoil either from the Bridge or from the Operations Map. To switch from one to the other, press 'V' on the keyboard. From the Bridge you can maneuver the Hydrofoil, or select, aim, and fire your weapons. You can also adjust your radar scanning range from 2.5 miles to 40 miles. From the Operations Map you can control your aux. vessels, or you can set your Hydrofoil on a course using automatic pilot. Some operations are available in either mode. Thus, from either the Bridge or the Operations Map you can pause and restart proceedings, you can quit and select a new mission, and you can speed up or slow down the passage of time. You can speed time up to 128 times; thus, when you do so, every element is affected equally.

### Bridge:

Maneuvering the Hydrofoil: You can maneuver your Hydrofoil with either the keyboard or joystick. Moving the joystick forward speeds up the ship, while pulling it back slows it down. Moving the joystick right or left moves your ship that way [Duh..]. See the command summary card for the keyboard equivalents. Note that maneuvering the Hydrofoil manually from the Bridge has the effect of disengaging the automatic pilot.

Aiming and Firing Weapons: You can also use the joystick to aim and fire your weapons. Pressing the <Spacebar> toggles the joystick between maneuvering the hydrofoil and aiming your weapons. To aim at a target, you first need to select it from among the enemy craft within your radar by pressing T several times until the target is bracketed on your radar screen. At that point the target vessel appears in the binocular view at the top of the screen. To aim your gun, move the aiming cursor so that it is over the target in the binocular view. Move the joystick forward to move the cursor up, and move it back down to bring the cursor down. Moving the joystick left or right moves the cursor left or right [duh..]. To fire weapon, press the fire button on the joystick or strike <return> on the keyboard. You can correct your aim by using the 'aim corrector': move the aiming cursor toward the aim corrector and fire again. Note that you only need to aim your gun once. Missiles automatically go toward the ship in the binocular view at the time of firing, while chaff affects all incoming missiles depending on their distance from the Hydrofoil. You select among the available weapons from the keyboard, see your command summary card for details. [ok..]

### Operations Map

Automatic Pilot: To set a course for hydrofoil, first make sure that the Hydrofoil is selected by pressing the appropriate key. Next, move the cross hair to your destination point and press a key (1 through 5). Pressing 5 moves the Hydrofoil to its destination at full speed, while 1 moves the Hydrofoil at its slowest speed. If you already have a speed selected, you can press the joystick button to move the Hydrofoil to the new destination at the currently selected speed. Pressing 0 stops the Hydrofoil. When you return to the Bridge, changing direction (w/keyboard or joystick) disengages the automatic pilot and returns you to manual control. You can, however, change the Hydrofoil's speed from the Bridge by pressing keys 1 through 5 without disengaging the automatic pilot.

To re-engage automatic pilot, return to the Operations Map, select the Hydrofoil, then press the joystick button or select a speed as before. Your Hydrofoil will then move toward the previously selected destination. Messages on the Bridge and Operations Map indicate current status of the automatic pilot.

Controlling Aux. Craft: When you are in the Operations Map you can also control the aux. craft that are available to you. Depending on the assignment, these can include helicopters, or a convoy of ships. To control an aux. craft, first select it by pressing the key for that craft (see command summary card AGAIN!!! would of been easier to just do the Q-ref card it self) and then move the cross hair to the destination point. Press 1 though 5 to set the aux. craft's speed and start it off towards its destination.

Aux. Craft in the Operations Map are color-coded: Helicopters are green, and the convoys are gray. Each aux. craft is also identifiable by its own icon. To display the aux. craft icons, press D. this changes the display from radar circles to the vessel icons. This feature is particularly useful if many enemies are nearby.

Time Compression: You can use time compression to speed up events in the Operations Map until you get to the center of the action. You can then slow events back down, or you can leave them speeded up. If you compress time to more than eight times normal, any action from the enemy (such as missile or cannon shot) will automatically slow it back down to eight times. This way you can use time compression to make your assignments more challenging.

### PHM Command Summary Card (Quick Ref.)

#### OVERVIEW

PHM Pegasus is a simulation requiring both strategic and tactical ability. The object is to complete each mission by achieving it's main objective in as short a time as possible. See your Manual for details on the assignments.

Hydrofoil operation is by means of keyboard and joystick. You can use either to control the hydrofoil's movement, weapons aiming and firing, and any auxiliary craft. Use the keyboard to pause and resume play, to increase or decrease time compression, to switch between the Bridge and the Operations Map, and to select weapons or auxiliary craft.

Two main viewing "modes" are available at any time - the Bridge and the Operations Map. The key table that will follow shows the effect of each keystroke under each of the two modes.

#### GETTING STARTED

Let's skip this.

#### SPOTTER CARDS

The identification cards in the center of your Manual can help you spot and identify the vessels and aircraft that are active in each mission. Shooting friendly vessels can make you very unpopular with the Commodore (I almost barfed when I saw that word too) so it is particularly important that you identify the vessels in each mission. This way you won't end up shooting the convoy you are trying to rescue. To use the cards, CAREFULLY remove them from the manual by tearing the center perforation, and then tear out each card individually. Before you start an assignment, read the mission description in the Manual and select the card for each vessel in the mission. Keep the cards as handy as you proceed with your assignment, and refer to them when you need help identifying one of the vessels.

#### KEYBOARD COMMAND SUMMARY

(Note: some of the following commands are accessible through the joystick. Such commands are marked with an asterisk \*. See Joystick Control section following.)

|         |                                                        |                                      |
|---------|--------------------------------------------------------|--------------------------------------|
| P       | Pause/Resume play                                      | Same                                 |
| Ctrl-Q  | Quit                                                   | Same                                 |
| V       | Toggles view between Operation Map and Bridge          | Same                                 |
| + or =  | Each press doubles time rate up to 128 times real time | Same                                 |
| -       | Each press halves time rate down to real time          | Same                                 |
| N       | Returns time rate to real time                         | Same                                 |
| 1-5*    | Sets hydrofoils max. speed                             | Set max. speed for hydrofoil or aux. |
| 0*      | Stops hydrofoil                                        | N/A                                  |
| Ctrl-R  | Each press doubles radar scan from 2.5 miles to 40     | N/A                                  |
| R       | Each press halves radar scan down to 2.5 miles         | N/A                                  |
| T       | Selects targets for view in binoculars                 | N/A                                  |
| Ctrl-S  | Toggles sound on/off                                   | Same                                 |
| D       | N/A                                                    | Toggles radar circle & vessel icons  |
| 6       | Selects cannon                                         | Selects hydrofoil                    |
| 7       | Selects chaff rocket                                   | Selects helicopter 1 (when avail)    |
| 8       | Selects missiles (harpoon or Exocet)                   | Selects helicopter 2 (when avail)    |
| 9       | Gabriel missile (when avail)                           | Selects convoy (when avail)          |
| SPACE   | Toggle between maneuver and weapons aiming modes       | N/A                                  |
| RET*    | Fire currently selected weapon                         | N/A                                  |
| IJKM*   | Aim weapon up, down, left, right                       | Move destination cursor              |
| COMMA*  | Turn hydrofoil left                                    | N/A                                  |
| PERIOD* | Turn hydrofoil right                                   | N/A                                  |
| W       | Toggle among weapon types                              | N/A                                  |

JOYSTICK CONTROL

You can use the joystick either to control the hydrofoil or to aim and fire your weapons. From the Bridge, in Movement mode, you can control the hydrofoil's movement by moving the joystick left or right, and its speed by moving it forward or back. In Weapons mode, use the joystick to move the aiming cursor around the binocular view. Fire your weapons in either mode by pressing the fire button. You can toggle between Movement and Weapons mode by pressing the spacebar. From the Operations Map, use your joystick to set your destination cursor, and the fire button to set off on your course.

-END-

```
=====
DOCUMENT pengo
=====
```

```
#####
#                P ENGO                #
#                BY: BOB & BETS C.      #
#####
```

The object is to get the flashing squares in a row. You can squash up to 8 baddies in the process.

The keyboard commands are:

A,Z,->,<-

WHILE FACING BLOCK :

RETURN - BLAST BLOCK  
SPACE - MOVE BLOCK

JOYSTICK COMMANDS :

PRESS BUTTON 0 TO START

WHILE FACING BLOCK :

BUTTON 0 - MOVE BLOCK  
BUTTON 1 - BLAST BLOCK

CONTROLS :

[ESC] - PAUSE  
CTRL V - VOLUME  
CTRL R - RESTART  
CTRL C - CHANGE CONTROLS

```
=====
DOCUMENT pensate
=====
```

```
[*][*][*][*][*][*][*][*][*][*][*][*][*]
[*]                                [*]
[*]          PENSATE                [*]
[*]          Presented by BETS C.   [*]
[*]                                [*]
[*][*][*][*][*][*][*][*][*][*][*][*][*]
```

The object of the game is to maneuver your playing piece to the top of the screen.

COMMANDS  
-----

ESC = Restart or exit demo mode  
CTRLS = Sound on/off  
P = Pause  
Space = Continue

I = UP  
J = LEFT  
K = RIGHT  
M = DOWN

OPTIONS  
-----

After you enter your options, press RETURN. If you don't want to change an option, pressing RETURN will enter the option shown.

MODE: ENTER P OR T (for Practice or Tournament) In the practice mode, you choose the pieces to play against and their positions on the screen. The computer will ignore the numbers after the Round and Level options.

In Tournament mode, the computer chooses the pieces you play against and their positions.

ROUND: ENTER 1-9  
-----

The higher the number you enter, the greater the number of pieces on the board. Round one starts with four pieces. One additional piece is added each round. No more than 25 pieces will be placed on any one board, however. This option isn't valid in practice mode.

LEVEL: ENTER 1-9  
-----

The skill level determines the complexity of the playing pieces selected for play in the tournament mode. This option is not valid in practice mode.

SPEED: ENTER 1-9  
-----

This is the speed at which the pieces make their moves. 1 is the fastest and 9 is the slowest. Should a player wish to follow the moves in detail, a slower speed should be selected. Once a player has mastered the moves, a faster speed will allow victory to come swiftly!

RETRACE? ENTER Y OR N (YES OR NO)

Retrace refers to the ability to land on a square that has been occupied previously by one of the player's pieces. If you choose "No", once a player lands on a square, it can't be occupied again by either one of the player's or the computer's pieces. These squares will be marked as you go along so you know which ones can't be landed on. If a computer's piece lands on one of these squares, it will make its move again according to its set pattern. A player loses the game by landing on one of these squares. In a two-player game you can use this option to be able to block your opponent's path to the other side of the board. If you choose "Yes", any of the squares may be landed on again by either players' or the computer's pieces.

MOVES AHEAD: ENTER 1-4  
-----

This is the number of moves you choose before you get the opportunity to pick another move or set of moves. During play, first your piece makes one move, (In two-player mode, the second player would then move), then the computer's pieces move and you continue to alternate moves. In the tournament mode, you must choose at least two moves.

PLAYERS: ENTER 1 OR 2  
-----

If you choose 1, your piece just needs to avoid the computer's pieces. Choosing 2 means you have to avoid not only the computer's pieces, but an opponent's as well. In the two-player version, moves may not be deleted. Once entered, they stand.

GAME ID: XXXX  
-----

With the //E the arrow keys also work

You can't move diagonally. If the player's piece comes in contact with any other piece, the game is over.

Once the player's piece moves, each of the other pieces on the board move. The direction each other piece moves depends on two factors:

1. The type of piece
2. The direction the player's piece moved

If the computer's piece lands on another of its own pieces, it makes its own move again.

WRAP AROUND  
-----

The computer's pieces can wrap around the screen when making their moves. Your piece will not wrap around. If you enter a move which would take your piece off the edge of the screen, it will count as a move, but your piece will stay in the same place.

The four-digit ID code on the left represents the last game played and the one on the right shows the current game either pending or underway. You may enter 0-9 and A-F as identification codes. Exceptions: you can't use 0000 or have two zeros on either the left or the right. Tournament games can be replayed at a later date if you remember the Round, Level and Game ID code combination. Enter this information in the options.

TO PRACTICE  
-----

After you have entered your options, press ESC, then choose the ID

numbers of the pieces you want to play against. Press return after choosing the number. See the chart below for the ID #s of the pieces. Use the I,J,K,M keys to position the pieces on the board. Press return when each piece is in the position you want. When you have entered as many pieces as you want (1-25), press ESC to begin and choose a starting location for your piece. Enter 1-8, or "N" for New if you decide you want a different board setup.

In practice mode with only one player and more than one move ahead chosen, the "/" key allows a move (or moves) to be erased. You can't erase the last move, however, since once that is entered, the pieces begin to move. On the Apple //E, the DELETE key also works. During move selection, pressing "?" allows you to review the options you selected. Press any key to return to the game.

TO PLAY IN TOURNAMENT MODE

You must choose at least two moves ahead. After you've entered your options, press ESC. If you want to use a different setup, press N for New. Then choose the square you want your piece to start on. Enter 1-8. To choose your moves, use the I,J,K,M keys. In the two-player mode, players alternate selecting moves. The computer's pieces move according to the chart below.

During move selection, pressing "?" allows the review of the options selected. Press any key to return to the game. If you lose, the game will go back into Demo mode. Press ESC to begin another game, press R to Replay the last game with the same setup or press I to see an instant replay.

| ID# | PIECE       | YOU MOVE                                | PIECE MOVES                                                                                                                               |
|-----|-------------|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | LEFT ARROW  | UP<br>DOWN<br>RIGHT<br>LEFT             | LEFT<br>LEFT<br>LEFT<br>LEFT                                                                                                              |
| 2   | RIGHT ARROW | UP<br>DOWN<br>RIGHT<br>LEFT             | RIGHT<br>RIGHT<br>RIGHT<br>RIGHT                                                                                                          |
| 3   | UP ARROW    | UP<br>DOWN<br>RIGHT<br>LEFT             | UP<br>UP<br>UP<br>UP                                                                                                                      |
| 4   | DOWN ARROW  | UP<br>DOWN<br>RIGHT<br>LEFT             | DOWN<br>DOWN<br>DOWN<br>DOWN                                                                                                              |
| 5   | 4 ARROWS IN | UP<br>DOWN<br>RIGHT<br>LEFT             | DOWN<br>UP<br>LEFT<br>RIGHT                                                                                                               |
| 6   | CIRCLE W/ + | UP<br><br>DOWN<br><br>RIGHT<br><br>LEFT | 1 SQUARE LEFT,<br>1 SQUARE DOWN,<br>1 SQUARE RIGHT,<br>1 SQUARE UP,<br>1 SQUARE LEFT,<br>1 SQUARE UP,<br>1 SQUARE RIGHT,<br>1 SQUARE DOWN |

|    |                     |                                         |                                                                                                                                              |
|----|---------------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 7  | 4 ARROWS OUT        | UP<br><br>DOWN<br><br>RIGHT<br><br>LEFT | 1 SQUARE RIGHT,<br>1 SQUARE UP,<br>1 SQUARE LEFT,<br>1 SQUARE DOWN,<br>1 SQUARE RIGHT,<br>1 SQUARE DOWN,<br>1 SQUARE LEFT,<br>1 SQUARE UP    |
| 8  | CIRCLE W/LEFT SLASH | UP<br>DOWN<br>RIGHT<br>LEFT             | LEFT<br>RIGHT<br>UP<br>DOWN                                                                                                                  |
| 9  | LEFT KNIGHT         | UP<br><br>DOWN<br><br>RIGHT<br><br>LEFT | 2 SQUARES LEFT,<br>1 SQUARE DOWN,<br>2 SQUARE RIGHT,<br>1 SQUARE UP,<br>2 SQUARES UP,<br>1 SQUARE LEFT,<br>2 SQUARES DOWN,<br>1 SQUARE RIGHT |
| 10 | RIGHT KNIGHT        | UP<br><br>DOWN<br><br>RIGHT<br><br>LEFT | 2 SQUARES RIGHT,<br>1 SQUARE DOWN,<br>2 SQUARE LEFT,<br>1 SQUARE UP,<br>2 SQUARES DOWN,<br>1 SQUARE LEFT,<br>2 SQUARES UP,<br>1 SQUARE RIGHT |

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DOCUMENT pentapus
   
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PENTAPUS DOCS
   
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OBJECT--- TO KILL THE MIGHTY PENTAPUS

MOVE----- USE THE JOYSTICK

FIRE----- USE BUTON

LEVELS--- 'K' FOR KIDDY GAME
   
'1' FOR LEVEL ONE (EASY)
   
'2' FOR LEVEL TWO
   
'3' FOR LEVEL THREE (HARD!!)

ALSO TO SHRINK YOUR SQUARE---TOP BUTON

ESC R--- RESTART GAME

ESC S--- TURN OFF SOUND

ESC C--- CLEAR ALL HIGH SCORES

ESC W--- WRITE CURRENT HIGHS ON DISK

HINTS--- WATCH DEMO MODE TO SEE FIRST 10 ATTACK MODES TO KNOW WHAT YOUR UP AGAINST

P.S. WATCH OUT FOR THE SMART BOMBS--- THEY HURT!!!

=====
   
DOCUMENT phantasie.chart
   
=====

Charts for playing Phantasie by SSI
   
By
   
53 and Electric Brainstorm

-----

MAX. ATTRIBUTES BY RACE

|            | STR | INT | DEX | CON | CHA |
|------------|-----|-----|-----|-----|-----|
| Human      | 18  | 18  | 18  | 18  | 18  |
| Dwarf      | 20  | 17  | 17  | 19  | 17  |
| Elf        | 17  | 19  | 19  | 17  | 18  |
| Gnome      | 19  | 17  | 18  | 19  | 17  |
| Halfling   | 16  | 18  | 20  | 18  | 17  |
| Gnoll      | 20  | 13  | 17  | 21  | 11  |
| Goblin     | 17  | 14  | 18  | 17  | 11  |
| Kobold     | 17  | 15  | 19  | 19  | 13  |
| Lizard Man | 19  | 14  | 17  | 18  | 13  |
| Minotaur   | 20  | 14  | 16  | 19  | 12  |
| Ogre       | 21  | 14  | 16  | 19  | 13  |
| Orc        | 19  | 16  | 17  | 18  | 14  |
| Pixie      | 16  | 18  | 21  | 16  | 17  |
| Sprite     | 16  | 18  | 22  | 16  | 17  |
| Troll      | 22  | 13  | 15  | 20  | 12  |

-----

V. MAGIC

-----

Spell Magic

| No. | Pts. | Name         | Type |
|-----|------|--------------|------|
| 1   | 1    | Healing 1    | E    |
| 2   | 2    | " 2          | E    |
| 3   | 3    | " 3          | E    |
| 4   | 4    | " 4          | E    |
| 5   | 1    | Fireflash 1  | C/A  |
| 6   | 2    | " 2          | C/A  |
| 7   | 3    | " 3          | C/A  |
| 8   | 4    | Fireflash 4  | C/A  |
| 9   | 1    | Quickness 1  | C/P  |
| 10  | 2    | " 2          | C/P  |
| 11  | 3    | " 3          | C/P  |
| 12  | 4    | " 4          | C/P  |
| 13  | 1    | Strength 1   | C/P  |
| 14  | 2    | " 2          | C/P  |
| 15  | 3    | " 3          | C/P  |
| 16  | 4    | " 4          | C/P  |
| 17  | 1    | Protection 1 | C/P  |
| 18  | 2    | " 2          | C/P  |
| 19  | 3    | " 3          | C/P  |
| 20  | 4    | " 4          | C/P  |
| 21  | 1    | Confusion 1  | C/A  |
| 22  | 2    | " 2          | C/A  |
| 23  | 3    | " 3          | C/A  |
| 24  | 4    | " 4          | C/A  |
| 25  | 1    | Weakness 1   | C/A  |
| 26  | 2    | " 2          | C/A  |
| 27  | 3    | " 3          | C/A  |
| 28  | 4    | " 4          | C/A  |
| 29  | 1    | Binding 1    | C/A  |
| 30  | 2    | " 2          | C/A  |
| 31  | 3    | " 3          | C/A  |
| 32  | 4    | " 4          | C/A  |
| 33  | 1    | Mindblast 1  | C/A  |
| 34  | 2    | " 2          | C/A  |

|     |   |                    |   |      |
|-----|---|--------------------|---|------|
| 35  | 3 | "                  | 3 | C/A  |
| 36  | 4 | "                  | 4 | C/A  |
| 37  | 1 | Flamebolt          | 1 | C/A  |
| 38  | 2 | "                  | 2 | C/A  |
| 39  | 3 | "                  | 3 | C/A  |
| 40  | 4 | "                  | 4 | C/A  |
| 41  | 1 | Charm              |   | C/A  |
| 42  | 2 | Sleep              |   | C/A  |
| 43  | 3 | Teleportation      |   | C/A  |
| 44  | 4 | Resurrection       |   | E    |
| 45  | 1 | Ninja 2            |   |      |
| C/P |   |                    |   |      |
| 46  | 2 | Fear               |   |      |
| C/A |   |                    |   |      |
| 47  | 3 | Dissolve           |   |      |
| C/A |   |                    |   |      |
| 48  | 4 | Summon Elemental   |   | C/P  |
| 49  | 1 | Dispell Undead     |   | C/A  |
| 50  | 2 | Ninja 1            |   | C/P  |
| 51  | 3 | Awaken             |   |      |
| C/A |   |                    |   |      |
| 52  | 4 | Monster Evaluation |   | N/WD |
| 53  | 1 | Vision             |   |      |
| N/W |   |                    |   |      |
| 54  | 2 | Transportation     |   | N/T  |

SPELLS AVAILABLE AT DIFFERENT LEVELS BY CLASS

|         |    | LEVEL |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------|----|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|         |    | 1     | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| Wizard  | 5  | 13    | 6  | 7  | 21 | 25 | 8  | 34 | 11 | 35 | 15 | 36 | 12 | 16 | 47 |    |
|         | 9  | 41    | 10 | 14 | 54 | 33 | 37 | 45 | 38 | -  | 39 | 48 | -  | 40 | -  |    |
|         | -  | -     | -  | -  | -  | 50 | 46 | 51 | -  | -  | -  | -  | -  | -  | -  |    |
| Priest  | 1  | 21    | 2  | 25 | 3  | 18 | 23 | 4  | 7  | 8  | 31 | 24 | 32 | 20 | 48 |    |
|         | 51 | 29    | 17 | 42 | 22 | 30 | 26 | 43 | 19 | 37 | 34 | 27 | 39 | 28 | -  |    |
|         | 53 | -     | 49 | -  | -  | -  | -  | -  | 44 | -  | -  | -  | -  | -  | -  |    |
| Ranger  | 1  | 17    | 25 | 2  | 29 | 3  | 18 | 4  | 6  | 30 | 26 | 22 | 33 | 37 | 23 |    |
|         | 5  | -     | 49 | -  | 52 | -  | 51 | -  | 21 | -  | 42 | -  | 44 | -  | -  |    |
| Monk    | 5  | 50    | 6  | 45 | 53 | 7  | 13 | 8  | 33 | 9  | 34 | 14 | 35 | 10 | 36 |    |
|         | -  | -     | 54 | -  | -  | -  | 48 | -  | -  | -  | -  | -  | -  | -  | -  |    |
| Fighter | -  | -     | 52 | -  | -  | 9  | -  | -  | 13 | -  | -  | 11 | -  | -  | 15 |    |
| Thief   | -  | -     | -  | 41 | -  | -  | 42 | -  | -  | 18 | -  | -  | 8  | -  | -  |    |

Maximum Magic Points at Different Levels by Class

|         |    | Level |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------|----|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|         |    | 1     | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| Wizard  | 10 | 11    | 11 | 12 | 13 | 14 | 14 | 15 | 16 | 16 | 17 | 17 | 18 | 19 | 20 | 20 |
| Priest  | 10 | 11    | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 20 | 20 | 20 | 20 | 20 |
| Ranger  | 8  | 9     | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 18 | 18 | 18 | 19 |    |
| Monk    | 10 | 10    | 10 | 11 | 11 | 11 | 12 | 12 | 12 | 13 | 13 | 14 | 16 | 18 | 20 |    |
| Fighter | 7  | 7     | 8  | 8  | 9  | 9  | 10 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 18 |    |
| Thief   | 6  | 6     | 7  | 7  | 8  | 8  | 9  | 10 | 11 | 12 | 13 | 13 | 14 | 14 | 15 |    |

SHIELDS

Point Strength

ARMOR

Point Strength

| Value | Req. | Type             | Value | Req. | Type          |
|-------|------|------------------|-------|------|---------------|
| 1     | 1    | Glove            | 1     | 2    | Clothing      |
| 2     | 2    | Wooden Shield    | 2     | 4    | Robes         |
| 3     | 3    | Wooden Shield +1 | 3     | 6    | Leather       |
| 4     | 4    | Small Shield     | 4     | 8    | Hard Leather  |
| 5     | 5    | Small Shield +1  | 5     | 10   | Ring Mail     |
| 6     | 6    | Small Shield +2  | 6     | 12   | Scale Mail    |
| 7     | 7    | Small Shield +3  | 7     | 14   | Chain Mail    |
| 8     | 8    | Medium Shield    | 8     | 16   | Splint Mail   |
| 9     | 9    | Medium Shield +1 | 9     | 18   | Banded Mail   |
| 10    | 10   | Medium Shield +2 | 10    | 20   | Plate Mail    |
| 11    | 11   | Medium Shield +3 | 2     | 0    | Cloth +1      |
| 12    | 12   | Large Shield     | 3     | 0    | Robes +1      |
| 13    | 13   | Large Shield +1  | 4     | 2    | Leather +1    |
| 14    | 14   | Large Shield +2  | 5     | 4    | Leather +2    |
| 15    | 15   | Large Shield +3  | 6     | 6    | Ring Mail +1  |
| 16    | 16   | Giant Shield     | 7     | 8    | Ring Mail +2  |
| 17    | 17   | Giant Shield +1  | 8     | 10   | Chain Mail +1 |
| 18    | 18   | Giant Shield +2  | 9     | 12   | Chain Mail +2 |
| 19    | 19   | Giant Shield +3  | 10    | 14   | God Robes     |
| 20    | 20   | God Shield       | 11    | 16   | God Armor     |

WEAPONS

| Point Attributes |      |              | Point Attributes |      |               |
|------------------|------|--------------|------------------|------|---------------|
| Value            | Req. | Type         | Value            | Req. | Type          |
| 0                | 2    | Stick        | 3                | 2    | Small Mace +1 |
| 1                | 4    | Knife        | 4                | 4    | Dagger +1     |
| 1                | 6    | Small Club   | 4                | 6    | Small Mace +2 |
| 2                | 8    | Small Staff  | 5                | 8    | Dagger +2     |
| 2                | 10   | Small Mace   | 6                | 10   | Dagger +3     |
| 3                | 12   | Dagger       | 7                | 12   | Staff +1      |
| 3                | 14   | Small Flail  | 7                | 14   | Dagger +4     |
| 4                | 16   | Club         | 8                | 16   | Flail +1      |
| 4                | 18   | Mac          | 9                | 18   | Spear +1      |
| 5                | 20   | Small Hammer | 10               | 20   | Axe +1        |
| 5                | 22   | Small Axe    | 10               | 22   | Sword +1      |
| 6                | 24   | Staff        | 11               | 24   | Sword +2      |
| 6                | 26   | Short Sword  | 12               | 26   | Sword +3      |
| 7                | 28   | Flail        | 13               | 28   | Large Axe +1  |
| 7                | 30   | Hammer       | 13               | 30   | Sword +4      |
| 8                | 32   | Pitch Fork   | 14               | 32   | Sword +5      |
| 8                | 34   | Spear        | 15               | 34   | Sword +6      |
| 9                | 36   | Axe          | 16               | 36   | Halbred +1    |
| 9                | 38   | Sword        | 16               | 38   | Sword +7      |
| 10               | 40   | Heavy Mace   | 17               | 40   | Halbred +2    |
| 10               | 42   | Maul         | 18               | 42   | Halbred +3    |
| 11               | 44   | Trident      | 19               | 44   | Sword +10     |
| 11               | 46   | Large Spear  | 19               | 46   | Halbred +4    |
| 12               | 48   | Large Axe    | 20               | 48   | Halbred +5    |
| 12               | 50   | Morning Star | 21               | 50   | Halbred +6    |
| 13               | 52   | Pike         | 22               | 52   | Halbred +7    |
| 13               | 54   | Long Sword   | 22               | 54   | God Knife     |
| 14               | 56   | Spetum       | 23               | 56   | God Mace      |
| 14               | 58   | Bardiche     | 24               | 58   | God Axe       |
| 15               | 60   | Halbred      | 25               | 60   | God Sword     |

Attributes Req. = STR\*2 + DEX

VI. TREASURE

A. POTIONS

Potions are use to restore hit and magic points.

Healing 1- 1 pt.      Healing 6- 35 pts.  
 Healing 2- 4 pts.    Healing 7- 49 pts.  
 Healing 3- 9 pts.    Healing 8- 64 pts.

Healing 4- 16 pts. Healing 9- 81 pts.  
Healing 5- 25 pts. Healing 10- 100 pts.

Magic 1- 3 pts. Magic 6- 18 pts.  
Magic 2- 6 pts. Magic 7- 21 pts.  
Magic 3- 9 pts. Magic 8- 24 pts.  
Magic 4- 12 pts. Magic 9- 27 pts.  
Magic 5- 15 pts. Magic 10- 30 pts.

-END-

=====  
DOCUMENT phantom.access1  
=====

^%[> Phantom Access 5.7K <]%^  
(C)reated By: Lord Digital

=====  
[ At Last!: ]  
=====

=====  
[ Released Saturday, April 4th, 1987 ]  
=====

Well, here it is Phantom Access. If you have it already, its most likely Thanks to me, at least indirectly. I got it at a TAP meeting from The Plague earlier in the year and I have given it to whoever asked me, namely The Watcher(Cap. Con |[]), Celtic Phrost and a friend of Celtic's. Since then I've heard that these people have been giving to other people, they promised not to, but I suppose I couldn't expect them not to(I did, after all...). Its been years since all the hoopla really started and the point has become moot, so I'm releasing it everyone. The old TAP kids don't mind and I might as well take this advantage to put my name in a nice big font, right? TAP by the way is disbanded, perhaps there will be an annual get together, but I doubt it. Most of the stuff said about TAP wasn't true and has come from me anyway. For instance Chris, in Fall of the Modem World, called me an idiot and then went on to directly copy my sometimes incorrect or obselete information from Tap.Interviews II.

Enough about that however. Here is Phantom Access 5.7k, complete with docs. It's not really that big of a deal as you can see, and the nonsense about it "not falling into the wrong hands" is just that, nonsense. For years everyone who didn't know what it was wanted it, and people who did know what it was didn't. For example, Sigmund Fraud turned down a copy. Anyway, enjoy the program, let the big debate end (but now I guess you'll all have to debate about just what kind of loser/leech/rodent would give it out!). Please give to everyone you know. Also, enjoy the title page I tacked on...(please disregard the insults on it, I meant them as jokes....)

later  
Dead Lord  
(>CEO<) - Elite even in death...

Leave me a message on the Dead Lord Machine at:  
212-677-2332-voice  
212-703-0095-answering machine





limit' question, asks: do you want to install a limit on the number of times that 'pound out' can fail. (After it 'pounds out' <#> the hacker searches for a dialtone, indicating that it can go on & redial, if none is found, then it will cycle through to a physical hang-up, followed by a redialing to the OCC, and re start from where it left off.) Answering yes, allows you to impose a limit on the number of times this audio test can fail, and provided that it fails more times than you chose to allow, the hacker will shut itself down.

```

---
OCC dialup: (dialup to Occ node)
Valid code for OCC: (valid code)
Install maximum fail limit? (answering yes will go to the next question, a no
will jump to 'is everything correct.')
Maximum # of times Audio test can fail: (maximum # of times the OCC can fail
to 'pound out'.)

```

```

Is everything correct? (yes- starts hacker, no- goes back to 'rnd / seq' input)

Hacker Status: Everything is more or less self-explanatory. Esc quits and
asks you if you desire a status report on the scan that was
just done. And brings you back to main menu.

```

```

---
[Footnote#1]: MCI = ANY system that will return the initial Tone back with a #,
key. As far as I know AllNet, and several other OCC's do this as
well.

```

Lord Digital

```

=====
DOCUMENT pipedream
=====

```

PROPERTY OF  
EAST COAST CONNECTION

```

10/02/90 ( _ _ _ ) ( _ _ _ ) ( _ _ _ )
-: : _ ) -: : > - -: : > - 10/02/90
( _ / _ _ ) ( _ / _ _ ) ( _ / _ _ )

```

:(\_-:(\_)=- proudly brings to you =(\_-)-\_):

.... Lucasfilm Games' Pipe Dream ....

Protection Destroyed by:  
Joe Hack & The Mercenary

: Official East Coast Connection Release Bases :

```

The Oblivion ... (516) 922-4312 ... 9600bps / 105 Megs / Exodus Xfers
The Outer Limits ... (718) 492-3054 ... 9600bps / 255 Megs / HowieNet v1.2
Temple of Karnak ... (516) 361-4999 ... 9600bps / 85 Megs / ProTALK

```

:.:.:.: Official ECC Members listed in Alphabetical Order :.:.:.:

Aiwatts \* Commie Scum \* The High Priest  
Joe Hack \* Mavster \* The Mercenary \* The Overlord  
Ronin \* Star Gazer \* The Wanderer

\* Documentation typed up by Mavster.

\*\* NOTICE \*\* Not compatible with Transwarp GS  
But we are working on a patch!

Can you think under pressure? How about under flooz pressure? You'll find out when you play pipe Dream, the fast-flowing game of speed, strategy, and plumbing. Make your pipeline as long as you can, but always stay ahead of the flow or your score will go down the drain.

Maybe you can imagine yourself as the plumber-in-chief at Acme Chemical Company. OK? Well, Acme has just invented this miracle sewer cleaner called flooz. Problem is, they're making flooz faster than they can pipe it into tank card. Your job is to build an emergency pipeline with spare plumbing parts, and keep Acme from sinking under a sea of sickly green sludge.

Pipe Dream has 36 increasingly cunning levels, with almost infinite variations in each one. There are three playing modes (basic, expert, and two-plumber) and a training mode that's a real plumber's helper. What are you waiting for? Take the plunge!

HOW TO PLAY PIPE DREAM

Pipe Dream starts on a playing field that is empty except for the starting piece. The object is to score as many points as possible by constructing a continuous pipe from the starting piece.

As you play, pipe pieces appear in a dispenser to the left of the playing field. You can place a pipe anywhere you like, whether or not it connects with other pipe sections. In fact, you'll learn to place pieces in a pattern that anticipates connections five or ten moves in advance.

You can't rotate the pipes, nor can you alter the order in which they appear, nor can you skip a pipe and come back to it later. You'll have to play 'em as then come.

You can "bomb" a pipe by placing a new pipe on top of the previously played one. The old pipe will explode and the new pipe will appear in its place. There is a short time delay for replacing pipes, and a 50 point penalty.

Once a pipe piece fills with flooz, you can no longer replace it. And, at higher levels, the game field will contain advanced pipe pieces and obstacles. You can't "bomb" and replace those special pieces that appear at the start of a round.

After the round has started, a timer set for the level of difficulty in that round will allow the flooz to start flowing from the starting piece into the pipeline you're constructing. Keep placing pipes and adding to the pipeline until the flooz catches up with you or spills off the edge of the playing field. When the flooz reaches the end of your pipeline, the round is over.

Once you've placed all the pipe pieces you can (or want to), press the "flow" (F) key (as in "fast flowing flooz") and the flooz will speed up and end the round quickly. You will score double points for each additional pipe piece the flooz flows through.

#### ADVANCING TO THE NEXT LEVEL

In order to advance to the next level, you must make the flooz flow through a certain number of pipes. Look at the counter in the upper right corner of the screen. At the start of each round, this counter tells you how many pipes the flooz has to flow through in order to advance to the next level. Then as the flooz flows through the pipeline, the counter decreases, keeping track of how many more pipes the flooz must go through. When the counter reaches zero, you qualify for the next level.

On higher levels, many things change:

- o The flooz flows at a faster rate.
- o Obstacles appear on the playing field. You can't place pipes in those squares.
- o Bonus pieces may show up. These earn you extra points if the flooz goes through them.
- o One-way pieces appear in your pipe dispenser. The flooz can only flow through these in one direction.
- o End pieces show up. In addition to achieving the required pipeline length, you must direct the flooz into the end piece in order to advance to the next level.
- o Reservoir pieces appear. The flooz takes a little longer to fill these up, so they gain you some valuable time.
- o There are sections of the playing field that allow the flooz to exit one side of the screen and reappear on the other side.

#### SCORING

##### BASIC GAME SCORING

- o 50 points for each pipe the flooz flows through, until you reach the distance required to advance to the next level.
- o 100 points for each pipe the flooz flows through after you reach the distance required to advance to the next level.
- o 500 points for each time the flooz crosses itself in a cross pipe. (If the flooz does not cross itself you can still receive 50 or 100 points for going through the cross pipe).
- o 500 points for each bonus or reservoir piece the flooz flows through before you reach the distance required to advance to the next level.
- o 1000 points for each bonus or reservoir piece the flooz flows through after you reach the distance required to advance to the next level.
- o 1000 points for using the end piece.
- o 100 point penalties at the end of the round for each unused pipe left on the playing field.
- o 50 point penalty for each replacement made.
- o After you hit the "flow" key, every pipe the flooz flows through earns you

double the usual point value.

##### EXPERT ONE PLUMBER

The basic scoring rules apply, but:

- o 100 bonus points are given every time the flooz flows through pipe pieces selected from alternating (top and bottom) dispensers.

##### COMPETITIVE TWO PLUMBER

The basic scoring rules apply but:

- o Points from the flooz flowing through a pipe -- including the 500 point bonus for crossovers -- are scored only by the player who placed the pipe.
- o The 100 point penalty from the flooz not flowing through a pipe is levied to the player who placed that pipe.
- o The bonus piece points go to the player who placed the previous piece and connected it to the bonus piece.

Two plumber Pipe Dream encourages both teamwork and competition. You have to work together to keep the flow going, but you'll want the flooz to flow through more of your own pipes, and fewer of your opponent's.

##### PIPE DREAM PLAYING MODES

Pipe Dream has three playing modes: basic one-plumber, expert one-plumber, and competitive two-plumber. There is also a training mode that allows you to play any of these modes at a slower rate of flow.

##### BASIC ONE-PLUMBER

Pipe pieces appear in a single dispenser on the left side of the screen. You can always see the next five pipes in the dispenser.

##### EXPERT ONE-PLUMBER

Pipe pieces appear in two dispensers on the left side of the screen, one above the other. The pipe pieces nearest the middle of the screen are available to be placed on the playing field. You can always see the next three and one-third pipes in each dispenser.

##### COMPETITIVE TWO-PLUMBER

As in expert mode, pipe pieces appear in two dispensers on the left side of the screen. Player One uses the pipes from the top dispenser, and Player Two uses the pipes from the bottom one.

##### PLAYING TIPS

- o Use the training mode to become a good plumbing strategist. Learn how to visualize the completed pipeline and place pieces accordingly.
- o If you want a big score, don't be too eager to advance quickly to the next level. Earn as many points as you can on each level.
- o Think ahead. If you don't need a piece right away, put it where you can connect it later. Blowing up pipes wastes time and valuable points.
- o Use cross pipes wisely. You only get a limited number of them, and each one can deliver bonus points. Make sure you place them where there's room to loop back through.
- o Even if you're way ahead of the flow, work fast. That way, you'll have time to figure out how to fill as much of the playing field as possible. Or you

can press the "flow" key and score bonus points.  
end of file.

=====
DOCUMENT pirate.page.pro
=====

////////////////////////////////////
/XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX/
/X X/
/X PIRATE PAGE PRODUCER V1.0 X/
/X X/
/X WRITTEN BY CAPTAIN KIDD, SWEDEN X/
/X [ GREAT LAKES PIRATES GUILD ] X/
/X X/
/X THE FALLOUT SHELTER 517-681-2246 X/
/XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX/
////////////////////////////////////

FIRST OF ALL, I'D LIKE TO POINT OUT THAT THIS IS ONLY A PRE-RELEASE, DUE TO THE MANY DEMANDS I'VE GOT ABOUT PPP.

THIS MEANS THAT SOME FACILITIES HAVEN'T BEEN INCLUDED IN THIS VERSION, LIKE THE POSSIBILITY TO GET A PRINTOUT ON A PRINTER, EDIT THE CODE (RIGHT NOW YOU HAVE TO DELETE THEN INSERT, BUT IT WORKS ALRIGHT!) AND SOME OTHER MINOR "FAULTS". ALL THESE WILL BE INCLUDED IN THE NEXT VERSION, V2.0, LOOK FOR IT!!

SECOND, THIS IS ONLY A PRELIMINARY DOX, METHE "PROGRAM COUNTER" WILL JUMP TO "INDEX" UNLESS THE "DELAY1" VALUE REACHES ZERO. WHEN IT DOES, "DELAY1" WILL BE RELOADED AS DESCRIBED ABOVE AND THEN THE NEXT INSTRUCTION WILL BE EXECUTED.

WAIT HAS ONLY ONE PARAMETER, "VALUE". THIS IS THE AMOUNT OF TIME PERIODS YOU WANT THE EXECUTION TO STOP FOR. THAT IS, IF YOU'RE GOING TO HAVE, LET'S SAY, ONLY ONE "FLASH", THEN IT'LL PROBABLY FLASH TO FAST, BUT THEN YOU ADD A WAIT OF 100 (OR SOMETHING) AND YOU'LL FIND THAT IT LOOKS QUITE BETTER ON THE SCREEN!

THE FOLLOWING INSTRUCTIONS;

INC/DEC/EOR/SET/ADD/SUB

ALL MODIFY THE ROUTINE CODE IN SOME WAY. THESE ARE USED WHEN YOU'RE GOING TO MAKE SOME "ADVANCED" EFFECTS.

INC AND DEC, WANTS ONLY ONE VALUE AND THAT'S "INDEX". WHAT THEY WILL TO IS RATHER OBVIOUS, INCREASE AND DECREASE THE VALUE AT "INDEX". IF YOU'RE GOING TO MAKE A BOX SHRINK OR GROW, THESE ARE THE INSTRUCTIONS YOU'LL HAVE TO USE.

EOR AND SET, WILL ASK YOU FOR A VALUE AND FOR THE INDEX. EOR WORKS AS THE ASSEMBLY EQUIVALENT, THAT IS, IT EOR'S THE BYTE AT "INDEX" WITH THE SPECIFIED VALUE AND THEN STORES THE VALUE BACK AT "INDEX".

SET DOES THE SAME, EXCEPT IT DOESN'T EOR THE VALUE, IT JUST PUTS IT THERE. IF YOU'RE GOING TO MAKE THAT SHRINK/GROW TRICK, THEN YOU'LL HAVE TO RESTORE THE SCROLL'S VALUE BEFORE THE ROUTINE IS RERUN, AND THAT'S WHAT YOU USE SET FOR.

ADD AND SUB WORK EXACTLY LIKE EOR, BUT INSTEAD OF EOR:ING THE BYTE THEY ADD/SUB RESPECTIVELY.

AND FINALLY, SOUND, CLICKS THE SPEAKER. IT WORKS EXACTLY LIKE A "\$C030" FROM THE MONITOR.

WELL, THIS WAS THE INSTRUCTIONS IN A NUTSHELL. I KNOW I'M NOT THE BEST AT EXPLAINING THINGS, JUST SIT DOWN AND TAKE YOUR TIME AND YOU'LL UNDERSTAND HOW IT WORKS. TRY LOADING THE DEMOS AND LOOK AT THE CODE, IT

MIGHT HELP YOU UNDERSTAND WHAT I'M TRYING TO EXPLAIN.

-END-

===== DOCUMENT pirates =====

SID MEIER'S PIRATES!

PIRATES: "ACTION AND ADVENTURE ON THE SPANISH MAIN"

PIRATE'S FEATURES INCLUDE:  
ACTION...SHIP BATTLES, LAND CONQUESTS, FENCING AND SAILING  
STRATEGY...PLUNDERING, TRADING, NEGOTIATING AND FORGING ALLIANCES  
GOALS...TREASURES, ROMANCE, STATUS, POWER AND PRESTIGE  
NEW EXPERIANCES...EXPLORE ACROSS A MAP OF THE ENTIRE CARIBBEAN  
EXTENSIVE GRAPHICS...OVER 70 DIFFERENT SCENES AND PICTURES  
EXCITEMENT...TRIUMPHS AND TRAGEDIES, VICTORIES AND DEFEATS!

PIRATES BY: MICROPROSE  
PIRATES DOCUMENTATION BY:  
THE PERPLEXER

SAVING THE GAME:  
YOU WILL NEED AN EXTRA, BLANK DISK TO SAVE PIRATES! DURING PLAY. TO SAVE THE GAME,  
ENTER ANY TOWN AND CHECK INFORMATION. THE LAST INFORMATION OPTION WILL BE SAVE GAME.  
SELECT THIS OPTION AND FOLLOW THE INSTRUCTIONS. PIRATES! SAVE-GAME DISK USE SPECIAL  
FORMAT. YOU MUST USE THE FORMAT OPTION OFFERED IN SAVE GAME, A NORMALLY FORMATTED  
DISK WILL NOT SUFFICE. NOTE: THAT FORMATTING A DISK PREPARES IT FOR SAVING GAMES, BUT  
DOES'NT SAVE ANYTHING. HAVING A FORMATTED DISK IS ALSO NECESSARY TO RECORD YOUR FINAL  
SCORE ON THE HALL OF FAME IF YOU WISH TO.

STARTING THE GAME:  
(THIS IS A QUICK START, IF YOU WISH TO LEARN TO PLAY THE GAME FROM EXPERIMENTATION)  
NOTE: IF YOU WISH TO UNDERSTAND WHAT IS GOING ON BETTER, CONTINUE TO READ DOCS!

STARTING OPTIONS: BEGIN YOUR 1ST GAME WITH THE FOLLOWING SELECTIONS:

1. WELCOME: START A NEW CAREER
2. SPECIAL HISTORICAL PERIOD?: NO
3. WHAT NATIONALITY ARE YOU?: ENGLISH
4. TYPE YOUR NAME (MAXIMUM: 9 CHARACTERS) AND PRESS 'RETURN'
5. YOU ARE AN: APPRENTICE
6. SPECIAL ABILITY: SKILL AT FENCING  
(IF CONFUSED READ ON FOR MORE DETAILS)

IMPORTANT!!!: YOU MUST KNOW WHEN THE TREASURE FLEET OR SILVER TRAIN ARRIVES!  
(SO READ ON UNTIL YOU FIND OUT)

IN PORT: EXPLORE THE PORT & OPTIONS AVAILABLE THERE BEFORE LEAVING FOR YOUR  
FIRST CRUISE. DON'T, HOWEVER, DIVIDE UP THE PLUNDER YET!!  
CRUISING THE SEAS: SEE THE CONTROL SUMMARY FOR MORE INFO. (LURKING NEAR SEA PORTS OFTEN  
LEAD TO A PROMISING ENCOUNTER, FRIEND OR FOE)  
FINISHING YOUR VOYAGE: RETURN TO PORT AND SELECT 'DIVIDE THE PLUNDER'. AFTER  
THAT, SELECT RETIREMENT. THIS ENDS THE GAME AND SHOWS YOUR SCORE. DON'T WORRY YOU CAN  
COME BACK FROM RETIREMENT (HEALTH PERMITTING).  
NOTE: YOU CAN STILL DIVIDE UP PLUNDER WITH-OUT RETIRING DO THIS WHEN YOUR MEN START TO  
GET ANGRY BUT ONLY IF IT HAS BEEN CLOSE TO A YEAR! THEY GET ANGRY SOMETIMES BUT YOU  
CAN GET MORE GOLD TO CAUSE THEM TO BECOME HAPPIER. READ ON FURTHER FOR MORE  
INFORMATION!

CONTROL SUMMARY: (VERY ABBREVIATED)

CONTROLLING MENUS:  
MOVE CURSOR: PUSH JOYSTICK IN DIRECTION DESIRED  
SELECT HIGHLIGHTED OPTION: PRESS JOYSTICK TRIGGER.  
TRADING & MOVING GOODS  
SELECT TRADE LINE: PUSH JOYSTICK TO POINT TO LINE ON SCREEN  
BUY (TAKE) GOODS: FLICK JOYSTICK TO LEFT TO MOVE GOODS TO YOUR PARTY  
SELL (LEAVE) GOODS: FLICK JOYSTICK TO RIGHT TO MOVE GOODS AWAY FROM YOUR PARTY  
FENCING & SWORDPLAY:

FAST ATTACK: JOYSTICK TO LEFT (HIGH,MIDDLE OR LOW)  
 POWERFUL SLASHING ATTACK: HOLD TRIGGER & JOYSTICK LEFT (HIGH,MIDDLE OR LOW)  
 PARRY (BLOCK ATTACK): JOYSTICK AT CENTER (HIGH,MIDDLE OR LOW)  
 RETREAT WITH PARRY: JOYSTICK TO RIGHT (HIGH,MIDDLE OR LOW)  
 NOTE: JOYSTICK HEIGHT (UP,LEVEL OR DOWN) DETERMINES HEIGHT OF ATTACK OR PARRY  
 TRAVELLING ACROSS THE CARIBBEAN:  
 LEAVE PORT:FLICK JOYSTICK IN THE DIRECTON YOU'LL SET SAIL  
 SAILING:JOYSTICK LEFT TURNS SHIP LEFT, JOYSTICK RIGHT TURNS SHIP RIGHT  
 MARCHING OVERLAND:PUSH JOYSTICK IN DIRECTION YOU WISH TO MARCH  
 NOTE: YOU CAN ANCHOR SAFELY ANYWHERE ON THE COAST AND DISEMBARK AUTOMATICALLY.  
 HOWEVER, ANY TRAVEL OVER SHOALS (REEFS) MAY BE FATAL. (IF WATER IS SHALLOW)  
 SEA BATTLES:  
 SAILING:JOYSTICK LEFT TURNS SHIP LEFT, JOYSTICK RIGHT TURNS SHIP RIGHT  
 SAILS UP/DOWN: (DOWN ARE BATTLESAILS) JOYSTICK STRAIGHT UP RAISES ALL SAILS, JOYSTICK  
 DOWN REDUCES SAILS  
 CANNON FIRE: PRESS TRIGGER TO FIRE BROADSIDE  
 BOARDING ENEMY SHIPS:MOVE YOUR SHIP INTO THE ENEMY SHIP, A FENCING BATTLE  
 ENSUESNOTE:IF ATTACKING A FORT, BEACH YOUR SHIP NEAR THE FORT TO STORM IT.  
 LAND BATTLES:  
 MOVE ONE GROUP: PUSH JOYSTICK IN DIRECTION YOU WISH TO MARCH  
 MOVE ALL GROUPS: HOLD TRIGGER WHILE PUSHING JOYSTICK IN DESIRED DIRECTION  
 FIRE AT ENEMY: DONT MOVE MEN, THEY WILL FIRE AUTOMATICALLY WHEN IN RANGE  
 HAND TO HAND COMBAT: MOVE MEN DIRECTLY INTO ENEMY (NEEDED TO STORM FORT)  
 NOTE:JOYSTICK BUTTONS DOES NOT FIRE A GROUP. GROUPS FIRE AUTOMATICALLY. THE JOYSTICK  
 BUTTON SWITCHES BETWEEN GROUPS, OR TO MOVE ALL GROUPS AT ONCE!

NOTE: THE ABOVE IS A CONDENSED VERSION OF INFORMATION READ ON FOR MORE!!!!

#### YOUR GOALS:

YOU ARE SEEKING TO MAKE YOUR FORTUNE IN THE WEST INDIES, SO THAT YOU CAN RETIRE TO A  
 LIFE OF WEALTH, EASE, AND HIGH STATUS. THE QUALITY OF YOUR RETIREMENT IS ASUM OF  
 YOUR PERSONAL FORTUNE, YOUR RANK, YOUR LANDS, YOUR REPUTATION, THE WIFE YOU MARRY (IF  
 ANY), AND WHATSOEVER ESPECIALLY PLEASING EVENTS BEFALL YOU DURING THE COURSE OF YOUR  
 ADVENTURES.

#### INITIAL OPPURTUNITIES:

A NEW PLAYER SHOULD START A NEW CAREER!  
 START A NEW CAREER: BEGINS A COMPLETE ADVENTURE, FROM YOUR FIRST ARRIVAL IN THE NEW  
 WORLD TO YOUR WELL-EARNED RETIREMENT. THIS IS THE 'STANDARD GAME' AND YOU CAN  
 CONTINUE FOR QUITE SOME TIME.  
 CONTINUE A SAVED GAME: ALLOWS YOU TO RESUME ANY GAME IN PROGRESS. YOU WILL NEED THE  
 DISK UPON WHICH YOU SAVED THE GAME. DONT INSERT THE SAVE-GAME DISK UNTIL INSTRUCTED  
 TO!

COMMAND A FAMOUS EXPEDITION:IS A SHORT GAME WHERE YOU COMMAND JUST ONE EXPEDITION.  
 THESE EXPEDITIONS ARE USUALLY LARGE, BUT END WHENEVER YOU DIVIDE UP THE PLUNDER.  
 FAMOUS EXPEDITIONS ARE NOT FOR A NOVICE--DOING AS WELL AS THE HISTORICAL MODEL CAN BE  
 A VERY CHALLENGING TASK!  
 FAMOUS EXPEDITIONS:YOU MUST RE-ENACT THE ORIGINAL SKILLFUL LEADERS EXPEDITIONS!

JOHN HAWKINS,1569:THIS IS FAIRLY DIFFICULT SITUATION. YOU HAVE A LG. POWERFUL  
 SQUADRON BUT ARE IN TOTALLY SPANISH CARIBBEAN. THE ONLY FRIENDLY PORTS ARE TINY  
 ANCHORAGES. IN REALITY, HAWKINS TRIED TO BE A PEACEFUL TRADER (SOMETIMES AT  
 GUNPOINT--A MOST PECULIAR COMBINATION), AND FAILED.

FRANCIS DRAKE,1573:THIS IS A VERY DIFFICULT SITUATION. LIKE HAWKINS, YOU ARE  
 INTOTALLY SPANISH CARIBBEANS, BUT NOW YOU HAVE A SMALL FORCE. IN REALITY, AFTER AFEW  
 FALSE STARTS, DRAKE'S BOLDNESS & BRAVERY MADE HIM SUCESSFUL.

PIET HEYN,1628:THIS IS A FAIRLY EASY SITUATION. YOU HAVE A BALANCED TASK FORCE, AND  
 ARE ADMIRABLY POSITIONED TO INTERCEPT SPANISH TREASURE GALLEONS OFF THE HAVANA OR IN  
 THE FLORIDA CHANNEL. EQUALLING HEYN'S FEAT OF AMBUSHING THE ENTIRE TREASURE FLEET  
 WILL TAKE A COMBINATION OF GOOD LUCK AND PERSISTANCE AT THE RIGHT PLACE AND TIME.

L'OLLONNAIS,1966:THIS IS AN EASY SITUATION. YOU HAVE MANY POTENTIALLY FRIENDLY PORTS  
 AND MILITARILY WEAK SPANIARDS. HOWEVER, DUPLICATING L'OLLONNAIS' ACHIEVEMENT OF  
 CONQUERING AND PLUNDERING THE ENTIRE MARACAIBO REGION MAY PROVE TAXING.

HENRY MORGAN,1671:THIS IS A VERY EASY SITUATION. YOU HAVE OVERWHELMING  
 FORCERS,VARIOUS FRIENDLY BASES, AND AN ENEMY ALREADY WEAKENED BY EARLIER RAIDS.  
 MORGAN CAPTURED PUERTO BELLO AND SACKED PANAMA.

BARON DE POINTIS,1697:THIS IS ANOTHER EXTREMELY EASY SITUATION. YOU HAVE POWERFUL  
 FORCES, WHILE THE SPANISH ARE AT THEIR LOWEST MILITARILY. IT DOESN'T TAKE MUCH  
 BOLDNESS TO DUPLICATE DE POINTIS' CAPTURE AND SACK OF CARTAGENA.

#### SELECTION OF AN HISTORICAL TIME PERIOD:

(A NOVICE PLAYER SHOULD ANSWER 'NO THANKS' THIS GIVE YOU THE EASIEST ERA)

#### THE SILVER EMPIRE:(1560)

IN

THIS ERA THE SPANISH EMPIRE IS AT ITS PEAK. ALL THE COLONIES (EXCEPT ONE) ARE  
 SPANISH, ALL THE MAJOR PORTS & TRADE ARE CONTROLLED BY SPAIN! HOWEVER, SPAINSGAINS  
 HAVE BEEN SO GREAT OTHER EUROPEANS ARE ATTRACTED TO STEAL AND PLUNDER WHATSOEVER SPAIN  
 CANT PROTECT. BECAUSE OF SPAIN'S GREAT POWER, THIS IS AN EXTREMELY CHALLENGING ERA,  
 AND SHOULDNT BE ATTEMPTED BY NOVICES.

#### MERCHANTS & SMUGGLERS:(1600)

THIS ERA IS VERY SIMILAR TO THE SILVER EMPIRE, BUT SPAIN IS SOMEWHAT WEAKER. A FEW  
 ABORTIVE NON-SPANISH COLONIAL VENTURES HAVE BEGUN, BUT THE CARIBBEAN  
 REMAINS ESSENTIALLY SPANISH. ANOTHER CHANGE IS THE PREDOMINANCE OF THE DUTCH  
 SMUGGLING TRADE. THIS SHOULDNT BE TRIED BY NOVICES!

#### THE NEW COLONISTS:(1620)

THIS ERA SEES THE FIRST SUCCESSFUL COLONIES FOUNDED BY THE ENEMIES OF SPAIN, WHILE  
 THE SPANISH POWER CONTINUES TO DECLINE. WITH THE NEW COLONIES, PROSPECTS FOR PIRACY  
 AND PRIVATEERING ARE IMPROVED. LIFE IS FAIRLY CHALLENGING FOR WOULD-BE PIRATES AND  
 PRIVATEERS.

#### WAR FOR PROFIT:(1640)

THIS ERA IS THE HEYDAY FOR SMALL, INDEPENDENT BUCCANEERS. THE SPANISH MILITARY AND  
 ECONOMY ARE AT THEIR NADIR, WHILE NEW EUROPEAN COLONIES ARE BLOOMING THROUGHOUT THE  
 ANTILLES. THIS PERIOD IS A GOLDEN AGE(LITERALLY!)FOR THE INDEPENDENT AND  
 RESOURCEFULL MAN. IT'S AN ENJOYABLE ERA FOR PLAYERS OF ALL SKILL LEVELS.

#### THE BUCCANEER HEROES:(1660)

THESE DECADES ARE THE PEAK OF SWASHBUCKLING ADVENTURE IN THE CARIBBEAN.  
 SPANISHWEALTH IS REAPPEARING, BUT IMPERIAL MILITARY POWER REMAINS A JOKE. EUROPEAN  
 COLONIES AND PORTS ABOUND, FORTUNEHUNTING SAILORS CROWD THE TAVERNS, SEARCHING FOR  
 LUCKY CAPTAINS. THIS IS FOR ALL LEVELS!

#### PIRATE'S SUNSET:(1680)

THIS ERA IS THE LAST FOR THE CARIBBEAN PIRATE ADVENTURING. EUROPEAN NATIONS NOWTAKE  
 SERIOUSLY EVENTS IN THE CARIBBEAN. NAVY WARSHIPS ARE ON PATROL, LETTERS OF MARQUE  
 ARE HARDER TO FIND, GOVERNERS ARE LESS TOLERENT. ENJOY THIS ERA WHILE YOU CAN, FOR  
 ITS THE END OF AN AGE. THIS IS TOUGH FOR NOVICES BUT CHALLENGING FOR OTHERS.

#### SELECTING NATIONALITIES:

(A NEW PLAYER SHOULD SELECET ENGLISH BUCCANEER..) THE ROLES YOU CHOOSE DETERMINES  
 WHERE YOU START, WHAT SHIP'S YOU HAVE, THE SIZE OF YOUR CREW, YOUR INITIAL WEALTH AND  
 REPUTATION, ETC... YOUR INITIAL NATIONALITY DOESNT REQUIRE YOU TO SUPPORT THE  
 NATION ( YOU CAN BE DUTCH, AND ATTACK DUTCH SHIPS...ETC...) YOUR ACTS SPAK FOR  
 YOU!:IF YOUR DEED PLEASE A NATION, A GOVERNER MAY REWARD YOU. IF YOU ANGER A NATION,  
 A GOVERNER CAN ORDER HIS HARBOR FORTS TO FIRE ON YOU!!!

ENGLISH:THIS NATION SUPPORTS PRIVATEERS IN THE 16TH CENTURY, AND JUST AS GENEROUSLY  
 SUPPORTED PRIVATE COLONIZATION VENTURES IN THE NEXT CENTURY.

FRENCH:IS SECOND FOR PIRATES, ALTHOUGH THIS NATION PROVIDES LESS SUPPORT TO ITS SONS  
 OVERSEAS, IT ALSO GIVES THEM MORE INDEPENDENCE, MORE FREEDOM OF ACTION. FURTHERMORE,  
 THE GROWING 17TH CENTURY FRENCH COLONIES ON WESTERN HISPANIOLA AND TORTUGA ARE IDEAL  
 PIRATE BASES.

DUTCH:EXCEPT IN 1620'S, THE DUTCH SAILED AS TRADERS TO THE CARIBBEAN, NOT AS  
 WARRIORS. OF COURSER, ONCE IN THE CARIBBEAN, MORE THAN A FEW SUPPLEMENTED THEIR  
 TRADING WITH MORE VIOLENT AND PROFITABLE PURSUITS. AS A RULE, DUTCH TRADERS TRIED TO  
 STAY ON THE GOOD SIDE OF THE FRENCH & ENGLISH, ALTHOUGH THIS WASN'T ALWAYS POSSIBLE.  
 SPANISH:IS THE MOST CHALLENGING. AS A SPANISH RENEGAD YOU START IN A WEAK POSITION,  
 ALTHOUGH IN 1680 YOU CAN PLAY THE INTERESTING ROLE OF A COSTA GUARDA--THE SPANISH  
 CARIBBEAN COAST GUARD WHO OFTEN ACTED LIKE PIRATES THEMSELVES! IN EITHER EVENT,  
 SPANISH ORIGIN IS A PLEASANT CHANGE AND REFRESHINGLY CHALLENGE.

#### DIFFICULTY LEVEL:

(NEW PLAYERS SHOULD BE APPRENTICES)

## Apple II Computer Info

APPRENTICE:GIVES PLAYER MAXIMUM "AID" FROM EXPERT SUBORDINATE OFFICERS ON BOARD THE SHIP. THIS MAKES PLAY EASIER, BUT WHENEVER THE PARTY'S LOOT IS DIVIDED, ALL THESE EXPERTS TAKE RATHER LARGE SHARES, LEAVING LITTLE FOR YOU!  
JOURNEYMAN:MODERATELY EASY, THE PLAYER'S SUBORDINATES ARE LESS EXPERT (ALTHOUGH STILL QUITE GOOD), BUT YOUR SHARE OF THE LOOT IS LARGER!  
ADVENTURER:MODERATELY DIFFICULT. YOUR SUBORDINATES ARE MEDIOCRE, BUT YOUR SHARE OF THE LOOT IS VERY GOOD!  
SWASHBUCKLER:EXTREMELY DIFFICULT! YOUR SUBORDINATES ARE 'DRUKEN GUTTER SWINE' OF PRECIOUS LITTLE VALUE. OF COURSE, YOUR SHARE OF THE LOOT IS THE LARGEST POSSIBLE!

### SPECIAL ABILITIES:

SKILL AT FENCING:GIVES YOU WELL-TRAINED REFLEXES THAT MAKE ENEMY ACTIONS SEEM SLUGGISH IN COMPARISON.  
SKILL AT NAVIGATION:MAKES TRAVEL ON THE HIGH SEAS,FASTER AND EASIER!  
SKILL AT GUNNERY:AIDS YOU DURING NAVAL BATTLES, MAKING YOUR BROADSIDES MORE LIKELY TO LAND ON-TARGET. ( USEFUL FOR ALL LEVELS )  
WIT AND CHARM:IS USEFUL WHEN DEALING WITH GOVERNERS AND OTHERS OF HIGH STATIONS  
SKILL AT MEDICINE:HELPS YOU PRESERVE YOUR GOOD HEALTH LONGER, AND TO SUFFER LESSFROM INJURIES. AS A RESULT YOUR CAREER LASTS LONGER. (GREAT IF YOU WANT TO DO MORE IN YOUR NORMALLY SHORT CAREER)

WHEN DOES THE TREASURE FLEET AND SILVER TRAIN ARRIVER AT CERTAIN TIMES????  
(MAKE SURE YOU PUNCH IN THE EXACT DATES WHICH ARE LISTED BELOW WHEN ASKED THE APPROPRIATE QUESTION) NOTE: IF YOU MESS UP ON THE DATE YOU WILL HAVE AN EXTREMELY TOUGHER GAME, IT WOULD BE BETTER TO TURN EVERYTHING OFF AND START OVER!!!!

### THE TREASURE FLEET IN 1560:

CUMANA...EARLY OCTOBER PUERTO CABELLO... LATE OCTOBER  
MARACAIBO...EARLY NOVEMBER RIO DE LA HACHA...LATE NOVEMBER  
NOMBRE DE DIOS...EARLY DECEMBER CARTAGENA...LATE DECEMBER  
CAMPECHE...LATE JANUARY VERA CRUZ...EARLY FEBRUARY  
HAVANA...EARLY MARCH SANTIAGO...LATE MARCH FLORIDA CHANN. --LATE APRIL

### THE SILVER TRAIN IN 1560:(E)ARLY / (L)ATE

CUMANA--E/APRIL BORBURATA--L/APRIL PUERTO CABELLO--E/MAY CORO--L/MAY  
GIBRALTER--E/JUNE MARACAIBO--L/JUNE RIO DE LA HACHA-E/JUNE ST. MARTA-L/JULY  
CARTAGENA-E/AUGUST PANAMA--L/AUGUST NO. DE DIOS-E/OCT

### THE TREASURE FLEET IN 1600:

CUMANA--E/OCTOBER CARACAS--L/OCTOBER MARACAIBO--E/NOVEMBER R. DE HACHA-L/NOVEMSAITA  
MARTA--E/DECEMBER PUERTO BELLO--L/DECEMBER CARTAGENA--E/JANUARY  
CAMPECHE-E/FEBRUARY VERA CRUZ-L/FEB. HAVANA-L/MARCH FLOR. CHAN.-L/APRIL

### THE SILVER TRAIN IN 1600:

ST. THOME-E/APRIL CUMANA-L/APRIL CARACAS-E/MAY PT. CABELLO-L/MAY CORO-  
E/JUNEGIBRALTER-L/JUNE MARACAIBO-E/JULY RIO DE LA HACHA-L/JULY ST. MARTA-E/AUGUST  
CARTAGENA-L/AUGUST PANAMA--E/SEPTEMBER PUERTO BELLO--L/OCTOBER

### THE TREASURE FLEET IN 1620:

CARACAS-E/SEPT. MARACAIBO-L/SEPT. RIO DE LA HACHA-E/OCTOB. ST. MARTA-L/OCTOB.PT.  
BELLO-E/NOVEMB. CARTAGENA-E/DEC. CAMPECHE-E/JAN. VERA CRUZ-L/JANUARY  
HAVANA-L/FEBRUARY FLORIDA CHANNEL-L/MARCH

### THE SILVER TRAIN IN 1620:

ST. THOME-E/MARCH CUMANA-L/MARCH CARACAS-E/APRIL PT. CABELLO-L/APRIL  
GIBRALTER-E/MAY MARACAIBO-L/MAY RIO DE LA HACHA-E/JUNE ST. MARTA-L/JUNE  
CARTAGENA-E/JULY PANAMA-L/JULY PT. BELLO-E/SEPTEMBER

### THE TREASURE FLEET IN 1640:

CARACAS-E/OCT. MARACAIBO-L/OCTOBER RIO DE LA HACHA-E/NOVEMB. ST. MARTA-L/NOV.PT.  
BELLO-E/DEC. CARTAGENA-E/JAN. CAMPECHE-E/FEB. VERA CRUZ-L/FEB  
HAVANA-L/MARCH FLORIDA CHANNEL-L/APRIL

### THE SILVER TRAIN IN 1640:

CUMANA-E/APRIL CARACAS-L/APRIL GIBRALTER-E/MAY MARACAIBO-L/MAY  
RIO DE LA HACHA-E/JUNE ST. MARTA-E/JULY CARATAGENA-L/JULY PANAMA-L/AUGUST  
PT. BELLO-E/OCTOBER

### THE TREASURE FLEET IN 1660:

CARACAS-E/SEPT. MARACAIBO-L/SEPT. RIO DE LA HACHA-E/OCT. ST. MARTA-L/OCTOBER

PT. BELLO-E/NOV. CARTAGENA-E/DEC. CAMPECHE-E/JAN. VERA CRUZ-L/JAN.  
HAVANA-L/FEB. FLORIDA CHNL-L/MARCH

### THE SILVER TRAIN IN 1660:

CUMANA-E/MARCH CARACAS-L/MARCH GIBRALTER-E/APRIL MARACAIBO-L/APRIL  
RIO DE LA HACHA-E/MAY ST. MARTA-E/JUNE CARTAGENA-L/JUNE PANAMA-L/JULY  
PT. BELLO-E/SEPTEMBER

### THE TREASURE FLEET IN 1680:

CARACAS-E/OCT. RIO DE LA HACHA-L/OCT. ST. MARTA-E/NOV. PT. BELLO-L/NOV.  
CARTAGENA-L/DEC. CAMPECHE-L/JAN. VERA CRUZ-E/FEB. HAVANA-E/MARCH  
FLORIDA CHNL-L/APRIL

### THE SILVER TRAIN IN 1680:

CUMANA-E/APRIL CARACAS-L/APRIL MARACAIBO-L/MAY RIO DE LA HACHA-L/JUNE  
ST. MARTA-E/JULY CARTAGENA-L/JULY PANAMA-L/AUGUST PT. BELLO-E/OCTOBER

NOTE:AT TIMES THE TREASURE FLEET ISNT IN THE CARIBBEAN BUT IN SEVILLE,SPAIN,PREPARING FOR ANOTHER JOURNEY. SIMILARILY, AT TIMES THE SILVER TRAIN IS IN PERU LOADING SILVER AND GOLD THERE!!!! IN BOTH CASES YOU CANT GET TO THEM!!YOU WILL HAVE TO WAIT UNTIL THEY REAPPEAR IN THE CARRIBEAN TO PLUNDER THEM!!

### FENCING & SWORDPLAY:

#### BASICS OF CONTROL:

YOU ARE ON THE RIGHT SIDE OF THE SCREEN AND YOUR OPPONENT IS ON THE LEFT!  
TO ATTACK:PUSH JOYSTICK LEFT,TOWARD THE ENEMY. PUSH HIGH FOR A HIGH ATTACK,  
HORIZONTAL FOR A MID-LEVEL ATTACK,LOW FOR A LOW ATTACK. HOLD DOWN THE TRIGGER  
BEFOREAND DURING THE ATTACK FOR A SLOWER BUT MORE POWERFUL SLASHING ATTACK.  
TO PARRY:DONT PUSH LEFT OR RIGHT. JUST PUSH UP TO PARRY HIGH ATTACKS, LEAVE CENTERED  
FOR MID-LEVEL PARRYS AND PUSH DOWN TO PARRY LOW ATTACKS.  
TO RETREAT:PUSH JOYSTICK RIGHT AWAY FROM ENEMY. YOU PARRY WHILE RETREATING, AND LIKE  
NORMAL PARRIES, THESE CAN BE HIGH,MID,OR LOW, DEPENDING ON JOYSTICK LEVEL  
(RETREAT COMPLETELY TO THE RIGHT OFF THE SCREEN TO ESCAPE A POSSIBLE DEATH.  
TO PAUSE:PRESS SPACE BAR/PRESS AGAIN TO RESUME PLAY. (THIS APPLIES EVERYWHERE)

#### CHOOSING YOUR WEAPON:

THE RAPIER:IS A LONG, THIN, FLEXIBLE WEAPON WITH A SHARP POINT. IT CAN BE MANEUVERED  
EASILY AND THRUST INTO A TARGET WITH ACCURACY. IT HAS A LONGER REACH THAN ANY OF THE  
OTHER WEAPONS BUT CAUSES LESS DAME.  
THE CUTLASS:IS A SHORT, HEAVY, CURVED CLEAVER WITH A MEAN EDGE BUT SHORT REACH.  
CUTLASS HITS CAN BE DEVASTATING (TWICE AS DAMAGING AS A RAPIER) MAKING IT A POPULAR  
WEAPON AMONG UNTUTORED FIGHTERS.  
THE LONGSWORD:IS A CLASSIC WEAPON OF MEDIUM LENGTH. ITS ATTACKS DO MORE THAN A  
RAPIER BUT LESS THAN A LONGSWORD.

#### THE PRINCIPLES OF FENCING:

A HIT: OCCURS WHENEVER AN ATTACK CONNECTS SHOWN BY A FLASH OF BLOOD(RED) EACH HIT  
WEAKENS YOUR OPPONENT AND LOWERS HIS FOLLOWERS MORALS...EVENTUALLY CAUSING VICTORY  
WHEN THEY ALL PANIC!  
RETREAT:MOVE OFF OF THE RIGHT OF THE SCREEN, YOUR SAVED BUT LOSE YOUR REP!  
PANIC AND SURRENDER:WHENEVER A LEADER IN PANIC IS HIT THIS OCCURS, ALSO IN LG BATTLES  
WHEN A LEADER'S FORCES ARE REDUCED TO ONLY ONE MAN,AND THEN HE'S HIT!

#### LEADERSHIP IN BATTLE:(CAUSES OUTCOME OF BATTLES)

ONLY A FEW OF YOUR BATTLES ARE MAN TO MAN DUELS. MOST OF THE TIME YOU'RE LEADING  
YOUR STALWART CREW AGAINST THE ENEMY. AS YOU DUEL THE ENEMY LEADER, YOUR CREWMEN ARE  
ALSO FIGHTING.  
MORALE:YOUR HITS AGAINST THE ENEMY LEADER, AND HIS AGAINST YOU, CHANGE THE MORALE OF  
EACH SIDE IN BATTLE. MORALE LEVELS RUN FROM WILD(THE BEST) DOWNWARD TO  
STRONG,FIRM,ANGRY,SHAKEN, AND FINALLY PANIC.

#### INFORMATION:

PARTY STATUS:SHOWS MENS MORALE (HAPPY,PLEASED,UNHAPPY,ANGRY) WHEN THEY ARE ANGRY  
MUTINY CAN ERUPT. IF YOU OUT OF FOOD EXPECT DEFECTIONS.  
PERSONAL STATUS:SHOWS YOUR STANDING WITH EACH NATION, AND PERSONAL DETAILS ABOUT YOUR  
AGE,HEALTH,WEALTH AND REP! IF YOUR HEALTH IS POOR YOU WILL BE FORCED TO RETIRE SOON!  
SHIPS LOG:RECAPS YOUR ACTIVITIES!

MAPS: IS A FILE OF YOUR MAP FRAGMENTS, TO FIND BURIED TREASURE OR YOUR LONG LOST SISTERS WHEREABOUTS, YOU MUST FIND THE REMAINING FRAGMENTS TO SERCH FOR THE DESIRED GOAL, WHEN YOU DO FIND YOUR SISTER YOU WILL START LOOKING FOR THE INFAMOUS INCA TREASURE!!! YOU MUST DUEL CERTAIN SPANISH SWINES TO GET THE MAPS NEEDED, ALTHOUGH YOU CAN BUY FOR 500GP TREASURE MAPS AND THE REMAINING PIECIES IN DIFFERENT TAVERNS AT DIFFERENT PORTS. WHEN YOU THINK YOU KNOW EXACTLY WHERE THE TREASURE OR SISTER IS GO TO THE ABANDONED ISLAND OR WHATEVER (THERE DOESNT HAVE TO BE A TOWN THERE) AND GO TO INFO. AND SEARCH!  
 CITIES: PROVIDES NECESSARY INFO. ON ALL THE CITIES, SOMETIMES YOU WILL NEED TO BUY INFO. ABOUT A PARTICULAR CITY IF YOU HAVE NO INFO. ON FILE FROM A TRAVELLER INTHE TAVERN, OR YOU CAN PERSONALLY TRAVEL THERE.  
 TAKE A SUN SIGHT: ALLOWS YOU TO SPEND THE DAY PLOTTING YOUR POSITION W/ THE ASTROLABE.  
 SEARCH: FOR SISTER OR TREASURE ON SPECIFIC ISLAND YOU ARE AT.  
 SAVE GAME: ONLY IN TOWNS TO SAVE GAME AND CONCLUDE AT A LATER TIME!

GETTING AROUND TOWN:

VISIT GOVERNER: HE TELLS YOU HIS NATIONS WARS WITH AND ARE ALLIED WITH. YOU MAY BMEET HIS DAUGHTER (PREETY ONES ARE HARD TO MARRY) I USUALLY TRY AND BE DUTCH AND MARRY AN UGLY GIRL WHO EACH TIME I VISIT TELLS ME WHERE THE TREASURE FLEET AND SILVER TRAIN ARE AT, CURACO IS CLOSE TO WHERE THEY USUALLY ARE. ALSO, IF YOU FIGHT SOME OF THAT CERTAIN GOVERNERS ENEMIES HE WILL REWARD YOU MONEY, LAND AND HIGHER LEVELS OF RANK.  
 VISIT A TAVERN: FOR LATEST NEWS AND INFO. ALSO FOR MORE MEN! OR A TREASURE MAP!  
 VISIT A MERCHANT: FOR REPAIRS, SELLING OF SHIPS OR BUYING AND SELLING OF GOODS.  
 (NOTE: HAVING DAMAGED SHIPS SLOW YOU DOWN ALSO YOU CAN ONLY CARRY UP TO 255 OF GOODS AND SUGAR AND AROUND 170 FOOD NO MATTER HOW MANY SHIPS YOU OWN!  
 DIVIDE UP PLUNDER: TO END GAME OR START WITA FRESH AND HAPPY CREW!  
 TAKING OVER ENEMY TOWNS AND REPLACING GOVERNERS!  
 DO THIS BY HAVING OVER 300 MEN AND ATTACK ANY ENEMY PORT BY LAND IF YOU HAVE MORE MEN THAN THEY DO YOU AUTOMATICALLY SCALE THE WALLS AND ALL YOU NEED TO DO IS KILL THE ENEMY LEADER THEN CHANGE GOVERNER TO WHATEVER NATIONALITY YOU WANT!  
 WRITTEN ON: 3-8-27 THIS TOOK ME OVER 3HRS STRAIGHT TO DO SO ENJOY!!  
 LEAVE ALL INFORMATION AS FOUND IN THIS SEQ. FILE!  
 WRITTEN BY:  
 THE PERPLEXER (MARYLAND #1)

===== DOCUMENT pitfall.ii =====

>>> SOFT-DOCS FOR PITFALL II: LOST CAVERNS <<<

----- WRITTEN BY THE WHIP -----

Distributed by: Black Cat  
 312-893-7346 => Catsend/Ae/bbs

OBJECT:

Help Pitfall Harry find his niece Rhonda, the cowardly cat Quickclaw, and the great Raj diamond. On the way, grab all the white gold bars you can (and watch out for athe pesky stone-aged rat). There is no time limit in the caverns!

STARTING OUT:

-Hit 'ESC' to start the game from the title page.

-Sound is toggled by hitting ctrl-S.

JOYSTICK CONTROLS:

-To move Pitfall Harry left or right, move controller left or right.

-To jump, press button 0.

-To decend a ladder, pull controller back just before Harry reaches the hole. To ascend a ladder, push controller forward.

-To catch a balloon, push the left button to jump. Move controller left or right to float left or right. To speed up, push controller forward; to slow down, pull controller back.

KEYBOARD CONTROLS:

-On the Iie, use the four arrow keys to move a direction.

-On the II+, use the I,M,J,K keys to move in a direction.

-Press the SPACE BAR to jump.

-Press the shift key to stop Pitfall Harry.

-To speed up a balloon, press the UP arrow. To slow down, press the DOWN arrow. (If you don't have up and down arrows, give it up: get a joystick. Control-keys suck.)

DANGERS:

Keep away from frogs, bats, condors, eels, and albino scorpions. Touching any of them will set you back!

WHITE CROSSES:

Whenever Pitfall Harry succumbs to a danger, he is magically transported back to the last white cross he touched. So, be sure and touch each of these mystical Incan healing centers as you encounter them.

REWARDS:

You start out with 4000 points. Thereafter, you receive:

- 5000 points for every white gold bar.
- 15000 points for the cave rat.
- 20000 points for the Raj diamond
- 10000 points for Rhonda
- 10000 points for Quickclaw

Touching dangerous creatures or falling unintentionally loses points.

===== DOCUMENT ple =====

===== P.L.E DOCUMENTATION ENTERED BY JUDIE MAC =====

LOADING/RUNNING P.L.EDITOR

IF YOU OWN AN APPLE II PLUS SYSTEM THAT DOES NOT HAVE AN INTEGER BASIC FIRMWARE CARD, THE PROGRAM LINE EDITOR WILL NOT BE RUN WHEN THE SUPPLIED DISK IS BOOTED. THIS IS BECAUSE THE GREETING PROGRAM IS AN INTEGER BASIC PROGRAM. SO, THE FOLLOWING STEPS MUST BE TAKEN IN ORDER TO ALLOW THE PROGRAM LINE EDITOR DISK TO BOOT PROPERLY IN APPLESOFT.

1. REMOVE THE WRITE PROTECT TABS FROM THE EDGE OF THE INCLUDED DISK.
2. INSERT AND BOOT THE DISK.
3. UNLOCK PROGRAM LINE EDITOR
4. UNLOCK PLE.FP
5. RENAME PROGRAM LINE EDITOR, PLE.INT
6. RENAME PLE.FP.PROGRAM LINE EDITOR
7. LOCK PROGRAM LINE EDITOR
8. LOCK PLE.INT
9. REPLACE THE WRITE PROTECT TAB.
10. REBOOT THE DISK

AFTER THIS IS DONE, JUST BOOT THE DISK NORMALLY. SOON, A DISK CATALOG WILL APPEAR ,LETTING YOU KNOW THE PLE IS UP AND RUNNING.

WHEN THE PLE HAS BEEN RUN, YOU SHOULDN'T NOTICE ANYTHING UNUSUAL ABOUT THE OPERATION OF YOUR APPLE. IN FACT, EVERYTHING IS THE SAME, EXCEPT FOR ALL OF THE NEW COMMANDS AND FEATURES DESCRIBED IN THE FOLLOWING PAGES.

NOTE:  
WHEN THE PLE IS UP AND RUNNING, DOS WILL SET HI-MEM:1536 BYTES LOWER THAN NORMAL FOR YOUR SYSTEM.

PAGE 1

THERE ARE TWO NEW COMMANDS ADDED TO BASIC THAT ALLOW YOU TO EDIT EITHER A PROGRAM LINE OR THE LAST LINE OF CHARACTERS TYPED AT THE KEYBOARD. THESE ARE CTRL-E (EDIT) AND CTRL-W

ENTERING EDIT MODE:  
CTRL-E AND CTRL-W

THIS IS THE COMMAND USED WHEN YOU WANT TO EDIT A LINE IN YOUR PROGRAM. TO TYPE CTRL-E, JUST PRESS THE CTRL KEY AND HOLD IT DOWN WHILE YOU HIT THE E KEY. AFTER THE WORD "EDIT" APPEARS, TYPE THE LINE NUMBER OF THE LINE YOU WANT TO EDIT. THE LINE WILL APPEAR, WITH THE CURSOR AT THE BEGINNING OF THE FIRST STATEMENT IN THE LINE. THE LINE EDITOR REMEMBERS THE NUMBER OF THE LAST LINE EDITED, SO, IF YOU WANT TO EDIT THE SAME LINE AGAIN LATER, SIMPLY TYPE CTRL-E AND A PERIOD



(.) THIS WILL CAUSE THE LAST - EDITED LINE TO REAPPEAR.

HERE ARE A FEW THINGS TO WATCH FOR WHEN USING CTRL-E TO ENTER EDIT MODE:

1. CTRL-E MUST BE THE FIRST CHARACTER TYPED ON A LINE.
2. DON'T TRY TO EDIT LINE 0 OF AN APPLESOFT PROGRAM.
3. CTRL-E IS DISABLED DURING INPUTS AND MONITOR.
4. BACKSPACING INTO THE WORD EDIT BEFORE TYPING THE LINE NUMBER MAY DISABLE CTRL-R (RESTART) IN EDIT MODE.
5. IF YOU INADVERTENTLY TYPE THE ESCAPE KEY BEFORE TYPING CTRL-E, TWO WARNING BELLS WILL SOUND AND YOU WILL NOT ENTER EDIT MODE. IF A LINE NUMBER IS TYPED AFTER THE WARNING BELL, HITTING RETURN MAY DELETE THE LINE.
6. IF A LINE IS LONGER THAN THE MAXIMUM BASIC LINE LENGTH (128 FOR INTEGER BASIC, 239 FOR APPLESOFT), IT WILL BE AUTO-PACKED, REMOVING ALL EXTRANEIOUS SPACES FROM THE LINE.

#### CTRL-W

THIS IS THE COMMAND TO USE WHEN YOU HAVE TYPED A LINE IN INTEGER BASIC AND RECEIVED A \*\*\*SYNTAX ERROR MESSAGE, JUST TYPE CTRL-W AND THE LINE WILL INSTANTLY REAPPEAR. CTRL-W WORKS DURING INPUTS, AND IT WILL RECOVER AND RE-EXECUTE IMMEDIATE COMMANDS. THIS COMMAND CAN ALSO BE USED TO RECOVER LINES CANCELED WITH CTRL-X. CTRL-W ACTUALLY WORKS TWO WAYS, DEPENDING ON WHEN IT IS TYPED. IF IT IS TYPED AS THE FIRST CHARACTER ON A LINE, IT WILL CAUSE THE LAST LINE TYPED FROM THE KEYBOARD TO REAPPEAR. IF IT IS TYPED WHILE ENTERING A LINE, CTRL-W RETYPES THE LINE AND ENTERS EDIT MODE.

HERE ARE SOME THINGS TO BE CAREFUL OF WHEN USING CTRL-W:

1. CTRL-W DOES NOT WORK WHEN ENTERED AS THE FIRST CHARACTER OF AN APPLESOFT LINE.
2. VERY LONG LINES MAY BE AUTO-PACKED, REMOVING ALL EXTRANEIOUS SPACES.

#### EDIT MODE:CONTROL COMMANDS

ALL OF THE FOLLOWING COMMANDS ARE AVAILABLE ONLY AFTER ENTERING EDIT MODE AS DESCRIBED. CONTROL CHARACTERS IN THE EDITED LINE ARE DISPLAYED IN INVERSE VIDEO DURING EDIT MODE. A WARNING BELL WILL SOUND IF YOUR LINE HAS REACHED THE MAXIMUM BASIC LINE LENGTH (128 FOR INTEGER BASIC, 239 LINES FOR APPLESOFT).

NOTICE THE FIRST CHARACTER OF EACH COMMAND'S NAME IS THE SAME AS (OR SOUNDS LIKE) THE COMMAND ITSELF. THIS IS AN EASY WAY TO REMEMBER THESE COMMANDS.

#### EDIT MODE COMMANDS

##### CTRL-I

INSERT -THIS COMMAND ALLOWS YOU TO INSERT CHARACTER INTO THE LINE. NON-CONTROL CHARACTERS TYPED AFTER A CTRL-I WILL BE INSERTED IN FRONT OF THE CURSOR, AND THE REST OF THE LINE WILL SPREAD TO MAKE ROOM. ALL FOLLOWING CHARACTERS TYPED WILL BE INSERTED UNTIL A CONTROL CHARACTER IS TYPED (SUCH AS <-,>, OR ANOTHER EDIT MODE COMMAND). TO INSERT CONTROL CHARACTERS, SEE OVERRIDE.

##### CTRL-D

DELETE -TO DELETE THE CHARACTER UNDER THE CURSOR FROM THE LINE, TYPE CTRL-D. THE CHARACTER WILL DISAPPEAR, AND THE REST OF THE LINE WILL MOVE IN AND FILL UP THE SPACE CREATED. IF YOU DELETE TOO MUCH, YOU CAN

RECOVER THE LINE WITH RESTART

##### CTRL-F

FIND -FOLLOWED BY A CHARACTER TYPED N TIMES, FIND WILL MOVE THE CURSOR TO THE NTH OCCURRENCE OF THE CHARACTER IN THE LINE. FOR EXAMPLE, TO POSITION THE CURSOR ON THE THIRD COLON (:) IN A LINE, TYPE CTRL-F ::: NOTICE THAT YOU ONLY NEED TYPE CTRL-F ONCE. TYPE ANY OTHER CHARACTER TO TERMINATE FIND

##### CTRL-Z

ZAP - THIS FUNCTION DELETES ALL CHARACTERS UP TO A SPECIFIC CHARACTER. A CTRL-Z FOLLOWED BY A CHARACTER TYPED N TIMES WILL DELETE ALL CHARACTERS UP TO THE NTH OCCURRENCE OF THAT CHARACTER (MUCH LIKE FIND). FOR EXAMPLE, TO DELETE THREE STATEMENTS FROM A LINE, TYPE CTRL-Z ::: TYPE ANY OTHER CHARACTER TO TERMINATE ZAP. IF YOU ZAP A LITTLE TOO FAR, YOU CAN RESTORE THE ORIGINAL LINE WITH RESTART

##### CTRL-O

OVERRIDE - THIS COMMAND FUNCTIONS EXACTLY LIKE THE INSERT COMMAND EXCEPT THAT THE FIRST CHARACTER INSERTED MAY BE A CONTROL CHARACTER. AFTER THE FIRST CHARACTER HAS BEEN INSERTED, OVERRIDE BEHAVES EXACTLY LIKE INSERT THAT IS, INSERTION IS TERMINATED WITH A CONTROL CHARACTER. INSERTED CONTROL CHARACTERS ARE DISPLAYED IN INVERSE VIDEO IN EDIT MODE. YOU CAN USE OVERRIDE TO INSERT CTRL-D'S INTO PRINT STATEMENTS FOR DOS COMMANDS. YOU MIGHT ALSO WANT TO EXPERIMENT WITH OTHER CONTROL CHARACTERS SUCH AS THE FOUR PROGRAMMABLE CURSOR CHARACTERS (CTRL-H,I,J,K), BACKSPACES, AND CARRIAGE RETURNS.

##### CTRL-R

RESTART- THE RESTART COMMAND IS USED TO RE-EDIT THE ORIGINAL LINE, REGARDLESS OF ANY CHANGES OR DELETIONS YOU MIGHT HAVE MADE (A LIFE SAVER). RESTART DOES NOT WORK IF YOU ENTERED EDIT MODE WITH A CTRL-W.

##### CTRL-P

PACK-THE PACK COMMAND ALLOWS YOU TO REMOVE EXTRANEIOUS SPACES IN EDITED LINES THAT WOULD OTHERWISE CAUSE A \*\*\* TOO LONG ERROR. CTRL-P WILL RETYPE A LINE

WITH ALL SPACES REMOVED EXCEPT THOSE WITHIN QUOTES. PACK CAN ALSO BE USED WHEN YOU HEAR THE BELL WARNING YOU THAT YOUR LINE IS TOO LONG. TO PROTECT REMARK LINES FROM BEING PACKED, ENTER A QUOTE AS THE FIRST CHARACTER OF THE REMARK.

##### CTRL-C

CONVERT - THE CONVERT COMMAND IS USED TO QUICKLY CONVERT UPPER CASE TEXT TO LOWER CASE, OR VICE VERSA. CTRL-C CONVERTS THE CHARACTER UNDER THE CURSOR TO THE CURRENT CASE SET BY THE CTRL-A/CTRL-S UPPER-LOWER SHIFT LOCK, AND ADVANCES THE CURSOR.

##### CTRL-B

BEGIN - THIS COMMAND MOVES THE CURSOR TO THE BEGINNING OF THE LINE. IT IS USEFUL FOR REPOSITIONING THE CURSOR BEFORE USING THE FIND COMMAND, AND FOR RENUMBERING LINES.

##### CTRL-N

END - THIS COMMAND MOVES THE CURSOR TO THE END OF THE LINE. CTRL-Q QUIT - THE QUIT COMMAND DELETES TO THE END OF THE LINE STARTING FROM THE CURSOR POSITION AND EXITS EDIT MODE. THE LINE IS ENTERED UP TO THE CURSOR POSITION.

##### CTRL-M

RETURN - TYPING A CARRIAGE RETURN WILL EXIT EDIT MODE AND SAVE THE LINE EXACTLY AS IT APPEARS ON THE SCREEN THIS IS THE USUAL WAY OF LEAVING EDIT MODE.

##### CTRL-X

CANCEL - CTRL-X IS USED TO CANCEL THE LINE BEING EDITED, AND EXIT EDIT

MODE. A LINE CANCELLED WITH CTRL-X CAN BE RECOVERED WITH CTRL-W.

<-,>

THE BACKWARD AND FORWARD ARROW KEYS WORK JUST AS THEY NORMALLY DO, MOVING THE CURSOR BACKWARD OR FORWARD ONE SPACE. THESE ARE ALSO INVOKED WITH CTRL-H AND CTRL-U, RESPECTIVELY.

CTRL-A, CTRL-S

THE UPPER AND LOWER CASE SHIFT LOCK KEYS ALSO WORK IN EDIT MODE. CTRL-A IS UPPER SHIFT LOCK, AND CTRL-S IS THE LOWER SHIFT LOCK. (SEE CONVERT)

STOP LIST ESC OR

CTRL-S

TEMPORARILY STOP, I.E. PROGRAM LISTINGS OR CATALOG, HIT CTRL-S OR ESC. EXIT COMMAND, HIT ANY KEY.

CANCEL LIST

CTRL-C

TO TERMINATE LISTING ENTIRELY AND RETURN TO BASIC

FLUSH LIST

CTRL-F

TO QUICKLY SKIP THROUGH LONG LISTINGS. TO RESUME OUTPUT TO SCREEN CTRL-F

NOTICE: ESC AND CTRL-S:

DURING INPUT BE CAREFUL. THE ABOVE COMMANDS S, C, F, ESC, WORK ONLY WHEN CHARACTERS ARE ACTUALLY BEING PRINTED ON THE SCREEN.

## CURSOR CONTROL

CTRL-H - LEFT  
CTRL-I - RIGHT  
CTRL-J - DOWN  
CTRL-K - UP

THESE CHARACTER ALLOW YOU TO CONTROL THE POSITION OF THE CURSOR FROM WITHIN PRINT, REM, OR INPUT STATEMENTS.

EXAMPLE:

A PRINT STATEMENT WITH AN ASTERISK FOLLOWED BY FIVE CTRL-K'S AND ANOTHER ASTERISK WILL PRINT AN ASTERISK ONE SPACE AHEAD AND FOUR LINES ABOVE THE OTHER.

ESCAPE FUNCTIONS

NOTE:

THE ESCAPE FUNCTIONS ARE NOT AVAILABLE DURING EDIT MODE!

ESC @, A-G

THESE ARE NORMAL APPLE ESCAPE COMMANDS. THEY WORK AS IS IN MANUAL.

ESC P

TYPING ESC-P/ SAME AS ESC SHIFT-P, EXCEPT DON'T USE SHIFT KEY.

ESC I, HJ, K, M

SIMULATE AUTOSTART ROM ESCAPE EDITING. SAME AS ESC A, B, C, D.

ESC T

THIS TYPES TEXT AND RETURN, AND THEN POKE -16300,0 RETURN, WHICH RETURNS YOU TO TEXT PAGE 1.

ESC L

TYPE LIST AND A CARRIAGE RETURN.

ESC O AUTOMATICALLY TYPES CALL-936

ESC 1,2 ESC 1 WILL CATALOG THE DISK IN DRIVE 1

ESC 2 WILL CATALOG THE DISK IN DRIVE 2

ESC / USE IN PLACE OF WORD PRINT

ESC: THIS DOES A CALL-151 NOTE THAT A ":" IS A LOWER CASE "\*" THE MONITOR PROMPT CHARACTER.WHEN EXECUTED ALL THAT IS SEEN IS "MON"

ESC <- -> PERFORMS EIGHT <- AND ->. TYPING ESC ->->->-> WILL COPY AN ENTIRE LINE FROM THE APPLE SCREEN WHILE ESC <- <- WILL FAST BACKSPACE SIXTEEN TIMES.

ESC Q

THIS FUNCTION WILL BRING THE VALUE OF THE CONTENTS OF ANY TWO MEMORY LOCATIONS. TO USE, YOU MUST FIRST SET THE VARIABLE A EQUAL TO THE ADDRESS OF THE LOCATION OF THE TWO-BYTE NUMBER. (THIS IS DONE BY TYPING A=N, WHERE N IS AN INTEGER) NEXT JUST TYPE ESC Q. THIS FUNCTION IS ROUGHLY EQUIVALENT TO PRINT PEEK (A) + PEEK (A+1) \* 256, EXCEPT THAT VALUES GREATER THAT 32767 ARE PRINTED AS NEGATIVE NUMBERS. IN INTEGER BASIC SETTING A=74 WILL PRINT THE CURRENT VALUE OF LOMEM: AND A=76 WILL PRINT THE ADDRESS OF HIMEM: IN APPLESOFT USE A=105 AND A=73 RESPECTIVELY, TO PRINT THE VALUE OF LOMEM: AND HIMEM: THIS FUNCTION IS NOT PRINTED ON THE SCREEN DURING EXECUTION.

ESC W

WILL CALCULATE THE START ADDRESS AND LENGTH OF THE MOST RECENTLY BLOADED DISK FILE ON 48K SYSTEM. YOU MUST CHANGE THE CONSTANTS WITHIN THE FUNCTION WITH THE ESC CREATE PROGRAMS FOR USE WITH OTHER SIZE SYSTEMS.

ESC !-% -ESC SHIFT 1 THRU ESC SHIFT 5

MAKE AVAILABLE THE FIVE CHARACTERS THAT ARE NOT NORMALLY AVAILABLE ON THE APPLE KEYBOARD: THE RIGHT BRACKET, THE BACKSLASH, THE UNDERLINE, CTRL-/, AND CTRL

ESCAPE FUNCTIONS CAN BE USED FOR ANYTHI NG, REMEMBER POKES PEEKS CALLS, TYPE RESPONSES TO INPUT, FIRE UP PRINTER DRIVER, APPEND INTEGER BASIC.

ESCAPE CREATE.INT

ESCAPE CREATE.FP

WHEN USING THE ESC CREATE PROGRAM TO DISPLAY THE ESCAPE FUNCTIONS YOU'VE NOTICED THAT THE CURSOR MOVEMENT COMMANDS ESC@ @ THROUGH ESC F ARE DEFINED IN TERMS OF THEMSELVES.

IF YOU DON'T WANT THE TEXT OF THE ESCAPE FUNCTION TO BE DISPLAYED ON THE APPLE SCREEN JUST INSERT (') APOSTROPHE INTO THE FUNCTION AT THE PLACE WHERE YOU WANT TO DISABLE THE DISPLAY (USUALLY THE FIRST CHARACTER OF THE FUNCTION). WHEN ENCOUNTERED, DURING EXECUTION OF AN ESC FUNCTION, LISTING OF THE FUNCTION IS TURNED OFF AND (') SKIPPED OVER NOT ENTERED INTO THE LINE AS PART OF THE FUNCTION.

ALSO NOTICE ESC CTRL-E IS DEFINED AS TWO BELLS AND A CTRL-X. THIS CAN BE A LIFE SAVER IF YOU USE ESC KEY FOR STOP LIST AND YOU ACCIDENTALLY HIT THE ESC KEY AFTER THE LISTING HAS STOPPED. THE NEXT KEY WILL BE PROCESSED AS AN ESCAPE FUNCTION AND THUS YOU WILL NOT ENTER EDIT MODE.

TYPE CTRL-E TO ENTER EDIT MODE AND YOU HEAR TWO BELL, YOU KNOW TO TRY AGAIN.

USING PLE GREETING PROGRAM ON YOUR OWN DISK:

A. INSERT PLE DISK AND BOOT.

B. DECIDE INTEGER BASIC OR APPLESOFT OF THE GREETING PROGRAM YOU WANT.

C. LOAD PLE  
 D. INSERT YOUR OWN DISK.  
 E. CATALOG YOUR DISK TO FIND OUT THE NAME AND FILE TYPE OF ITS EXISTING GREETING PROGRAM.  
 F. SAVE HELLO. YOU NOW HAVE REPLACED THE OLD GREETING PROGRAM WITH PLE

GREETING PROGRAMS:

A. LOAD PLE  
 B. DEL 10,30  
 C. ENTER YOUR PROGRAM.

INTEGER: THE LAST STATEMENTS EXECUTED IN YOUR PROGRAM MUST GOSUB 32767: PRINT "<CTRL-D>INT"

APPLESOFT: THE LAST STATEMENT EXECUTED MUST BE GOSUB 63999:PRINT "<CTRL-D>FP"

BECAUSE THE FINAL INT AND FP IMMEDIATELY TERMINATES THE PROGRAM AND CLEARS PROGRAM MEMORY, IT IS NOT POSSIBLE TO RUN AN OTHER PROGRAM FROM YOUR GREETING PROGRAM. BRUN CATALOG AND EXEC ETC., ARE ALLOWED

D. INSERT YOUR OWN DISK.

E. SAVE HELLO

IT IS POSSIBLE TO INIT A NEW DISK WITH A PLE GREETING PROGRAM.

ENTERING BASIC FROM APPLE MONITOR

TO RETURN TO BASIC AFTER HITTING RESET OR CALL-151,TYPE CTRL-Y AND HIT RETURN. IF YOU USE 3DOG TO RE-ENTER BASIC THE PLE WILL BE DISABLED UNTIL BASIC IS REENTERED WITH CTRL-Y. IF YOU HAVE AUTOSTART ROM, HITTING RESET WILL ALWAYS RETURN YOU TO BASIC WITH THE EDITOR UP AND RUNNING.

THE PLE IS MUCH CONNECTED TO THE APPLE LIKE A PRINTER OR OTHER PERIPHERAL. THEREFORE WHEN YOU USE PR# IN# THE PLE IS TEMPORARILY DISABLED AND MUST BE RECONNECTED. IN APPLESOFT CALL-1013 OR SIMPLY AN & IN YOUR PROGRAM OR FROM THE KEYBOARD. INTEGER DOESN'T HAVE & STATEMENT YOU MUST USE CALL-1013 TO RECONNECT THE PLE.

MEMORY CONFLICTS; TO TRANSFER TO ANOTHER DISK

A. BLOAD REMOVE PLE  
 B. BSAVE REMOVE PLE,A\$300,L\$3A

===== DOCUMENT plunder =====

Documentation for PLUNDER! by Ken Franklin

----- INTRODUCTION

PLUNDER! is a game of chance and daring for 2 to 4 players of any age. Any or all of the players can be run by the computer. It is written in ORCA Pascal, which uses the speed, the stereo sound, and the advantages of GSOS 5.0.2. The program contains over 500K of digitized sound and graphics files, packed into a single file for ease of use.

This game is Reliefware -- very similar to Shareware. Please try it out for a week. If you enjoy it, please pay for it by sending \$15 to:

Ken Franklin  
 5603 81st St E  
 Puyallup, WA 98371

\*\*\*IMPORTANT!\*\*\* ALL money received for this game will be given to charities working for homeless relief. I intend to choose charities that show a good record of truly benefiting homeless families. I do NOT intend to keep any of the money. If you enjoy having a roof over your head and a computer within it, please consider paying the Reliefware fee.

If you don't enjoy it, or don't want to pay the \$15, then please delete it or pass it on to a friend. This is NOT public domain software, and may not be sold without my written permission. It may be distributed freely on bulletin boards or to friends, as long as this complete documentation file accompanies it.

Your honesty and constructive criticism are appreciated.

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User groups who want to distribute this package for a small "copying fee" can get permission by contacting me by mail, or by EMail (America Online "Dr Ken FP"; GENIE KEN.FRANKLIN).

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OBJECT OF THE GAME

In PLUNDER!, you and your competitors find yourself in the treasure room of a dungeon, filled with various packages. You know that most of the packages contain treasures ranging in value from \$100 to \$15000; but two of the packages contain mystery surprises, and one contains a bomb that will destroy everyone in the room.

In turn, each of you have a choice: open a package, or escape through the door. If you escape, you get your share of all treasure found (minus 4 percent for panic). If you stay, whatever you find goes into the treasure. Naturally, if you stay and others leave, your share will grow faster. But if you stay TOO long, you'll get nothing.

After each "explosion", everyone gets a new life, and a new room of packages. Once someone reaches the Goal score, the others get one last room (with the leader locked out) to try to pass the leader. The game is over when the leader retains his/her/its lead.

In each room, the first player is selected randomly. The number of packages is determined by the number of players. With 2 players, each room has 9 packages; with 3, there are 12; and with 4, there are 16.

THE MENUS

THE APPLE MENU provides access to NDAs, as well as the shareware notice.

THE EDIT MENU is provided for NDA junkies. This game doesn't use it.

THE GAME MENU has four options: SETUP, BEGIN GAME, ABORT GAME, and QUIT.

Taking these in turn:

SETUP opens a dialog box. You can enter the names of up to four players by typing them in; use TAB to move from one to the next. The radio buttons on the left select for 2, 3, or 4 players. The radio buttons under each name select the player

personality. Select HUMAN if you want to play; select TIMID if you want a wimpy computer opponent; select AVG for a level-headed computer opponent; and select BOLD for a gutsy computer opponent.

The AUTO-CLICK check box allows you to speed up the game slightly. If this box is blank, the computer will pause after each package opens and ask you to "please click" the mouse. If this box contains an X, these pauses will be eliminated. Click in the box to change its setting.

Click on the DONE button when everything is set to your satisfaction. Open-Apple-S will also select SETUP.

BEGIN GAME allows you to start a new game once you have finished SETUP. This will only be available after a game is finished, or after you have aborted a game. Open-Apple-B will also select BEGIN GAME.

ABORT GAME allows you to end a game in progress. The computer will plead for you to reconsider; click YES if you're sure. Open-Apple-A will also select ABORT GAME.

QUIT ends the program. Open-Apple-Q will also select QUIT.

THE GOAL MENU allows you to select the winning score. A check mark shows the current choice. During a game, you will be able to see (but not change) the goal by selecting this menu.

### THE SCREEN

Player names and scores appear in the upper right. Human players appear in blue; computer players of all types appear in gray. The player who gets the next choice is marked with a highlighted name and a rectangle marked UP. If you escape or are locked out, a rectangle marked OUT will appear by your name.

Helpful messages appear in the upper left. The packages appear on the shelves in the lower left; select one by clicking on it. The door in the lower right shows the current amount of treasure found, as well as how much you'd get if you escaped right then. To escape the room, click on the door handle.

### THE SURPRISES:

BAD NEWS: Yep, this clown is made of plastic. Say goodbye. (BOOM.)

CURSE OF THE JAILER: The door becomes magically locked. The other surprise package holds the key. Nobody can escape until the key is found -- or the bomb is found.

BOMB DUPLICATOR: One of the treasures is magically transformed into a bomb. Now you have two to worry about...

TIME WARP: All packages are mixed and refilled. Anyone who escaped, though, stays out -- tough luck for them.

SCARED SILLY: You are frightened out of the room, and in your terror you forget to take your share of money with you. You get nothing this round.

MAGIC MIRROR: The current pot is doubled.

WHIRLWIND: Half the pot disappears in a magical vortex.

THE SILVER BOOT: The person finding this surprise gets to kick out one opponent (select them by clicking on their name). The person booted out gets their share of treasure.

THIS BOX IS EMPTY: You figure it out.

I'LL PAY YOU TO LEAVE NOW: The person finding this surprise has a choice: leave immediately and get \$1000 bonus (plus their share), or stay (and the \$1000 disappears).

REWARD FOR BRAVERY: The person finding this surprise gets \$500 added to their score immediately -- it is NOT added to the pot, and does not disappear if the bomb goes off while the person is in the room.

### ENDING THE GAME

When one player reaches the Goal score, he/she/it becomes the leader and is locked out of the next room. The other players get one room to pass or tie the leader. At the end of that round, if someone has escaped with a higher score than the leader, THAT person becomes the leader and another "Last Room" begins. To win the game, you must remain the leader through one full round.

### STRATEGY HINTS:

1. Know your enemy. Timid computer players will bug out early, but can creep up on the goal bit by bit. Bold computer players get blown up a lot, but also make some amazing leaps of score. Average computer players are somewhere in between. Human opponents... well, it's your job to psyche them out.

2. Remember that each escaping person gets a tiny bit LESS than their fair share. Therefore, there is a slight advantage in having the other guy leave first. But if you both stay too long, KA-BOOM!

3. You can estimate your risk by keeping track of the size of each treasure. Every round starts off with one bomb, two surprises, and one "artifact". The breakdown of other treasures is based on the number of players. In a 2-player game it is 2 small, 2 medium, and 1 large; with 3 players, it is 4 small, 3 medium and 1 large; and with 4 players, the breakdown is 6 small, 4 medium and 2 large. The small treasures are worth \$100-\$300; the mediums \$500-\$1000; the larges \$2500-\$5000; and the artifacts, \$7500-\$15000.

### TECHNICAL NOTES

PLUNDER! was designed while Karl Kerchief and I were jogging one day -- we were searching desperately for distractions from the pain. It is based on a quote by Martin Gardner, which goes something like this: "You face a thousand boxes. All but one contain a dollar bill; one contains a nuclear warhead that explodes on opening. How many boxes will you open?"

The artifacts are tributes to some of my favorites in the game world. The Scrabble Sapphire, of course, honors the classic Selchow & Righter game. The Brunswick Pearl looks sorta like a bowling ball (I hope). The Golden Cubes add excitement to most games. The Crown of Sackson commemorates American game inventor Sid Sackson. The Ravensburger Ruby is for European game producer Otto Maier Verlag Ravensburg.

The sounds for PLUNDER! were dressed up using Sound Shop, a utility included with Roger Wagner's Hyperstudio. The graphics were painted with Activision's Paintworks Gold and Electronic Arts' DELUXE PAINT II. The programming was done using Byte Works' ORCA Pascal. The entire project took the evenings of two weeks. The program itself is only 32K of the file; the remainder is in the "resource fork". For the programmers out there, there are four custom resource types:

\$0BA6 = graphics bitmaps, packed using PackBytes

\$0BA7 = index of LocInfos for graphics resources

\$2BA6 = digitized waveforms in pure, unlabelled form

\$3BA6 = an array of size/speed/volume data for the \$2BA6 resources

If you're interested, the number \$BA6 was used because the hex digits correspond to position of my initials (KJF) in the alphabet.

Brunhilda the Big-Boned is available for singing engagements at birthday parties and weddings. Contact the author for booking arrangements.

Enjoy.

--Ken Franklin

24 May 1990

clockwise from the ..... Path.

Translate Elvish (Espruar) to English or Dwarvish (Dethek). The computer displays a list of Elvish runes. Match the Translate Espruar Tab to each Elvish Rune, one at a time. Read the English letter in Ring 1 of the ..... Path. Read the Dwarvish rune at the Translate Dethek Tab.

Translate Dwarvish (Dethek) to English or Elvish (Espruar). The computer displays a list of Dwarvish runes. Match the Translate Dethek Tab to each Dwarvish Rune, one at a time. Read the English letter in Ring 1 of the ..... Path. Read the Elvish Rune at the Translate Espruar Tab. Some Dethek runes have more than one translation; try each when translating words.

GETTING STARTED QUICKLY:

You can get right into playing Pool Of Radiance by using the instructions on your Quick Start Card and using the characters provided. If you have any questions as you play, refer back to these rules for a complete description.

READING THE RULE BOOK:

This book is divided into sections describing how to manipulate the game by using the menus on the screen. The menus are lists of commands that you choose according to the instructions on your Quick Reference Card.

Central to the game is the concept of the 'active character.' The active character is highlighted on the character display. Any command that affects a single character affects the active character. Commands that affect the whole party do not require an active character.

In combat the active character is picked automatically according to the characters initiative. From other menus the active character may be changed before choosing any commands.

All commands are menu based. If a command affects the whole party, indicate the command as listed in your Quick Reference Card. If the command affects one character, indicate the character and then the command.

Example: To look at a character's items, indicate the character, choose View, and then choose items. The computer displays a list of the character's items and the items' readied status for combat.

Menus are displayed either vertically or horizontally. Vertical menus are used to make a choice of someone to act, such as a member of an adventuring party, or something to act upon, such as one item out of several carried. If there are more choices than will fit on the screen at once you can change pages using Next and Prev commands (or the Pg Up and Pg Dn keys.)

Horizontal menus are lists of commands giving the options of what the character can do or what you can do to the character. When space permits, each horizontal menu is preceded by the menu title. This is set off by a colon and is not an option on the menu. Menus are shown with their title and each command in the rules. As an example, the Encamp Menu contains commands for Save, View, Magic, Rest, Alter, Pool, and Exit. It is shown as:

Encamp Menu:

ENCAMP: SAVE VIEW MAGIC REST ALTER EXIT

Unless otherwise specified the Exit command on any menu returns you to the next higher level menu. On many computers the Escape key acts as an Exit command from any menu.

CHARACTERS AND THE PARTY

WHAT ARE CHARACTERS?

You create characters to accomplish quests in the Forgotten Realms. Characters are differentiated by their Race, Ability Scores, and Class. Several characters are needed to accomplish the missions presented here. These characters make up a Party. For maximum flexibility, you should have a balanced party with characters of different classes and

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POOL OF RADIANCE

INTRODUCTION

Welcome to the official ADVANCED DUNGEONS & DRAGONS computer product, Pool Of Radiance, a FORGOTTEN REALMS fantasy role-playing epic. This adventure game is based on the rules and background created by TSR, Inc. with a storyline created especially for this game.

The Pool Of Radiance adventure begins in the ruined city of Phlan on the northern shore of the Moonsea, where adventurers from the civilized nations are trying to rebuild this once-proud city. Your adventurers start out as beginning characters at the first level of experience and can advance to higher levels as they help bring back Phlan to its former glory.

WHAT COMES WITH THIS GAME:

In addition to the game disks, you should find four other items in your game.

THE RULE BOOK

This is what you are reading. If you have game play questions during the course of the game, refer to this book.

THE ADVENTURER'S JOURNAL

This contains background and introduction to the Forgotten Realms and the scenarios, plus maps, rumors, and stories that may be true or false. It also contains Appendices, tables and reference information, to help speed game play. You will confirm the true rumors and expose the false ones during the game.

THE QUICK START CARD

This explains how to start the game, make menu choices, and indicate items using your computer. It also lets you get right into the game without having to read through the rules.

THE TRANSLATION WHEEL (SPHINX NOTE: Wheel not included)

As your characters progress through the Forgotten Realms, they will occasionally find Dethek (Dwarvish) and Espruar (Elvish) runes. The wheel is a method of translating those runes into English words so you can understand them. The Translation Wheel has four parts:

Espruar (Elvish) Runes. Around the outside rim are the elvish runes. Dethek (Dwarvish) Runes. Just inside the elvish runes are the dwarvish runes.

Three Paths. Spiraling out from the inside are three parts identified graphically as:

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.....
-.-.-.-
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Six Rings. Six numbered rings, each with three holes showing letters, are located inside of the dwarvish runes.

USING THE WHEEL

You can get many kinds of information from the wheel:

Five or Six Letter Code Words. The computer displays 2 runes and a path. Match up the two runes and read the letters from rings 1 through 6. If the first character is a number, ignore it and read the letters from rings 2 through 6.

Three Letter Code Words. The computer displays 2 runes and a ring number. Match up the two names and read the letters on that ring

racers.

### THE SIX PLAYER RACES IN Pool Of Radiance

**Dwarf.** This is a cunning race of sturdy workers and craftsmen. They have no magic of their own, but are resistant to magic. Dwarves can advance up to 9th level as fighters, and any level as thieves. They can be fighters and thieves at the same time. Dwarves can see in the dark using infravision.

**Elf.** This is along-lived race. As tall as humans but slimmer, they can be fighters, magic-users, thieves, fighter/magic-users, fighter/thieves, magic-user/thieves, and fighter/magic-user/thieves. They can advance to 7th level as fighters and 11th level as magic-users, and any level as thieves. Elves also have a better chance of finding hidden objects and can see in the dark using infravision.

**Gnome.** Members of this race are shorter and slimmer than their cousins the dwarves. They can go up to 6th level as fighters, and any level as thieves. They can be fighter/thieves.

**Half-Elf.** These hybrids have many of the virtues of both humans and elves. Like elves, they can be more than one class at once, though they can advance only to 8th level as magic-users and 8th level as fighters. Like humans, half-elves can be clerics, and unlike humans, combine that class with other classes.

**Halfling.** These folk are about half the size of a human, hence their name. They have little ability with magic, but are resistant to its influences. They can be fighters, thieves, and fighter/thieves. They are limited to becoming 6th level fighters but have no limits as thieves.

**Humans.** This is the most common player-race in the Forgotten Realms. They have unlimited progression as fighters, magic-users, clerics, and thieves.

### ABILITY SCORES

The computer randomly generates the ability scores that every adventurer has. There are six ability scores; all have some effect on the play of the character. Ability scores are based on a range from 3 (low) to 18 (high). Each Character Class (see below) has a Prime Requisite ability score. A Prime Requisite of 15 or more increases the amount of Experience (see below) the character gets from adventures.

**Strength (Str).** This is the means of how much a character can carry and how much damage he can do in a fight. The Prime Requisite for fighters is strength. Fighters with an 18 strength also have a percent value from 1 to 100 (listed as 01-00), denoting the highest possible natural character strength.

**Intelligence (Int).** This is the measure of how much a character can ultimately memorize. The Prime Requisite for magic-users is intelligence.

**Wisdom (Wis).** This is the measure of a character's ability to understand the ways of the world and interact with it. The Prime Requisite for clerics is wisdom.

**Dexterity (Dex).** This is the measure of the manual dexterity and agility of the character. The Prime Requisite for thieves is dexterity.

**Constitution (Con).** This is the measure of the overall health of a character. It influences both Hit Points (see below) and the character's chance of surviving the effects of a raise-dead spell.

**Charisma (Cha).** This is the measure of how well the character interacts with other characters. It is sometimes a factor when the

character has an encounter with Non-Player Characters, usually called NPCs.

Each character also has two other important values: Hit Points and Experience Points.

**Hit Points (HP).** This characteristic is derived from a character's constitution (he gains a bonus to his Hit Points per level if his constitution is over 14), his level, and his character class (see below). Every time a character is hit in combat, he loses HP. A character with many HP can survive far longer in combat than one with few HP. When a character reaches 0 HP he is Unconscious and may be Dying or Dead, depending on how much damage he has taken.

**Experience Points (XP).** As a character has adventures, kills monsters, and accumulates treasure, he gains Experience Points. When he has enough XP he can increase in level, becoming more proficient in his class. The computer keeps track of XP. Every character starts at first level with 0 XP.

### CHARACTER CLASSES

An adventurer must be at least one of the following character classes. A human adventurer can only be one class, non-humans can combine classes. A character with combined classes has more playing options, but he advances more slowly in his profession because he is doing more than one thing at a time and his XP are divided up among his classes.

**Cleric.** The cleric is a holy crusader who fights for the causes of his religion. Due to religious restrictions, he cannot use a cutting weapon that draws blood, such as a sword or an arrow, but can use any form of armor and use crushing weapons, such as a mace. He casts holy spells that can heal and support his friends and also uses his natural holy power to drive away undead. Some magic items are actually holy objects that only a cleric can use. A cleric gains 1-8 HP with every advance in level to 9th level, plus any constitution bonus. From 10th level on, he adds 2 HP per level, without constitution bonus.

**Fighter.** The fighter can use any form of armor or weapon including magic ones, but most other magical items, and all magical spells, are beyond him. A fighter gains 1-10 HP plus constitution bonus with each advance in level through 9th level. With the 10th level, he gains 3 HP per level without constitution bonus.

**Magic-User.** The magic-user is potentially the most powerful character class, but he starts out weak. Initially, he has very few HP. In addition, he cannot memorize many spells, and must carefully husband his few spells until he gains more through advancement in level.

The beginning magic-user is given four first-level spells in his magic book. He can add one additional spell to his magic book every time he advances a level. He can also scribe spells into his magic book from scrolls he finds in the course of his adventures.

In this game, magic-users cannot use any form of armor or any weapon other than a dagger or staff. However, there are many magic items only a magic-user can use. A magic-user gains 1-4 HP with every advance in level through 11th level, plus constitution bonus. At 12th level and beyond he gains only 1 HP per further level.

**Thief.** This is the thief of the sagas, who uses trickery and misdirection-instead of brute force-to win his objective. This is the only profession in which demi-humans may climb as far as any human. Indeed, halflings and elves are especially adept in this craft. To be a proficient thief, a character must have a high dexterity.

Thieves must stick to leather-based armor and have a restricted list of weapons. A thief gains 1-6 HP with every advance in level, plus constitution bonus, through 10th level. They gain 2 HP, without constitution bonus, per level thereafter.

Multiple Classes. Non-human races can sometimes be a combination of classes. When a character is more than one class, his HP per level are averaged among the classes involved. However, his experience is split between the two classes even when he cannot further advance in one of them. He gains all the benefits of both classes in regard to weapons and equipment.

## ALIGNMENTS

Alignment is the philosophy a character lives by. While the actions of a character are under your control, the character's alignment can affect how NPCs in the game view him. The computer provides all the possible Alignments for a character and you can choose any of those you wish.

Lawful Good. Followers of this alignment strictly interpret law and order, but they use these principles to bring all the benefits to the society.

Lawful Neutral. Followers of this alignment view regulation as all-important, taking a middle road between good and evil.

Lawful Evil. Followers of this alignment believe in the rulership of the strong and the enslavement of the weak.

Neutral Good. The follower of this alignment believes there must be some regulation in combination with freedoms if the best is to be brought to the world.

True Neutral. A follower of this alignment believes that everything must be kept in balance-law and chaos, and good and evil-to maintain world harmony.

Neutral Evil. The follow of this alignment considers law and chaos to be minor considerations as long as evil is brought to the world.

Chaotic Good. Followers of this alignment value randomness and freedom, but also value life and individual welfare.

Chaotic Neutral. Followers of this alignment value randomness and disorder over either evil or good.

Chaotic Evil. The Chaotic Evil character disdains laws and order, kindness and good deeds. He seeks positions of power, glory, and prestige in a system ruled by his own whims.

## STARTING EQUIPMENT

Each character is assumed to have starting equipment including clothes, boots, backpack, money pouch, food, water, tinderbox, and flint and steel. The character's on-screen list of items only includes important items such as weapons, armor and magic items.

## PLAYING THE GAME

To play Pool of Radiance you need a party of characters. You can use the party of characters provided or you can create your own.

## CREATING A PARTY OF CHARACTERS:

A party is a group of characters you have generated and saved to the save game disk for use in missions. You may have up to 6 Player Characters (called PCs or characters) in your party at a time. You can control up to 8 characters in a game, but the remaining two slots are left open for NPCs your characters may hire or meet along the way.

When starting a game, the first screen you see is one with positions for the vital information about the characters in the party and a menu with all the ways of putting together an adventuring party. This is the Party Creation Menu.

## Party Creation Menu:

- Create New Character
- Drop Character
- Modify Character
- Train Character
- View Character
- Add Character To Party
- Remove Character From Party
- Load Saved Game
- Save Current Game
- Begin Adventuring
- Exit to DOS

The following describes the results of using each command.

## CREATE NEW CHARACTER

This is the opportunity to build an adventurer from scratch. This leads you through a series of menus to help you define the character.

Pick Race Menu. This gives you the choice of the six races a player-character can be in the Forgotten Realms.

Pick Gender. After you pick a character's race, you pick their gender. Gender affects the possible strength of a character and what sort of portraits you will have to choose from to represent the character.

The computer randomly generates the ability scores that every adventurer has. Once you have seen the ability scores, you may have the computer roll again and it will randomly generate a different character. Otherwise, you may accept the rolls, and take the character as generated.

If you accept the rolls, you still have the opportunity to alter the character to match your own character from the AD&D game by using the Modify Character command described later.

Pick Character Class. This gives you the choice of the class or classes your character is qualified for based on his race and ability scores.

Pick Alignment. From this menu the computer provides all the possible Alignments for a character. You can choose the one you wish.

Name Character. Your choice of name for a character is entirely up to you. You cannot use more than 15 letters in a name.

The computer displays the complete character screen and gives you a chance to save the character. If you save the character, it is written to the save game disk to become one of the regular characters you play.

At this time the computer generates a portrait of your character. You can choose both the head and body of your characters portrait. You then choose the weapon, head, and colors for your character's combat icon (the figure that represents the character in combat). Refer to the Encamp section for instructions on how to alter combat icons.

Exit. From any of these menus this command brings you back to the Party Creation Menu.

## DROP CHARACTER

This command is only used when you never want to play with a particular character again. It eliminates the character's record from the save game disk and leaves a space in which you can create a new character to fit.

## MODIFY CHARACTER

You may bring your favorite beginning AD&D character into the Pool Of Radiance. Create a character of the proper race and class and then

modify it to match your non-computer AD&D character. You can adjust the created character's ability scores and HP. The character must start at 0 XP and with no items beyond those he can buy with his initial gold allowance.

### TRAIN CHARACTER

Use this command when a character has attained enough experience to advance a level (see Appendices). This is available at the start of an adventure and when the party travels to the Guild to get training.

The computer asks who is to train, and checks the current XP of the character. If he has sufficient points, the computer subtracts the cost of the training from the character's current money and the character advances a level. This takes no game time.

A character can only advance as high as the highest level character willing to train him. In the Training Hall of Phlan, the maximum limits are 8th level fighter, 9th level thief, and 6th level cleric and magic-user.

### VIEW CHARACTER

This allows you to View a Character, as described under that heading below.

### ADD CHARACTERS TO PARTY

This command allows you to pick party members from previously used characters that are on a save game disk.

### REMOVE CHARACTER FROM PARTY

Since a party may only include 6 player characters, you can use this command to write a character to the save game disk and then substitute another with the Add Character To Party command. The Saved character will replace the previous entry for that character on the save game disk.

### LOAD SAVED GAME

This command brings up a previous adventuring party from the save game disk.

### SAVE CURRENT GAME

This command puts the group you are currently constructing onto the save game disk for future reference. Then some versions will allow you to exit the game.

### BEGIN ADVENTURING

When your party is ready to go, use this command to return to the game. Follow the on-screen messages to get back into the game and you are ready to go with your new party of adventurers.

### NON-PLAYER CHARACTERS (NPCs):

In the course of a game, the party can run into many characters controlled by the computer. They may talk to the party, attack the party, and even offer to join the party. These are known as Non-Player Characters, or NPCs.

There are three kinds of NPCs: those you can hire at the Training Hall to adventure with your party, filling in the two slots possible in a party that you cannot fill with player characteristics; those who volunteer to join the party for a specific mission or quest; and those who won't join the party but will give either information or a fight.

### WHAT YOU CAN DO WITH NPCS

NPCs that want to join you are treated like your player characters, with a few differences. Remember that you can only have room for 2 NPCs if you have a party of 6 player characters. During an adventure you may find NPCs that you want to add to your party. You should seldom have more than 7 characters in your party so there is room to add the NPC.

The computer commands NPCs in battle. They have Morale. If things are going badly for the party, they may run, even if you don't want them to.

You can give NPCs treasure, which may help their morale, but you

cannot trade their items to other characters. If they die, however, you can use the Trade Items function to take their items.

### LOYALTY

NPCs can also be traitors insinuated into your party, depending on the way the adventure goes. They can spy on you and give information to your enemies, and even turn on you in battle. NPCs can be a big help, but don't trust them in every situation.

### VIEWING A CHARACTER

#### THE CHARACTER SCREEN:

The character screen appears whenever you use the View command. The character screen displays the character's name, race, and age. It also displays his alignment, character class, and ability score. The current wealth of the character is also shown. Initially, the computer generates a random number between 30 and 180 in gold pieces, which the character can use in buying his equipment. Later, as the character accumulates wealth through his adventuring, there are several entries on the screen showing the copper pieces (cp), silver pieces (sp), electrum pieces (ep), gold pieces (gp), platinum pieces (pp), gems, and jewelry. The value of coins are listed in the Appendices, the value of gems and jewelry vary and are found when they are appraised.

The screen also shows the character's current level, his earned XP, and his current HP. If the HP are highlighted, the character has taken damage, that has not been healed. The number shown is his current HP, not his normal HP. Once the character has healed all the damage, the number reverts to normal.

The Armor Class is shown as AC; the lower the AC number, the better the armor. Then it shows the character's Ready weapon and what armor he is wearing. This is followed by the character's To Hit AC 0 (THAC0) The lower the character's THAC0, the better fighter he is. This is followed by the damage the character does, which depends on his strength and the weapon he has ready.

The last entry is the Character Status. This is an indication of the current health of the character. The Character Status can be:

#### OK

The character has positive HP and can move and fight normally.

#### UNCONSCIOUS

The character has exactly 0 HP. He cannot move or fight, but is in danger of dying.

#### DYING

The character will die in a short period of time unless the character is bandaged or healing magic is applied. If the character is bandaged his status changes to Unconscious. Healing magic will make him OK again. In the course of a combat, a character who is Dying has a chance of becoming Dead unless he is bandaged (see Combat). A character who survives a combat in Dying status is automatically assumed to have his wounds bandaged after combat and becomes Unconscious.

#### DEAD

The character has died. He will be brought with the party (assume he is set down during any combat) and can possibly be resurrected with a raise dead spell from an NPC cleric. The character's actual chance of being raised when the spell is used depends on his constitution.

#### FLED

The character fled from the previous battle. After a battle is over, he can rejoin the party as if nothing had happened, and regain his previous status.

#### GONE

The character has been destroyed by dragon flame, a disintegrate spell, or some other form of total destruction. He cannot be Raised



from the Dead.

### VIEW OPTIONS

To inspect the active character choose the View command. This brings up the View Menu:

View Menu

VIEW:ITEMS SPELLS TRADE DROP EXIT

### ITEMS

Using this command allows you to see what items the character is carrying. The character's items and their combat ready status are displayed. An item that is not Ready cannot be used. Not all commands in the Item Menu are always available.

Item Menu

READY USE TRADE DROP HALVE JOIN SELL ID EXIT

Ready. If you want to ready or unready an item, you can use the Ready command to change the status of the weapon, armor, or other item. A character has several restrictions on what he can use. Basically, he cannot use more than two hand-held items at once. Thus, he cannot have ready a sword, a shield, and a bow at the same time. Arrows are assumed to be in a quiver and can be Readied at all times, though they cannot be used unless a bow is Readied as well.

Use. This command means the character is going to use an item. In Combat, you will be asked to indicate the target (see Combat for targeting) and proceed back to the Combat Menu.

Trade. If you use this command, the screen switches to the Party Screen and asks which character you are trading with. Indicate the character and the screen switches back to the Items Screen. Indicate which item (you can trade multiple items in one transaction) is to go to the other character and the item disappears from the trading character's list and reappears on the item list of the receiving character. Remember that an NPC, does not give up an item once he has it, unless he is dead.

Drop. If this command is used on an item, the item is gone. It cannot be retrieved. Do not use this if you want to give the item to someone else, that's what the Trade command is for.

Halve. Multiple items such as arrows are often combined onto one line, such as 42 Arrows. Halve creates two lines, each with half the number of items; such as two lines each with 21 Arrows. Only items like arrows, that are shown as several items on one line, can be halved.

Join. This is the opposite of Halve. If you have several lines of arrows or a similar item on the Items screen, you can use this command on one line and all similar lines are joined with it. The number of items shown is the total of the numbers in all the former lines. No more than 250 of an item can be joined on one line. NOTE: The Ready status (Yes or No) of the item depends on the line that all the others are joined with.

Sell. This command is described under the Shop Menu.

ID. This command is described under the Shop Menu.

Spells. This is a listing of what spells a magic-user or cleric has memorized and is ready to cast (see Magic Menu).

### TRADE

This command is used when you want to transfer money from one character to another. Indicate which character you are trading with,

and then indicate which coins and how much are to go to the other character. The coins disappear from the trading character's list and reappear on the money record of the receiving character.

### DROP

If this command is used on money, the money is gone. It cannot be retrieved.

After you create your party, you appear in the civilized section of Phlan. The party is ready to begin adventuring.

### MISSIONS:

Phlan is a very dangerous place. The civilized nations are only now gaining a foothold. You can either wander around town and run across dangerous situations, or report to the City Council of Phlan. They will assign the party missions and give rewards when the missions are completed. Initial missions are local in nature, later ones are more ambitious to match both your increased expertise and their opinion of you. Phlan is split into two sections; the civilized section is controlled by the settlers and the uncivilized section is controlled by monsters. After you clear all the monsters from a block, settlers move in and it becomes civilized.

### POINTS OF VIEW:

As you move around the town and the wilderness, there are three different points of view: 3-D, Area, and Wilderness.

### 3-D

This appears with the Adventure Menu any time you are in town, underground, or in any other built-up area. It shows a view of the surrounding area as seen by the party. It only shows one direction at a time, so you must rotate the party using the directional controls (see Adventure Menu) to see in each direction. At the same time, the screen shows what compass direction the party is facing and the coordinates of their location in their current block.

### AREA

This option is given in the Adventure Menu when the 3-D view is shown on the screen. This view shows the position of the party and an overhead view of the surrounding area. It can only be obtained in a 3-D view, it does not appear in the Wilderness. There is no real detail, just the position of all major obstructions such as walls, trees, water, etc. A cursor shows the position of the party.

### WILDERNESS

This screen shows when the party is traveling in the Wilderness. It displays an image of the party moving through a map-like wilderness. It shows the area around the party for 2 moves in each direction. If there is an encounter in the wilderness, an image of the encountered monster appears next to the icon showing the location of the party. You will be given all the usual options for the encounter (see Encounters).

### BLOCKS

Most adventures take place in one or more blocks of 16 squares by 16 squares. The party moves from block to block by moving into a long corridor with a low ceiling. Stairs and caves with low ceilings may also move the party from one block to another.

### TYPE AND THE PARTY

From the moment the party begins its adventures in Phlan, the clock is ticking. The longer it takes a party to complete a mission, the harder it becomes.

### MOVING AROUND:

The first thing a new party must do is equip itself from the Shops. Then it has to get to the scene of its adventures. There are two ways of doing this.

### TOUR TRAVEL

You can walk the party to in-town missions, having encounters along the way.

### WILDERNESS TRAVEL

Some missions involve locations away from Phlan. The party travels in then Wilderness Point of View until they reach the location of the mission. The computer keeps track of the time traveled.

### CIVILIZATION:

The civilized section of Phlan contains a number of locations of interest to the party. In the civilized section the party can find out information, train, rest and heal, and buy and sell equipment.

### THE CITY COUNCIL

This is where the characters meet the Council and receive missions and news.

### THE DOCKS

The party may catch a boat at the docks to take them to otherwise inaccessible blocks and into the wilderness.

### THE INNS

These give a safe haven in which to Rest (using the Encamp Menu). Each stay at an Inn costs money, but once you begin your stay you can rest as long as you like.

### THE TAVERNS

These are rowdy places full of gossip, stories, and information.

### THE TRAINING HALL

This is where the characters can receive training from NPCs of higher level and add starting PCs. This displays the Party Creation Menu so that you can use the Train Character command.

### THE SHOPS

Here the characters can buy their initial equipment and later sell some of their treasure and upgrade their equipment. When you enter a Shop, you are presented with the Shop Menu.

### Shop Menu

BUY VIEW TAKE POOL SHARE APPRAISE EXIT

Buy. If you use this command, the computer displays a list of items available and their cost. If you try to buy something you do not have the money for, the computer tells you so. If you try to buy something that will overload you, the computer tells you that too.

View. This is the same screen as shown for this command in other menus with the addition of the Appraise command in the View Menu, and the Sell and ID commands in the Items Menu.

Sell. Use the cursor to highlight any item you want to sell. The Shop will make an offer and you can either sell or not. If you decide to sell, the screen asks you one more time to be sure, then the item is gone.

The shops in Phlan are very busy; no item sold to a merchant remains for long. If you sell an item, it won't be there when you go back.

ID. This command is used to get a magical evaluation of a magic item. The shop charges you for the service of identifying the magic on an item.

Take. If you have left money through the Pool or Drop commands, you can use this command to pick it up again. Indicate that you want to take money and who will take it. The computer then displays each type

of coin available and how many of the coins take all the character takes. One character can take all of the coins if he has the strength to do so, or you can allow each character to take a share.

If you try to pick up more than the character can carry, the screen displays a message saying 'The character is overloaded' and will not let any more coins be put on the character. Remember, carrying lots of coinage slows a character down in combat.

Pool. This command makes all the party members drop all of their money into one pool of money. All purchases made at the shop come out of this central pool. Anything left over can be picked up again using the Take Menu.

Share. This command picks up all the money in the pool, divides it into shares, and distributes it among the characters.

Appraise. This is used in Shops to get an appraisal of any gems and jewelry the character has. The computer asks what gems and jewelry are to be appraised, and offers a price on the indicated gem or jewelry. Once you have received a price, you may take it and the item is sold. The money is immediately put in your money record. If you do not want to sell immediately (gems and jewelry are a lot easier to carry than coins), the gems and jewelry become items and go from the money record on the Character Screen to the Items list, and can be sold off of that list like any other item.

### THE TEMPLES

The temple will cast clerical healing spells for a price. When you enter the temple, the Temple Menu is presented. Except for Heal, the commands on the Temple Menu are the same as those on the Shop Menu.

### Temple Menu

HEAL VIEW TAKE POOL SHARE APPRAISE EXIT

Heal. This command displays a list of the healing spells the clerics will cast. Indicate the spell you want cast. The computer displays the cost and asks you to confirm that you still want them to cast the spell. The cost of a spell may vary depending on the recipient and circumstances.

### ADVENTURE MENU

The Adventure Menu allows access to all of the main functions in the Pool Of Radiance. This menu shows either the current 3-D picture of the area in front of the party and the status of the party (if in a town adventure), or the area around the party (if in the wilderness). If any party members are injured, their hit point numbers (showing how many they have now) are highlighted for easy recognition. There are several commands available to you from this menu.

### Adventure Menu

MOVE VIEW CAST AREA ENCAMP SEARCH LOOK

### MOVE:

This is the command to move the party. How the party moves is shown on the Quick Reference Card provided with the game for your computer.

In 3-D travel, the Party can move forward, move backwards, turn right, or turn left. Normally, each movement forward or back puts the party into another square and takes one minute of game time. Turning keeps the party in the same square and takes no game time. If the party has Search on, moving one square takes 10 minutes.

In the Wilderness, the party can move in any of eight directions. Moving one square takes a half a day of game time. Search mode has no effect in the wilderness.

VIEW:

This displays the Character Screen, as described in Viewing a Character.

CAST: This command sends you to the Cast Menu so your active character can throw a magic spell. See the section on Magic for a description of how to cast spells and their effect.

AREA:

This shows an overhead view of the area around the party. If the party is lost or in unfamiliar territory this command may not be available.

ENCAMP:

This command sends you to the Encamp Menu. This is a very important part of the game, and is described in detail in its own section.

SEARCH:

A party can move in Search Mode, which takes 10 minutes of game time per move. This allows the party to carefully search the area they are passing, but also gives wandering monsters a greater chance to find them. You only need to hit the Search command once to start the party moving at Search speed, then hit the command again later to reset them to normal movement. You do not need to hit Search for every move.

In Search you are assumed to be checking for secret doors, mapping, moving as silently as possible, hiding in any available shadows, and generally being as careful as possible.

If you never go to Search mode, you will run into fewer wandering monsters (because you are moving faster) but have much less chance of finding concealed treasures or traps before they are sprung.

LOOK:

This command is used to look at a square more closely, as if your party moved into the square again. If the party is moving at normal rate, then a Look command treats that particular square as if the party moved into it in Search mode.

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ENCAMP

This command is used in several menus to take time off and try to rebuild characters and the party. It is used to handle day-to-day functions such as saving the game, resting to heal, or memorize spells (described under Magic Menu), and changing game items such as game speed or party order.

Encamp Menu

ENCAMP:SAVE VIEW MAGIC REST ALTER EXIT

SAVE:

This command saves the characters and game as they are. Check the Quick Reference Card for any system specific details of how to save your game.

VIEW:

This displays the View Menu, as described under Viewing a Character. In camp, this does not display the Sell Item or ID commands.

MAGIC:

Magic is a very important part of Pool Of Radiance, and is described later under its own heading. Magical Spells can only be memorized while the party is in camp.

REST:

One of the most important aspects of the Encamp Menu is the chance to rest. Characters catch their normal sleep without having to go to camp. However, to memorize spells or heal naturally, specific rest time is necessary.

For every 24 uninterrupted hours of resting in camp, every wounded character regains one hit point above and beyond any recovery gained from healing magics.

The initial resting time is established by anyone who is memorizing spells. The screen will show the days, hours, and minutes necessary for the spell-using members of the party to memorize (or pray for) the spells they want to memorize. Memorizing any spells at all takes a minimum of four hours. Third level spells take a minimum of six hours. See the Magic Menu for further description of memorizing spells.

Rest can be interrupted by any random encounter. Only take long rests in safe places, such as inns, hideouts, or secure buildings.

Rest Menu:

REST INCREASE DECREASE EXIT

REST

Once you have determined the full time you want the party to rest, this command starts them Resting.

INCREASE

This command adds to the time that the party will stay in camp, usually for resting to regain lost hit points. Every 24 uninterrupted hours in camp restores 1 HP to every injured member of the group.

DECREASE

This command decreases the time to be spent in camp. This may mean that characters do not memorize all the spells they want or that characters may not recover all their hit points, but sometimes time constraints are part of the adventure, and the party cannot spend all the time it wants resting.

## ALTER:

This command is used to change the basic makeup of both the party and the characters who are part of it. You are given the following menu:

Alter Menu:

ALTER: ORDER DROP SPEED ICON PICS EXIT

## ORDER

This command allows you to reorganize your characters for combat. You can place characters in the first or second rank. The first four characters are in the first rank, where they will meet enemies hand-to-hand, the rest are in the second rank, where they can use spells and missile weapons.

The computer asks who takes position number 1, etc. and reforms the group, with position #1 on top, when all the choices are made. Position of NPCs can be changed with this command.

## DROP

This command allows you to permanently drop a character or NPC from the party. Once dropped, the character is gone from the party and his current version will not be saved if you then use the Save command to save the game.

## SPEED

This command controls the speed of messages presented on the screen. If you are having trouble reading messages before they disappear, use the Slower command. If messages seem to take forever to get off the screen, use the Faster command. Note that once you have used this command, it affects all subsequent messages, and you may have to re-use the command if later messages are too fast or too slow.

Speed Menu:

SPEED: SLOWER FASTER EXIT

## ICON

When a character is created, he is given a combat icon. When the party is in Combat, each party member's icon designates his position and general facing on the screen.

The Icon command is used to change the character's icon. You can customize this icon to represent the character's favorite weapons, armor, and colors. You may want to do this when the character picks up a new weapon.

Icon Menu:

ICON: PARTS COLOR SIZE EXIT

Parts: You can alter the weapon (which controls the rest of the body shape) or the head of the icon. You are shown both the Ready Icon character and the character's Action Icon (which shows the character attacking).

When you are done choosing the weapon and head, you can reject the new form or accept it. The screen shows you and the new and old versions of the Ready and Action Icons.

Parts Menu:

PARTS: WEAPON HEAD EXIT

Color. You use Color to alter the color of virtually every part of the Icon, as shown on the screen. Some of the areas you can alter on the Icons do not correspond to the terms given in the menu. For instance, changing the shield color for a character with a bow or crossbow actually changes the color of the arrows or quarrels. Play with the Icons commands until you get a feel for how these variables

work.

Color Menu:

WEAPON BODY CAP HAIR SHIELD ARM LEG EXIT

Size. Large size Icons are usually used for humans, elves, and half-elves. Small size Icons are usually used for dwarves, gnomes, and halflings.

Size Menu:

SIZE: LARGE/SMALL EXIT

Exit. When you are done, use this command. The computer will ask you to confirm any changes to your icons. Make your choice and the computer returns to the Alter Menu.

## PICS

This command governs when character and encounter pictures will be displayed.

Pics Menu:

PICS: CHARACTERS ON/OFF MONSTERS ON/OFF EXIT

Characters On/Off. This command governs the portraits displayed with the character statistics when you use the View command. Characters On shows the pictures when you view a character; Characters Off hides the pictures. Having the characters hidden slightly speeds up the game since the computer does not have to take the time to load or draw the portrait each time.

Monsters On/Off. This command governs the pictures that appear during encounters. Monsters On shows the animated picture when the monsters get to the closest range in an encounter; Monsters Off hides the animated pictures.

## ENCOUNTERS

When a party comes across NPCs of any kind, there is an encounter. The computer provides a quick glimpse of who the party has encountered, then asks what you want to do.

The computer determines whether both parties see each other, the NPCs surprise the party, or the party surprises the NPCs.

If the party surprised the NPCs, the party can attack immediately, getting a free round to attack in which the NPCs cannot retaliate. This opportunity must be taken at once or surprised is lost.

If hostile NPCs surprise the party, the NPCs can attack immediately and get a series of attacks in without retaliation by the party.

If the NPCs do not surprise the party, the computer offers these commands.

Encounter Menu:

ENCOUNTER: COMBAT WAIT FLEE ADVANCE/PARLAY

## COMBAT:

The party attacks the NPC's. Who goes first is decided on the basis of initiative, which is explained in the Combat section.

## WAIT:

This command allows the NPCs to decide what to do. They may wait, combat, flee, advance (if more than a square away) or parlay (if in the same square).

FLEE:

If you see NPCs you think your party cannot fight successfully, use this command to run away. If successful, you may flee wildly, risking getting lost. If unsuccessful (because the NPCs can move faster than you do) you go to combat.

### ADVANCE:

If the NPCs are far away use this command to approach them. Once the NPCs are adjacent to the party the Advance command will be replaced with the Parlay command.

### PARLAY:

Use this command to speak with NPCs that are adjacent to the party. Choose a character to speak for the party. Pick the character who you think will make the best impression on the NPCs. Then, choose one of five possible attitudes for dealing with the NPCs.

### Parlay Menu:

PARLAY: HAUGHTY SLY MEEK NICE ABUSIVE

### HAUGHTY

You try to demonstrate your superiority to the inferior creatures you are dealing with. Some encounters only respect an air of superiority and are impressed enough to cooperate; this is also a good way to make them resentful and attack.

### SLY

You try to get information out of the NPCs without them realizing you are doing so. Some NPCs will realize you are trying to get something out of them and will become hostile.

### MEEK

You are mild and unassuming in hopes that the NPCs will think you are not worth attacking. Of course, some NPCs attack meek opponents, because they are easy pickings.

### NICE

You try to be friendly in hopes the NPCs are friendly to you. Some NPCs do not choose to be friendly to anyone.

### ABUSIVE

You try to browbeat information out of the NPCs. It is best not to do this unless you have the power to back up your threat.

The computer assumes you are as effective as possible in the attitude you call for.

## COMBAT

In many adventures the party will have to fight to defeat the enemy. In combat the computer determines which characters (both player characters and NPCs) have initiative (i.e., which goes first) and depicts that person and his nearby compatriots.

If the character is a PC then the player will control his actions. If the character is an NPC, or a PC under computer control using the Quick command, the computer determines his actions.

### HITTING THE TARGET:

The ability of an attacker to hit a target with a melee weapon (such as a sword, spear, or fist) or a missile weapon (such as a bow or crossbow) depends on the chance the attacker has of hitting the Armor Class of the target. This is represented by a number called the THACO. The lower the THACO the better the chance to hit.

A target's defense is his Armor Class, or AC. This is influenced by the armor worn, plus the dexterity of the target and any benefit various magic spells may have. (Magic has another method of hitting a target; see the Magic rules). The lower the Armor Class number, the better the armor.

The number needed for an attacker to hit a target is the attacker's

THACO minus the target's Armor Class. The attacker hits if a random number from 1-20 is greater than or equal to this number. Thus, a person with a THACO of 18 needs a 14 or more to go hit Armor Class 4. Armor classes can go into negative numbers, so the same character trying to hit Armor Class -1 would need to get a 19 or better.

In a combat, the first and second attackers strike at the defender's front. The third attacker strikes at the defender's rear, unless all the attackers are adjacent. The fourth and any additional attackers strike at the defender's rear. The defender's AC is substantially reduced against rear attacks.

A thief forms the only exception to the automatic facing rules. If the thief attacks from exactly opposite the first attacker, he can backstab. A backstab has a better chance of hitting the defender, and does additional damage when it does hit.

### USING MISSILE WEAPONS:

A character may not use a missile weapon if he has an opponent next to him. If he has no opponent next to him, he can fire a missile at anyone in his line of sight. The Next and Prev commands will only aim at targets in the attacker's line of sight.

### BEGINNING COMBAT:

Each character can be controlled manually or by the computer. At the beginning of combat each character is controlled the same as he was in the previous combat. Any character under manual control may be turned over to the computer using the Quick command. All characters may also be simultaneously switched to manual control or computer control. Check your Quick Reference Card for the commands used on your system.

### EXECUTING COMBAT:

When a combat begins, the screen shows the area around the character with the highest initiative. The entire party may not be on the screen at the same time, and one can rarely see all of the monsters at one time. The computer indicates the active character and lists his name, current condition, armor class, and current ready weapon.

Characters and NPCs move according to each character's dexterity and a random number generated by the computer. This is called an Initiative Number and changes with every combat round. Usually higher dexterity characters move before lower dexterity characters.

You may use the following commands to handle your side of the battle. If a character cannot use a command (such as Turn for a non-cleric or Cast for a fighter or thief) it does not appear.

### The Combat Menu:

MOVE VIEW AIM USE CAST TURN QUICK DONE

### MOVE

This is used to move a character and to attack. You attack by moving the character into an enemy's square. You can even attack party members, but the computer gives you a chance to abort such an attack. If you disengage an enemy, he gets a free attack at your back, as do others you move by.

Some characters may have multiple attacks in one turn. Bows get two attacks per turn. High level fighters get two attacks every other turn. All of a character's attacks are taken against his first target. If the first target goes down with the first attack, you may aim the remaining attack at another enemy.

Fighters may make a special form of multiple attacks called a sweep. A sweep may attack several weak targets with a single blow each.

Refer to your Quick Start Card to find out how to move the character with your particular computer. The number of spaces a character can move is reduced by the weight carried. A character weighted down with coins or extra armor and weapons cannot move as fast as he could without the items. Bulky armor can also reduce movement.

A character who is faster than any enemy can run away from the fight, eventually running from the battlefield. A character who is as fast as the fastest monster, only has a 50% chance of getting away

(otherwise he must remain until the end of the fight). A character who is slower than any enemy cannot run off the edge of the fighting area. A character who has run away is no longer part of the fight. He returns after the fight is over.

### VIEW

This is essentially the same command used any time you wish to see a character. Using this, you can ready appropriate weapons to meet the fight in progress. Some options, such as Trade, are not available in the middle of combat. The Use command shows up under items to allow you to use an item, such as a wand, in combat.

### AIM

This command is used to aim an attack using the following options.

Aim Menu:

AIM:NEXT PREV MANUAL TARGET EXIT

Next. Use this command to look at all possible targets, starting with the one closest then going to the next closest. The computer looks at ALL possible targets, including other party members; don't shoot without looking. (However, the computer confirms your order first, before shooting at a teammate.)

Prev (Previous). This is the opposite of the Next command. Use this command to look at the possible targets starting with the one farthest away and working back toward your character. Usually this is a good way to find a good target without working your way through all of your PCs first.

Manual. This command lets you aim anywhere on the map. It is especially useful for finding opposing leaders and targeting spells with area effects.

Target. If your character has a ready ranged weapon, or an item prepared with the Use command, this command shoots at the target you selected.

### USE

This command allows the character to use any non-weapon item. The command brings up the same screen and menu as the Items command under the View Menu.

### CAST

This is only available to magic-users and clerics when they still have spells available. Using this command brings up the Cast options of the Magic Menu (see that description of the Magic Rules). If hit recently, the character's concentration may be broken and you won't be given the Cast option.

### TURN

Clerics can sometimes destroy undead monsters or turn them away from the party. This has no effect on any other form of monster. See the Appendices for a cleric's minimum level to affect various forms of undead.

### QUICK

This command turns over control of the character to the computer. It is a good way to handle fights against hordes of less powerful opponents. Once you have established computer control for a character, the computer controls him in future fights until you interrupt it.

The computer uses ready melee or missile weapons and available spells, switching between them to the most appropriate in the situation. The computer plays a very aggressive game.

### DONE

This command is used when a character has finished his turn.

Done Menu:

GUARD DELAY QUIT BANDAGE SPEED EXIT

Guard. The character can adopt this tactic and simply wait to meet any attacker. This means that he attacks the first foe that moves adjacent to him before the foe attacks him.

Delay. This command lets you delay this character's action by reducing his initiative number by 1. If he is the only one to be at the next lowest number, it is his action again. He can continue to delay his actions until all others have had their action for that round and then he must take an action or lose it.

Quit. You can signify you are finished with this character by using this Command.

Bandage. This command only appears if a member of the party is dying. The character for whom the command appears can use this command to bandage the party member and keep him from dying.

Speed. This command is described under the Alter command of the Encamp Menu.

### IF THE PARTY FLEES:

As long as any party member survives to the very end of the combat, the bodies of unconscious or dead party members are assumed to be with the party. If the party flees from combat all unconscious and dead party members are permanently lost.

### IF THE PARTY DIES:

If ALL the party members are slain you will have to go back to your last Saved Game and try again from that point.

### AFTER COMBAT:

When combat is over, the screen will show some congratulatory message, then present a menu of commands. If a command does not apply to this after-combat situation, it will not appear.

Treasure Menu:

VIEW TAKE POOL SHARE DETECT EXIT

### VIEW

See Inspect a Character. At this time you can use the Drop commands in both the Items menu and in the Character Screen menu.

### TAKE

This command is used to pick up treasure.

Take Menu:

TAKE: ITEMS MONEY EXIT

Items. Use this command to produce a list of items carried by the monsters you have overcome. If more than one had a missile weapon, all of their remaining missiles are lumped into one line (if there are more than 100, 99 are on one line, and the rest on another line). Frequently, the weapons and armor used by monsters are standard and not worth picking up as treasure, so they are not listed.

If one character tries to pick up too many items, the computer will say he is overloaded and will not allow the acquisition.

Money. The computer displays each type of coin available and how many of each coin there are. You indicate how many of the coins the active character takes. One character can take all of the coins if he has the strength to do so, or you can allow each character to take a

share.

If you try to pick up more than the character can carry, the screen displays a message saying, "The character is overloaded," and will not let any more coins be put on the character. Remember, carrying lots of coinage slows a character down in combat.

POOL

This command makes all the party members drop all of their money into one pool of money. It becomes part of the treasure and the party members can use the Take Menu to reapportion their funds.

SHARE

This command picks up all the money in the treasure, divides it into shares, and distributes it among the characters.

DETECT

This command casts a detect magic from the current active character.

EXIT

This command lets you leave the scene of the battle. If there are still items that can be picked up, the machine will remind you that there is still treasure left. You can go back to the Treasure Menu or leave the treasure and go to the Adventure Menu.

MAGIC

Magic is integral to Pool Of Radiance. Both magic-users and clerics can use magical spells.

HOW MAGIC WORKS:

A spell can exist in one of three forms: In Memory, In Spell Book, and On a Scroll.

IN MEMORY

A magic-user or cleric who has a spell in Memory is said to have memorized the spell. He can cast the spell as shown in the Cast command description.

IN SPELL BOOK

Magic-users write their spells into a Spell Book. They can only write those spells into the book of which they have the ability to cast. The books are compendiums of spells among which they choose the ones they want to memorize. Clerics do not keep a spell book, they simply pray each day to get their spells.

ON A SCROLL

A spell written on an enchanted scroll can be read by a cleric or magic-user, depending on the kind of spells on the scroll. A magic-user must cast the spell read magic to understand the spells a scroll contains. Once he has done that, he can read the spell aloud at any time to cast it. A cleric does not need a read magic spell to read a clerical spell on a scroll, but only a cleric can read the spell. Once any kind of spell has been cast or scribed from a scroll, the spell disappears.

A magic-user may scribe the scroll spell into his spell books for future memorization. This erases the spell from the scroll. Spellcasters can get a list of their memorized spells from the Cast option of the Magic Menu or from the Spells option of the View Menu. They can get a list of their spells on scrolls from the Scribe option of the Magic Menu. If all you want is a list of available spells, be sure to exit before you actually cast or scribe the spell.

The Magic Menu:

CAST MEMORIZE SCRIBE DISPLAY REST EXIT

Cast. Use these commands to cast spells. In combat the spellcaster is the current character. In camp the spellcaster is the current active

character.

Cast Menu:

CAST NEXT PREV EXIT

The Cast Menu appears in both the Magic Menu, and the Combat Menu. It shows all the spells available to the active character. Find the page with the spell you want to cast. Select the Cast command. Then select the spell to cast it. If necessary, indicate the target of the spell. If you do not find the spell you want, you can Exit. In combat, the character can take another option. Otherwise the character returns to the Magic Menu.

Once cast, a spell is gone and until it is memorized again.

Memorize. For a character to learn a spell, use this command, which only appears in the Encamp Menu. The computer displays a page from the active character's spell book (or a list of possible clerical spells) and you are offered the following commands. Remember that if a magic-user or cleric has the ability to learn more than one spell at a level, he can learn the same spell more than once.

Memorize Menu:

MEMORIZE NEXT PREV EXIT

Find the page with the spell you want to memorize. Select the memorize command. Then select the spell to memorize it. The 'pages' here are the pages of the magic spell book, rather than just the list of already memorized spells.

Picking a spell to memorize does not mean that the spell is memorized. Learning a spell takes 15 minutes (game time) per level of spell, plus a period of relaxation before starting to memorize one or more spells. See the Rest command in the Magic Menu.

Only one spell may be learned at a time, though the spellcaster need only relax once before learning several spells. The learning time must be uninterrupted. You have to go to the Rest command and spend the time to memorize the spell. If you have only been in camp long enough to memorize some spells, those are learned and the others lost. The spells are memorized in the order you pick them.

Example: A magic-user decides to memorize 2 uses of magic missile (a first level spell) and 1 use of Invisibility (a second level spell). This is a total of 1 hour of time for memorization, plus 4 hours relaxation time. If the party is attacked before the first 4 hours are up, no spells are learned. If the party is attacked after 4 hours and 15 minutes in camp, the magic-user has learned 1 magic missile spell. After 4 hours and 30 minutes he has learned both magic missile spells, and after 5 hours he has learned the invisibility spell as well.

Once you have picked all the spells for one character, you Exit the menu. The computer displays the spells you have chosen and asks you to confirm the choices. If you confirm the choice, you go back to the Magic Menu and can select spells for the next character who needs to memorize them. If you cancel the choice, all the choices are ignored and you must re-select all the character's spells.

Scribe. Use this command to inscribe spells the character finds on a scroll into his spell book.

Scribe Menu:

SCRIBE NEXT PREV EXIT

The computer displays all the spells on scrolls that the magic-user has cast read magic on. Find the page with the spell you wish to scribe. Select the Scribe command. Then select the spell to scribe it from the scroll into your spellbook. If a spell is of too high a level for the character to scribe, the computer tells you so. Scribing the spell erases it from the scroll. Scribing takes the same time as

Memorizing a spell, and is unsuccessful if the total time is not taken.

**Display.** Use this command to find out what magic spells are currently working on the party in camp. This serves as a reminder of obvious spells working on the entire party, such as bless or light, and on individual members of the party, such as protection from evil or invisibility. This also reveals subtle curses (though not the nature of the curse) on the party or individuals in the party.

**Rest.** To memorize spells, one must Rest. This takes you to the Rest Menu described in the Encamp Menu description. Spells are not memorized until the character has rested the necessary time.

The Exit command in this use of the Rest Menu returns you to the Magic Menu, not the Encamp Menu.

### SPELLS AVAILABLE

A beginning magic-user is given four first-level spells when he leaves his master to adventure on his own. These are shown in the spell book for the magic-user. Each time the magic-user gains a level of experience, he gains one spell, even though the rise in level may give him the ability to learn more than one new spell at a time. To gain further spells, he must find scrolls in treasures and copy spells he is capable of casting into his spell book, using the Scribe command in the Magic Menu.

### CLERICAL MAGIC

Clerical magic is very similar to magic-user magic, but a cleric needs no spell books. All spells possible to his level are always available to a cleric, he need only memorize them. Just what spells are available depend solely on the level of the cleric.

Therefore, when a cleric finds scrolls with clerical spells on them, he can simply use them straight off the scroll, since they are not something he needs to Scribe into a spell book.

### SAVING THROWS

Magic is a chancy business. Many spells do not necessarily affect their targets. This is simulated with saving throws. In Pool Of Radiance the saving throw is the chance that the spell has no effect or a lesser effect on the character it is cast on. As a character gains levels, his saving throws improve, and the chance that magic affects him is decreased. The final results of any spell are shown on the computer screen.

Magic-users have better saving throws against cast magic or magic from items, clerics have better saving throws against death and poison, and dwarves and halflings have better saving throws versus any form of magic.

### THE SPELLS:

Some spells are quick and can be cast in combat, and some take an extra long time to cast. Those that take extra time can only be cast when using the Magic Menu from the Encamp Menu.

### TIME AND MAGIC

The duration of magic spells is important. A spell's duration is either: instantaneous, as with most damage spells; measured in rounds, as with most other combat spells; measured in turns, as with many detection and protective spells; or permanent.

When planning use of spells to use in movement (such as a find traps), remember that one round equals one minute of game time and one turn equals 10 minutes of game time.

### THE SPELL LIST

The spells available for characters in the Pool Of Radiance are:

#### FIRST LEVEL CLERICAL SPELLS

**Bless.** This spell can only be used in camp or combat, and it only affects those characters not in melee. It gives a bonus of one to their

THAC0 for six rounds and raises the morale of friendly NCPs by 1. Use it in camp only if you know you are going into combat immediately afterward.

**Curse.** This reversal of bless affects enemies not in melee and modifies their THAC0 and their morale by 1. Usable only in combat and lasts 6 rounds.

**Cure Light Wounds.** This can be used any time. The caster must be next to the target. It heals 1-8 points of damage.

**Cause Light Wounds.** This combat-only spell causes 1-8 points of damage to one adjacent target touched by the caster.

**Detect Magic.** This is similar to detect evil but only lasts 1 turn. It detects the presence of magic in a 1 square by 3 square area, but gives no details on the type of magic.

**Protection from Evil.** This spell can be used in combat or in camp when you expect to go into combat shortly. It adds 2 to the AC of the character against evil attackers. Any saving throws caused by attacks of such monsters are at +2. This spells lasts 3 rounds per level. The caster must touch the target (which can be himself).

**Protection from Good.** This is essentially the same as protection from evil, but it protects against the attacks of good creatures.

**Resist Cold.** This spell protects the recipient against cold, providing absolute protection against cold up to 0 Fahrenheit and an additional saving throw against cold-based attacks. The duration is 1 turn per level of the caster, and the caster must touch the target.

#### SECOND LEVEL CLERICAL SPELLS

**Find Traps.** This must be cast in camp. It makes any traps in the direction the character is facing visible to the character. The spell lasts for 3 turns.

**Hold Person.** This combat only spell holds immobile from 1-3 (cleric's choice) creatures of roughly human shape and size. The duration is 4 rounds plus 1 round per level.

**Resist Fire.** This is identical to resist cold, but it works against heat and heat attacks.

**Silence 15' Radius.** This is a combat spell. It silences any spell casting or discussion in the radius. If cast on a person, the radius follows him around for the duration of the spell unless he makes a saving throw. If cast on an area, the spell affects everything in that area for the duration of 2 rounds per level of the caster.

**Slow Poison.** This spell can be used in camp or combat. It revives a poisoned person for 1 hour per level of the caster. The target of the spell then dies unless a neutralize poison (a high-level spell only used by NPCs) is cast on him.

**Snake Charm.** This spell can be cast in combat only. It influences as many hit points of snakes as the cleric has hit points. The snakes cease all activity for 5-8 rounds.

**Spiritual Hammer.** This is a combat spell which creates a temporary magic item, automatically Readied. It can strike at any range and does normal hammer damage. It strikes monsters that only magical weapons can affect. This lasts for 1 round per level of caster.

#### THIRD LEVEL CLERICAL SPELLS

**Animate Dead.** This spell can be used in combat or camp. It turns a



dead human person into a zombie to help the spellcaster. In combat, the zombie fights for the spellcaster, though controlled by the computer. This spell is permanent until the zombie is destroyed. If created to work with the party, a zombie becomes an NPC and there must be room for him in the party (remember, the limit is 8 characters) or he cannot be taken along.

**Cure Blindness.** This touch-only spell is used in combat or camp to cure the blinding effects of the cause blindness spell.

**Cause Blindness.** This touch-only spell can only be used in combat. The victim gets a saving throw. The duration is permanent until negated by cure blindness or dispel magic.

**Cure Disease.** This spell can be used in camp only. It cures the diseases caused by mummies and the cause disease spell.

**Cause Disease.** This is a combat spell with a touch range. There is a saving throw. If a character is afflicted with a disease, over time he loses HP and Strength Points until he is down to 10 percent of his normal values. This disease is cured by a cure disease or dispel magic spell.

**Dispel Magic.** This spell can be used either in combat or camp. In combat, it affects every magic spell and item in an area. In camp it affects every person and item you select. There is a percentage chance of success with this spell depending on the level of the caster and level of the originator of the spell to be dispelled. If successful, the target magic is permanently eradicated.

**Prayer.** This is a combat spell that lowers all THAC0s and saving throws for friendly combatants by 1 and raises them by 1 for all unfriendly combatants. It has a 60 degree radius and lasts 1 round for each level of the character.

**Remove Curse.** This can be used in camp or combat and allows the target to be rid of a curse (as from a curse or bestow curse spell) or put down a cursed object. The range is touch.

**Bestow Curse.** This spell has a duration of 1 turn per level and is used in combat. It has variable effects determined by the computer.

### FIRST LEVEL MAGIC-USER SPELLS

**Burning Hands.** This touch-range combat spell causes fire damage of 1 point per level of the caster. There is no saving throw.

**Charm Person.** This spell makes a humanoid creature the caster's friend and ally. Any action of the caster will be seen in the most favorable light possible. The target gets a saving throw when the spell is thrown and again days or weeks later, depending on its Intelligence. You can never be sure the effect is permanent. For the moment, the charmed creature can become an NPC (if there is room in the party roster) under the command of the caster.

**Detect Magic.** This spell is the same as the clerical spell; its duration is 2 rounds per level of caster.

**Enlarge.** This spell can be used in camp or combat and lasts for 1 turn per level of the caster. The living target increases in size by 20% per level of the caster. It makes the humanoid target into an ogre or giant in size and strength for combat purposes. A target can only be under the effect of 1 enlarge spell at a time. Unwilling targets get a saving throw against this effect.

**Reduce.** This is the opposite of enlarge, and can be used to negate enlarge. Unwilling targets get a saving throw against its effect. If the saving throw is unsuccessful, the target is reduced in size and

loses effective strength and movement.

**Friends.** This combat only spell affects everyone in a sphere that increases with the level of the magic-user. Everyone within that sphere failing a saving throw thinks the caster has 2-8 more points of Charisma. Those who make their saving throw think he has 1-4 less points of Charisma. The effects last 1 round per level of caster.

**Magic Missile.** This is a combat spell that does 2-5 points of damage to the target, no saving throw. For every 2 levels, the magic-user gets 1 missile, so magic-users of the 3rd and 4th levels get 2 missiles, and those of the 5th and 6th levels get 3 missiles. All must be fired at once.

**Protection from Evil.** Like the clerical spell of the same name, but it lasts for 2 rounds per level of caster.

**Protection from Good.** Like the clerical spell of the same name but it lasts for 2 rounds per level of caster.

**Read Magic.** This is only used in camp and allows the user to read any magical (not clerical) writing. It lasts for 2 rounds per level of caster. Once you use this spell to read a scroll you can cast the spells off of the scroll.

**Shield.** This spell is a combat spell that improves the targets armor class and saving throw, and negates the effect of the magic missile. The spell lasts for 5 rounds per level of caster.

**Shocking Grasp.** This combat spell does 1-8, +1 point per level of caster, electrical damage to a target the caster touches.

**Sleep.** This spell puts up to 16 targets to sleep for 5 rounds per level of caster. The least powerful targets are affected first, and the bigger the monster, the fewer of them are affected. Monsters above a certain power are not affected at all. No saving throw.

### SECOND LEVEL MAGIC-USER SPELLS

**Detect Invisibility.** This can be used in camp or combat and lasts for 5 rounds per level of caster. This has a range of 20 feet per level of caster.

**Invisibility.** This makes the target (touch range) invisible to normal and infravision until he ends the effect or attacks someone.

**Knock.** This spell is used to open locked doors or chests. It can be used in camp or while moving.

**Mirror Image.** This combat spell creates 1-4 illusory duplicates of the magic-user. If a duplicate is attacked, it disappears. The spell lasts 2 rounds per level of caster.

**Ray of Enfeeblement.** This combat spell has a saving throw. If the target does not make the saving throw, he is weakened (he does less damage for 1 round per level of caster).

**Stinking Cloud.** This affects a 2 square by 2 square area. Anyone in the cloud gets a saving throw. If unsuccessful, he is helpless for 2-5 turns. He can move out of the cloud, but he is still helpless. If he makes the saving throw, he is helpless only as long as he is in the cloud and for 1 round afterwards. The cloud lasts 1 round per level of caster.

**Strength.** This spell is only used in camp. It raises the strength of the target by a variable amount depending on the class of the target. The duration is 6 turns per level of caster.

THIRD LEVEL MAGIC-USER SPELLS

Blink. After casting this spell, the caster can seldom be targeted because he is blinking in and out of the area. The spell lasts for 1 round per level of caster.

Dispel Magic. This is just like the clerical spell of the same name.

Fireball. This area effect spell does 1-6 points of fire damage per level of caster to each target in the area. A successful saving throw cuts the damage in half. Outdoors, a fireball has a 2 square radius. Indoors, in a constrained area, it has a 3 square radius.

Haste. This combat spell affects 1 person per level of caster. Everyone affected moves twice as far and attacks twice with melee and missile weapons, but they do not throw any additional spells per round. It lasts for 3 rounds plus 1 round per level of caster.

Hold Person. This is like the clerical spell, but 1-4 people can be affected. The duration is 2 rounds per level of caster.

Invisibility, 10' Radius. This is like invisibility but affects everyone within 10 feet of the caster when it is cast. Everyone affected stays invisible, and comes out of it normally, but if the caster ends his invisibility, it ends for everyone.

Lightning Bolt. This affects everyone in its path. It does 1-6 damage points per level of caster, a successful saving throw cuts this damage in half. A lightning bolt is 4 or 8 squares long in a line away from the caster. The bolt will rebound off walls to reach its full length.

Protection From Evil, 10' Radius. This is just like protection from evil, but it affects everyone within 1 square of the target as long as they stay there.

Protection From Good, 10' Radius. This is just like protection from good, but it affects everyone within 1 square of the target as long as they stay there.

Protection From Normal Missiles. This keeps the target (touch range) from being harmed by non-magical missiles for 1 turn per level of caster.

Slow. This combat spell affects 1 person per level of caster. Unwilling targets get a saving throw. Targets move at 1/2 their normal distance each round, and their number of attacks per round is halved. If they only have 1 attack, then they have 1 attack per every other round. This can be used to negate haste. Its duration is 3 rounds plus 1 round per level of caster.

CHARACTER RACE LIMITS

| RACE     | ABILITY SCORE: |         | INT | WIS | DEX | CON | CHA |
|----------|----------------|---------|-----|-----|-----|-----|-----|
|          | STR            | STR     |     |     |     |     |     |
|          | Male           | Female  |     |     |     |     |     |
| Dwarf    | min            | 8       | 3   | 3   | 3   | 12  | 3   |
|          | max            | 18 (99) | 17  | 18  | 18  | 17  | 19 | 16 |
| Elf      | min            | 3       | 8   | 3   | 7   | 6   | 8   |
|          | max            | 18 (75) | 16  | 18  | 18  | 19  | 18 | 18 |
| Gnome    | min            | 6       | 7   | 3   | 3   | 8   | 3   |
|          | max            | 18 (50) | 15  | 18  | 18  | 18  | 18 | 18 |
| Half-Elf | min            | 3       | 4   | 3   | 6   | 6   | 3   |
|          | max            | 18 (90) | 17  | 18  | 18  | 18  | 18 | 18 |

|          |     |         |         |    |    |    |    |    |
|----------|-----|---------|---------|----|----|----|----|----|
| Halfling | min | 6       | 6       | 6  | 3  | 8  | 18 | 3  |
|          | max | 17      | 14      | 18 | 17 | 18 | 19 | 18 |
| Human    | min | 3       | 3       | 3  | 3  | 3  | 3  | 3  |
|          | max | 18 (00) | 18 (50) | 18 | 18 | 18 | 18 | 18 |

max = maximum number for that ability score, min = minimum number for that ability score, (xx) = maximum percentage for an 18 strength.

| RACE     | MAX LEVEL BY CLASS: |         |            |       |
|----------|---------------------|---------|------------|-------|
|          | CLERIC              | FIGHTER | MAGIC USER | THIEF |
| Dwarf    | -                   | 9th     | -          | U     |
| Elf      | -                   | 7th     | 11th       | U     |
| Gnome    | -                   | 6th     | -          | U     |
| Half-Elf | 5th                 | 8th     | 8th        | U     |
| Halfling | -                   | 6th     | -          | U     |
| Human    | U                   | U       | U          | U     |

- = cannot be this class U = unlimited level in this class

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POOL OF RADIANCE

Adventurers Journal

FREE NEW PHLAN!

The new Phlan City Council is leading the fight to free their captive city. Heroes are retaking the city block by block from the evil hordes.

RICHERS & FAME!

The council is looking for soldiers and rogues, mages and clerics, heroes of all kinds, to come to New Phlan. The wealth and land of an ancient city await those willing to reach out and take it.

GLORY!

Legends will be written about the heroic struggle to free New Phlan! Ships to New Phlan depart twice monthly. When you arrive, see the New Phlan City Council for the latest news and information.

MAKE YOUR FORTUNE IN NEW PHLAN!

WHAT IS THE ADVENTURERS JOURNAL ALL ABOUT?

The Adventurers Journal is your guide to POOL OF RADIANCE. It includes fliers, maps, and information that your adventurers would know before beginning their quest. It also includes information that your adventurers will discover during their quest.

The journal is divided into several sections. The cover shows a recruiting announcement that tempted your adventurers to come to New Phlan. The next sections are a history of Phlan and a bestiary of the monsters in and around Phlan. This is information your adventurers should already know, so read it carefully. The answer to Phlan's current plight may lie in its history.

The next three sections of the journal are information that the adventurers will come across during their adventure. POOL OF RADIANCE assumes that your characters, being careful and thorough adventurers, keep a written journal of important items that they find during their quest. Such items include announcements from the city council (Proclamations), information collected during an adventure (Journal Entries) and tales overheard in taverns (Tavern Tales).

During the game you will be referred to the entries in the Adventurers Journal for additional information. For example, if you go to the Hall of the City Council the program will refer to the council's currently listed Proclamations by number. Look up the specific numbered proclamations and read them. Ignore the other Proclamations until they are posted. The game will also reference Journal Entries and Tavern Tales by number. When such a reference appears, look up the specific numbered entry and read it.

These items are information the adventurer would copy into his journal. As items are referenced check them off in the margins so you later know which items have come up during the game.

Not every Proclamation, Journal Entry, or Tavern Tale in this journal is actually true. Many entries are only rumors, dreams, or plain lies. Resist the temptation to read ahead in the journal; the true items may reveal information your adventurers couldn't know yet, and the false items will contain information that can lead them astray. When you've finished the game you can read through the whole journal and spot the false entries.

The final sections in the journal include reference material for playing the game. These appendices are a quick reference for specific

game information you may need during play. Together, all of the sections should give you everything you need to complete the quest in POOL OF RADIANCE.

A HISTORY OF PHLAN AND THE MOONSEA REACHES
   
A Discourse on This Area and its Problems
   
by Jeff Grub

To most inhabitants of the lands of the Inner Sea, the Moonsea and its cities represent the border between civilization and barbarism. The Moonsea sits like a great plug straddling the territory between the Mountains of Vaasa and the Nomad Steppes, protecting the southern territories from the incursions of savage Northerners. To the south of the Moonsea lie the civilized lands of Cormyr and Sembia. To the north lay hundreds of square miles of cold and unforgiving waste. Even when the southern kingdoms are themselves besieged by orcish hordes, dragons, and fell monsters, they take comfort in the fact that, "It's worse around the Moonsea."

The Moonsea Reaches are defined by sages as being those lands bordering on the Moonsea and its major contributing rivers. These major rivers are the Tesh, flowing past the shadowed battlements of Zhentil Keep; the Wyzmflow, a cold stream flowing from the east; the Duathamper, also called the Evenflow, beginning deep in the heart of the Elven Court and flowing north; and the Barren River which flows out of the Dragonspine Mountains and into Phlan. The River Lis carries the waters from the Moonsea south to the Inner Sea.

The Moonsea itself is an odd combination of abyssal deep spots, ship-ripping shoals, and rich fresh-water reefs. Despite this, travel across the Moonsea is generally safer than making the journey on land, so that most of the major merchant activity is by water.

This is not to say that the Moonsea is without dangers. While monsters are more infrequent along the Moonsea, those that exist are generally more powerful than their landed cousins. Regions of the Moonsea are recorded as being haunted, and there have been numerous sightings of ghost ships.

THE ANCIENT CITY OF PHLAN

Phlan was the first great city of the Moonsea, reaching its peak some thousand years ago. In those days, the Moonsea was better known as the Dragon Sea, named for the large numbers of great Wyrms that inhabited that area and the regions to the north. The Barren River was then called the Stojanow, a dwarvish word meaning "Trade Route," for it was down this passage the ore-laden barges floated, bound for the south. Early Phlan was a trading outpost on the north shore of the Moonsea, set up to facilitate trade between the Elves of Myth Drannor (the most powerful elven capital of the time) and the tribes of Thar, Vaasa, and the Ride, as well as the Dragonspine Dwarves.

Trade between the powerful elves, the wild humans, and merchant-dwarves was a great success for all sides. Soon Phlan was the most powerful city on the Moonsea, outshining its only rival, the Elven Docks of Hillsfar, on the south coast.

At this time, the elves planted the Quivering Forest north of the city. This copse was mildly enchanted, hastening the growing season to produce a great woods in the span of a human generation. Though the woods have been felled on a number of occasions, it has always returned to its original form, becoming a light woods within two years, and a deep shadow-filled forest by the end of a man's life.

The elves, the legend says, first discovered the Pool of Radiance. Its description has varied through the passage of the years. Many wise sages have declared it a myth and a con-man's gambit. The location of the Pool changes from tale to tale. Sometimes it is deep in the heart of an eternal wood, sometimes on an island circled by great wyrms, and sometimes in the heart of a huge solitary peak that rises above all others in the Dragonspine Mountains.

It is said that the pool glows with its own energy. Those that approach it feel new power within their bones, while an unreal melody

holds them in a rapture. Legends say that the Pool's power created the Quivering Forest and caused the Sorcerer's Isle to appear.

The Pool is said to bring great power to the worthy, and death most horrible to the unworthy. Some tales say that the individual should drink it, bathe in it, or throw coins into it and wish. There are numerous folk tales of the wise fool stumbling upon the Pool, and gaining wondrous power or meeting a gory end. The abilities of the Pool change according to the needs of the tale-spinner. In any event, a trader or adventurer who encounters a sudden windfall or great riches is said to have "visited the Pool."

Whether the Pool is real or some literary invention, the First City of Phlan (also called Archaic Phlan) survived in peace for many generations of men. In the end, outside influences brought about its downfall. Settlers began to intrude from the lands of Cormyr and Sembia into the south of the Elven Court. At the same time, the beast-men of Thar, which are today called ogres, began gathering into large hordes, ravaging the countryside.

Phlan built mighty walls and withstood a decade of constant invasion. In the end, its fate was sealed by the elves withdrawing within the Court combined with the dwarves pulling back into western reaches of the Dragonspine Mountains.

With its trading lifeline cut, Phlan fell into disrepair. When the Black Horde finally demolished the city walls in the Year of the Tusk, (112 DaleReckoning,) they found little but an empty husk. The greatness that was Ancient Phlan had passed.

#### GREATHAMMER AND THE FIRST REBIRTH OF PHLAN

Phlan remained relatively uninhabited for the next 500 years. The city's position at the mouth of the Stojanow did make it a useful meeting place for traders. Twice during this period a pirate community grew on the ruins of Phlan. The first time they were burned out by a navy sailing from Mulmaster. The second time a group known as the Red Horde, led by a red dragon of incredible age, leveled the community. Following this attack, buccaneers never regained their power in the Moonsea (though small bands still persist).

With time, the civilizations of man moved further north, the greater beasts retreated, and many cities were founded on the shores of the Moonsea. Yet the beasts did not retreat far. Dragons nested in the Dragonspine Mountains, ogres raided from the Great Grey Land of Thar, and horrible undead things lingered in the swamps and in the passes through to Vaasa.

Hillsfar retained its elven ties and flourished even as Phlan's power was deteriorating, growing from a small town into a large prosperous city. The foundations of Zhentil Keep and Mulmaster were laid while Phlan lay in ruins. Small towns such as Melvaunt, Thentia, and Elmwood were started during this period. The inland city of Yulash, situated atop a great mount that dominates the southwestern corner of the lake, rose to the zenith of its power during this time.

In 712 DR, the year of the Moon's Tears, Milsor the Valjevo, Founder of the Valjevo Dynasty, journeyed to Phlan to re-establish the city as a trading outpost. He was aided in his task, by the Wizard Rimon and the Priestess Alonius of Tyr.

Milsor, Rimon, and Alonius gathered together interested adventurers and cleansed the city of the evil orcs and goblins that had made it their fair. They cleared the banks of the Stojanow and drove the arch-lich Zanakar from the Sorcerer's Island in the center of Lake Kuto. In return for his efforts, Rimon was given the Sorcerer's Island as his home. Alonius, in turn, was given a wide area in the recovered regions of Phlan as a temple to Tyr, the god of justice.

By 750 DR the temple complex has been finished. In its day, it was said to be the largest temple of good in the entire North. The city as well had recovered, and large numbers of immigrants arrived. Some were natives of other Moonsea cities seeking to make or expand their fortunes in the new lands. But others arrived as well, including men of the Dalelands and Sembians, as well as farmers and lumbermen, intent on making the region their home.

The newcomers built on the ruins of the old city, often not checking what had lay beneath their foundations. Some curious souls reported great, twisting passages leading far beneath the earth. Exploring such areas was first discouraged. It was later outlawed after a party of adventurers freed an extremely large beholder. The newcomers, led by Valjevo and his heirs, closed off the passages choosing to ignore the past and seeking only the future for their city.

The dalesmen spread up the Stojanow River. They diverted the river's flow and turned the rocky terrain into a rich landscape of fields and orchards. The reach of the farmlands extended from Lake Kuto to the city of Phlan at the mouth of the river. Some say the land was so rich because of the proximity of the enchanted Quivering Forest. Others ascribe the bounty to the wizardries of Rimon. Still others credit the series of dikes and levees that the farmers, aided by magical spells, used to harness the river itself.

Whatever the cause, the healthy harvests of the Stojanow River Valley provided Phlan with a solid trading base. For the next 200 years Phlan was the center of the trade around the Moonsea. Its grains, fruits, and tubers filled vaults from Mulmaster to Zhentil Keep. It appeared that civilization, after a false start, had finally made a major foothold in the lands north of the Moonsea.

Such was not to be the case, for the forces of good and evil ebb and flow like the shores of the Moonsea itself. In the 195th year of Phlan, (907 DR), the golden age ended in rust. A plant rust, which affected most of the farmlands around Phlan, destroyed harvests for the next three years. Suddenly the Moonsea reaches were in the grips of a powerful famine, relieved at great cost with shipments from the south. There was great suffering, and other cities, once so enamored of Phlan's gentle power, were resentful that it had failed.

The native Phlanars were resentful as well. Their once good rulers had fallen into a sloth and ease in the centuries since the reestablishment of the city. The Valjevo blood was said to run thin in the Princes and Princesses of Phlan. They reacted to the plague infesting the grain by first ignoring it, then setting up committees, and finally legislating it out of existence. Only when the magnitude of the problem became clear, did they act. Even then they failed their people, overracting to the point of placing a ban on all shipments out of the city, seeking to keep what supplies were left for the native population.

The other cities, already angry with Phlan for its rising prices in the face of the plague, rebelled against this new measure. Fleets from Mulmaster and Hillsfar began to raid cargos destined for the city. Smugglers operated out of the Twilight March and Stormy Bay despite official attempts to enforce the ban on shipments.

A large land force equipped with siege machinery set out from Zhentil Keep toward Phlan. The force encamped at Stormy Bar while the ruling heads of Phlan negotiated to spare the city. In the end, the Keeper force was turned back through a massive payment to their leaders. These leaders were the first appearance in Phlan record of the Zhentarim, which would increase in power over the next 300 years.

During this activity, Rimon, now old in the ways that only wizards can be old, disappeared from his rocky abode. What became of Rimon is unknown, for the rulers of Phlan had not sought his council for a generation. Some say he became a lich himself, using the methods discovered by Zanakar. Others say that he sacrificed himself in battle on a far-distant plane in order to save the lands of Phlan. Still others state that he had found the Pool of Radiance and became a great and powerful being in some other part of the Realms. Most likely Rimon merely fell prey to the effects of old age as all mortals do. Whatever the cause, Rimon was never seen again in the Realms, and his citadel became a haunted, abandoned ruin within a decade.

The Famine of the Red Plants passed after three seasons, and an abundant harvest returned to Phlan. But the harvests were never to be as great as before, nor the fruit from the orchards as sweet. Whatever magic, true or imagined, that had reestablished Phlan passed. The city began to become gray and ordinary, losing power to the Keepers and the men of Mulmaster. The golden age was over.

The Valjevo Princes, their blood thin indeed, continued for another

century. The century was filled with petty wars between the various city-states. No longer the leading city of the Moonsea, Phlan battled with its rival more often. Piracy, or rather privateering, was on the rise, a situation that continues to this day among the city-states.

Phlan was wracked by interior torments as well. The people of the city were well aware of their loss of power and prestige. Farms north of Phlan were now being abandoned. Dark shadows lurked between the massive trunks of the trees in the Quivering Forest. An attempt to clear a path through that growth in 1023 DR resulted in the death of the last surviving Great Prince of the Valjevo family.

The death of the Great Prince resulted in a three-year civil war within the city, as various factions supported different candidates to take the mantle of the Great Prince. All candidates' claims upon the royal blood were questionable and every faction sought to control Phlan's future through placing their choice on the throne. During this time, the great temple of Tyr was looted and burned, leaving only a great blackened shell. Many of the leading merchant families fled to other climes.

In the end, the last survivor was a young noble supported by a group of powerful merchants. They created the first Council of Phlan to act as regents for the youth. The Council spoiled the child, who grew into a spoiled man who was unable and unwilling to take the reins of power. He died without issue forty years later, and the Council has ruled ever since.

#### THE FALL OF PHLAN

The last 300 years of Phlan have been a continual retreat from the greatness that once was. Smaller rural towns were abandoned in the face of increasing evil to the north. Sorcerer's Isle was said to be inhabited again by fell powers. The city fell back upon that which it did so well so long ago: trading. It began to serve again as the middleman between the new powerful Northern tribes and the established nations of the South. For a short time, about a hundred years ago, the awful tide of retreat seemed to be halted and the city was on its way to becoming a prosperous trading town once more.

Yet dark things continued to lurk on the borders of Phlan. Sorcerer's Island was said to be inhabited by Yarash, an evil mage who was said to be seeking Rimon's power, the Arch-Lich's magic, the Pool of Radiance, or all three. The greatly diminished Dwarven Nations of Dragonspine reported great hordes of orcs and ogres attacking their citadels, and their barge trade came to a complete halt. Small towns and hamlets were raided and burned with increasing regularity, sending refugees to Phlan seeking passage to safer lands.

Then disaster struck, Raiders from the north, aided by dragons and other dangerous creatures, poured down out of the northlands. The Quivering Forest was burned in a massive fire that dominated the sky for a month. Monstrous hordes containing every imaginable creature marched with horrifying precision toward the city.

The Council debated, argued, and debated again while the hordes drew nearer, much as the last Valjevo Princes did in their long-ago folly. Finally, they chose to fight, but were overwhelmed by the forces of orc and dragon. Phlan burned and fell to the forces of evil, who looted and pillaged that which remained.

The last remnants of the Council stood their guard, trying to evacuate as many citizens as possible. Of the council members, the Last Priest of Tyr, Ferran Martinez, held the last garrison, Sokal Keep, which stood at the mouth of the Barren River. It is said that Ferran placed a terrible curse upon the Keep to prevent anyone from taking it.

In the end, even the waters of the Stojanow river turned poisonous and murky, and the river took its present name, the Barren. The rich farmlands of the Stojanow River Valley were laid waste and became known as the Scoured Lands.

#### THE REEMERGENCE OF PHLAN

That should have been the end of Phlan's story, but it is not so.

Men remember the tales of Valjevo, who brought the first city of Phlan back from its ruins. Adventurers, smugglers, and small traders visited the region and brought back tales of Phlan under control of its evil masters. Many of the buildings were burned, but many others were spared. The shell of the temple of Tyr had been rebuilt, dedicated to some darker, more evil god. Zhentarim spies and agents of dark Vaasan nobles met and planned in Phlan, and the riches of the ages still survived for those who sought to look.

In time, more modest men returned to Phlan to rebuild her. A stockaded community rose from among the rubble of the past glories. These men intended to engage in the same profession as those before them, for Phlan still occupied a prime position for trading on the Moonsea. However, until the city was cleared, the Barren River made clean, and the competing city-states pacified, Phlan was likely to stay in impoverished ruins.

Two years ago, in the Year of the Worm, two things happened that would mean a change of Phlan's future. First was the Flight of the Dragons that surged through the northern regions of the Lands of the Inner Sea. Due to a cause unknown, great wyrms came down from the far north destroying all in their path. These are not the rare, opportunistic dragons seeking alliance with humanoid tribes, but rather huge waves of angry scaled monsters, bringing destruction where they travel.

Many of the Moonsea and Daletowns suffered great destruction in the battles that followed. Yulash was utterly ruined by the attack, and Hillsfar was greatly damaged. The most telling blow was delivered by the body of a great dragon that fell into the Hillsfar harbor, blocking that entrance for a month.

Much of the Phlan was also smashed into a smoking ruin by these beasts. Strangely, it worked in the favor of those men who lived there. Most of the damage was taken in the already-ruined section of the city, where various evil warlords vied for control and riches. The attack of the dragons broke their power, creating a vacuum in the control of the city and giving the men of Phlan a chance to re-establish themselves and their homes.

Yet this would not occur without leaders, and the reappearance of the Council of Phlan was the second great thing to occur in the city. Descendants of the last Council still survived all the turmoil that had occurred, and many families wished to return to the land. These leaders were no great mages or wondrous fighters, but traders, merchants, and clerics. Their leaders, who remain to this day, were the shrewd and powerful trader Ulrich Eberhard, the retired mercenary captain Werner Von Urslingen, and the Bishop of Braccio of Tyr. They have been joined by their junior member, Porphyrys of the ancient House Cadorna.

Together the council has proposed exactly that which Valjevo accomplished so long ago, clearing the city by means of recruited adventurers. The promise of great treasure and the myth of the Pool of Radiance provided adventurers with an irresistible draw. The Council published notices and paid traveling bards to make sure that the story of Phlan's waiting riches was distributed all around the Moonsea and beyond.

#### PHLAN TODAY

The city of Phlan, built on ruins upon ruins, is a city at war. It is divided between the human forces of the Council, and those evil forces that hold a great deal of the city under their sway.

The human territories of Phlan are nestled behind a strong stockade of stone quarried from the ruins and trees lumbered from the Quivering Forest. A substantial city-guard patrols the openings in the walls at all hours, always ready to repel any attacks by the old city's evil inhabitants.

The buildings of rebuilt Phlan are sturdy and utilitarian, with little of the splendor of the ancient past. The glories of the past shine through in an ancient column now used to support a stable's wooden roof or a faded fresco overlooking an adventurer's taproom. The past is always with the inhabitants of Phlan, reminding them of what once was and could yet be again.

The natives of Phlan are a mixed group, including descendents of the families of Valjevo's day and returnees who seek to reclaim lands and treasure lost to the dragon horde fifty years ago. The city is also filled with adventurers seeking new fortunes and traders hoping to reestablish the old trading lines.

Orcs and other generally evil humanoids are viewed with alarm within the city, though evil humans come and go unmolested with the ships. It is said that spies from the other cities of the Moonsea make regular calls with the ships, overseeing the progress of the Council in re-establishing the city. If the Council is TOO successful, some say, then sabotage may be in order to prevent Phlan from returning to its former power.

The lands beyond the civilized stockade are wild ruins controlled by whatever local faction or tribe holds that piece of land. Control lasts only as long as the reach of claw or sword. Petty bands of orcs, goblins, and men vie for power, some led by more sinister monsters.

Much of Phlan's ruined greatness can be found in the Old City. The main sights include: the forgotten riches of the wealthy old noble's houses; Podol Plaza, the center of the old trading district; and the Old Temple, now dedicated to the dark god Bane. Valjevo Castle has been refortified and is being used as a headquarters for one faction leader or another.

Phlan remains now, as it has ever been, a city with the greatest of potential. In the cycles of its rise and fall, legends have arisen before. In engineering New Phlan's renaissance, new legends are sure to emerge.

### THE PHLAN AREA BESTIARY

This is a list of some of the monsters found in and around Phlan and the north shore of the Moonsea. Most monsters can strike fear into the hearts of men, but some are more powerful than others. The monster's reputation is reflected in its monster level, listed as a Roman numeral after its name. Level I monsters are less powerful than a well-equipped beginning fighter. A Level VIII monster may be more powerful than several heroes.

Anhkeheg (VI): Large burrowing insects with great mandibles. These creatures have been known to spit a powerful acid.

Basilisk (VII): A giant eight-legged lizard. One of the most dangerous creatures in the realms because their gaze can turn creatures to stone!

Bugbear (IV): Hideous giant sized goblins who stand over seven feet in height. Bugbears look clumsy but are strong, quick fighters with great stealth.

Centaur (IV): These good creatures are half men and half horse. They are capable fighters and can be valuable allies.

Displacer Beast (VI): These creatures are large, black puma-like creatures with two tentacles sprouting from their backs. These creatures can appear several feet from their actual location.

Drider (VI): These creatures resemble a cross between a drow elf and a giant spider. They are powerful spell casters.

Efretti (VII): These large powerful jinn are from the elemental plane of fire. They are very arrogant and will only serve a powerful master.

Ettin (VII): These creatures look like giant two-headed orcs. They have great strength and usually wield two spiked clubs that inflict terrible damage in combat.

Fire Giant (VIII): These evil giants have flaming red hair and are immune to all fire. They usually attack with giant two-handed swords.

Giant Frog (III): These are giant carnivorous frogs. They are fast, dangerous predators who may be poisonous.

Giant Lizard (IV): These are the giant cousins to the common lizard.

Giant Mantis (VII): These are the giant version of the common mantis. These creatures are fast, strong, and have good armor.

Giant Scorpion (VI): These are the giant version of the common scorpion. Its poisonous tail can kill a man.

Giant Snake (V): These are giant poisonous snakes.

Ghoul (III): These are evil undead whose touch may paralyze a man in combat. They feed on corpses and attack all living creatures on sight.

Gnoll (II): These creatures are hyena-headed humanoids who stand over seven feet tall.

Goblin (I): These are small humanoids common in the Realms.

Hill Giant (VII): These are one of the smaller, more stupid giants, but they are still tough opponents. They usually carry large clubs.

Hippogriff (III): These magnificent creatures have the forelimbs and head of an eagle and the body and hind legs of a horse.

Hobgoblin (II): These are human-sized, intelligent relatives of the goblin.

Kobold (I): These are small, cowardly humanoids who delight in killing and torture.

Lizardman (III): These are lizard-like humanoids. They are omnivorous but they have a particular fancy for human flesh.

Medusa (VI): These are hideous women with snakes for hair. They can turn a man to stone with their gaze.

Minotaur (VI): These are strong bull-headed humanoids. They are cruel man eaters, commonly found in mazes.

Mummy (VII): These are powerful undead with great strength. The mere sight of one has been known to paralyze a man in combat. The touch of the mummy causes a strange rotting disease.

Nymph (V): These are extremely beautiful creatures that appear as ever-young females. They usually inhabit wild lakes and streams.

Ogre (IV): These are large, foul-tempered, ugly humanoids. They are strong fighters.

Orc (I): These are evil, pig-faced humanoids.

Phase Spider (VI): These are giant poisonous spiders with the ability to phase in and out of this dimension. Usually they only 'phase in' to attack, then 'phase out' again.

Quickling (IV): These are small, fast-moving creatures. Because of their great speed they are invisible when they move.

Skeleton (I): These are the least of the undead. These animated skeletons are usually controlled by some evil force.

Spectre (VII): These are one of the most powerful of the undead. Their touch can drain the life out of men.

Stirge (II): These are small, blood-sucking birds.

Thri-kreen (VI): These are intelligent, carnivorous insect-men who live in burrows. They have four arms and a poisonous bite that paralyzes their foes.

Tiger (V): These are noble beasts who are both strong and silent. Though their normal prey are animals, they have been known to become "man-eaters."

Troll (VI): These are large, strong, ugly humanoids. They know no fear and can regenerate wounds.

Vampire (VIII): These are one of the most dreaded undead in the Realms. They can drain life levels, are strong fighters, and are sometimes powerful magic users.

Wardog (III): These are large, strong dogs, trained to kill. Orcs, goblins, and other humanoids are known to use them.

Wight (VI): Evil, undead humans whose touch can drain the life out of a man.

Wild Boar (IV): These creatures are the wild relatives of the pig.

Wraith (VI): These creatures are non-corporeal undead. Their touch can drain the life out of a man.

Wyvern (VII): These creatures are distant relatives of dragons. They attack by biting and using the poisonous sting in their tail.

Zombie (IV): Magically animated corpses controlled by an evil force. Zombies always fight back until destroyed or turned.

THE PROCLAMATIONS OF THE CITY COUNCIL  
OF NEW PHLAN

These messages are posted on the wall of the City Hall. They represent messages that the City Council wants to relate to the citizens and adventurers in New Phlan. When you go to City Hall the game will refer to the posted proclamations by number. Each proclamation begins with:

From the City Council of New Phlan to all brave and hearty adventurers:

PROCLAMATION LIX

Be it known that the council is interested in reclaiming the remaining blocks of the city of New Phlan. To reclaim said blocks they must be first cleared of monsters, vermin, and other uncivilized inhabitants. To this end the council is offering a reward to any person or group who is responsible for clearing any block of the old city.

PROCLAMATION LXIV

Be it known that the council is interested in acquiring information as to the disposition of various formerly-living entities rumored to be harassing honest citizens in the vicinity of Valhigen Graveyard. A reward is offered to any person who shall travel to said graveyard and return an eye-witness account.

PROCLAMATION LXXVII

Be it known that the council is offering a reward to any person or persons who can provide information as to the disposition of several council agents who have been sent to investigate the unseemly happenings in the vicinity of Valhigen Graveyard.

PROCLAMATION CI

Be it known that the council, knowing that commerce is the life's

blood of New Phlan, has decreed that Sokal Keep is to be cleared of all unlawful inhabitants. A reward is offered to the person or persons who successfully carry out this commission. All interested in applying for said commission shall present themselves to the clerk of the council.

PROCLAMATION CIX

Be it known that the council is offering an inducement to any individual who shall serve in the rescue force for the mercenary band of Taimalg-the-Invincible which has disappeared inside Valhigen Graveyard.

PROCLAMATION CX

Be it known that the council is seeking a stalwart band to undertake a mission of particular sensitivity. Any brave and clever band of adventure seekers who are not adverse to earning a large reward should present themselves to the council clerk for a special commission.

PROCLAMATION CXIV

Be it known that the council is offering a special reward for the safe return of the heir to the House of Bivant. Said minor was carried off during a buccaneer attack on the merchant ship in which he was sailing. Apply to the council clerk for the council's commission and additional information as to the abduction.

PROCLAMATION CXX

Be it known that the council has decreed that the threat of the pirates who plague eastern shipping to New Phlan will be eliminated. The council offers a generous reward for the exact location of the pirates stronghold in the Twilight Marsh. An even greater reward is offered for the elimination of the pirates as a threat to shipping. Apply to the council clerk for a commission.

PROCLAMATION CXXVI

Be it known that the council is offering a reward for all books and tomes containing information about the fall of Phlan. The amount of said reward to be dependent upon the value of the information provided.

PROCLAMATION CXXIX

Be it known that the council has decreed that the foul poisoning of the river formerly known as Stojanow is to be brought to an end. Accordingly, a reward is offered to any group which shall travel up the river currently known as Barren, locate the source of its poisoning, and eliminate said source. A commission may be obtained from the council clerk.

PROCLAMATION CXXXIV

Be it known that the council has declared those individuals who have taken up residence in the mansion of the former Koval Family to be traitors and thieves. Be it further known that a reward has been offered for the elimination of these outlaws. A commission to rid the city of this blight may be obtained from the council clerk.

PROCLAMATION CLIV

Be it known that the council has proclaimed a generous bounty for each undead killed. Be it also known that in addition to said bounty, the council is willing to provide a special enchanted item, useful in the destruction of undead, to any group of adventurers which accepts the commission to cleanse Valhigen Graveyard. Apply to the city clerk for said commission.

PROCLAMATION CLVI

Be it known that the council is seeking a hearty band to undertake a mission to rescue the Duchess of Melvaunt. The duchess is supposedly being held by a band of ogres in a camp to the northeast of Phlan. A generous reward is offered for the safe return of the duchess. Apply to the council clerk for commission and additional information concerning the abduction.

PROCLAMATION CLXX

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DOCUMENT pool.4
   
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JOURNAL ENTRIES

These entries include items which the adventurers might copy or file in their journal as they travel. During the game these entries are referred to by number. When the game refers to a journal entry read the specific entry and place a checkmark in the margin to keep track of which entries have come up in the game. Do not read ahead to other journal entries; some entries are false and may lead your adventurers astray.

JOURNAL ENTRY 1:

A loud voice coming from a magic mouth cast on a stone tablet.
   
"I am Yarash the Sorcerer!"

"Be known that for every living giant insect you return to Sorcerer's Island I will pay a generous bounty, including a weapon empowered by magic. I will pay for giant insects such as thri-kreen, giant mantis, and anhkheg. The insects may be bound by magic but dead insects are of no use to me.

"Bring any bodies to the northern river mouth on Lake Kuto. Call the name of 'Yarash' loudly three times and I shall come. Do not call unless you have something for me. I shall be very angry if I am disturbed without cause!

"I am Yarash the Sorcerer!"

JOURNAL ENTRY 2:

Told in a painful whisper.

"I never liked pain. Let me go an I'll tell ya of the kobold treasure horde. We attacked a gold shipment once -- we took it by surprise. Thirty times my weight in gold pieces were taken. We knew if we were raided we'd lose the stuff in the treasure room. So we hid it behind a secret door in the warrens -- that's where we keep the womenfolk. They tossed me in here ta die, so it don't do no harm to tell ye. Find it and good riddance."

JOURNAL ENTRY 3:

An old leather-bound book, written with a small, firm hand.
   
"The hordes came again last night. Their coordination was frightening. Under the cover of darkness, goblins and kobolds pushed bundles of sticks to within bow range. These bundles formed a wall that protected the small ones from our archers. Once the wall was erected orc archers took up safe positions there and begin pelting the castle walls with arrows.

"We tried shooting flaming arrows at the wall of sticks to set it afire. Monsters are normally afraid of fire. But these monsters showed no fear. They simply scooped dirt on the flames to put them out. Before all the fires were out they had resumed firing at us. Surely, some unnatural force must have been at work to weld these quarlsome beasts into an organized fighting force.

"I do not know if we can combat the monsters onslaught much longer. We lost 12 more men last night. The monsters seem to have an unlimited number of reinforcements. The Last Priest of Tyr, Ferran Martinez, says he has a way to protect the keep, but he says that it's so terrible that it may only be used as a last resort. Unless we receive reinforcements shortly, Ferran Martinez is our only hope."

JOURNAL ENTRY 4:

A roughly drawn cloth map.

Mountains

Target

Mountains

Mountains



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Hills              Hills
                  River
Grass Land        Forest  Sorcerers  Forest
                  Isle
                  River
    
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JOURNAL ENTRY 5:

A small piece of parchment folded into the spine of a family's holy book.  
 "The family treasures are buried in the tunnels beneath Kuto's Well. Climb down the well and search for a secret passage. In the passage there is a dangerous trap. Search the walls until you find the lever to disarm the trap. Then proceed through the passage into an adjacent chamber. The treasures are buried in the southwest corner."

JOURNAL ENTRY 6:

A quickly scratched note.  
 "Show the Boss's Seal to the thri-kreen guards. Be careful, they are wary of outsiders. Keep your hands away from your weapons no matter what they do.  
 "With the seal you should gain safe passage in to see the Queen. She will give you the artifacts in exchange for the seal and the treaty. Do not do anything to get her mad, the bugs would just as soon kill you as look at you. Once you have the artifacts, get out of the stinking burrow and get back to the castle."

JOURNAL ENTRY 7:

A tightly bound scroll, seemingly immune to the ravages of time.  
 "Fountains and pools hold great power that can only be reached by performing proper ceremonies. Most sure of these is immersion, for in this way the bather surrenders himself to the spirit of the water. That spirit, or some portion of it, enters into the bather, whereby he gains great powers. Woe to the weak willed whose spirits are sure to be consumed by spirits that put even the strong at great risk. Yurax holds that the Falls of Ice are greatest of all these. Morden writes that the Pool of Radiance is greater still."  
 Later in the book.  
 "Places of magical power are not necessarily tied to one physical location. Power often moves from plane to plane along the path of least resistance. The termination of the path determines the place's location on this plane. Volatile upheavals between the planes may lead to a change in the path of least resistance. This can change where the path terminates on this plane, thus moving the place of power.  
 "Some who wield strong supernatural forces can bend the path like an engineer damming a river. When the path is bent, it can terminate in a new location, moving the place of power on this plane. If the supernatural force that bent the path is removed, the path will snap back to its original form and the place of power will return to its original location. Such disruption can have violent and unpredictable results.  
 "Thus, inter-planar upheavals and directed supernatural forces may hold the answer to the seemingly ever-changing location of places of power, such as the Pool of Radiance."

JOURNAL ENTRY 8:

A rugged popular account of the northern lands.  
 "Ten days ride north of the Varm is a barren and dead country called the Leewai, land-in-pain or land-of-caused-pain. Further to the south this place is known as the Tortured Land. It is said to be an evil place, shunned by the Riders. They speak little of this land. But, yearly, during Ches, they make a trip into its heart. There they go to praise the spirit of a glowing spring. This they have done for ages and so shall they do for years to come."

JOURNAL ENTRY 9:

Several pieces of paper with highly organized writing.

Fact: Joran Alberach is a special envoy, from Zhentil Keep, to the City Council of New Phlan.

Strong Rumor: Here to negotiate a military assistance agreement between Zhentil Keep and New Phlan.

Rumor: Zhentil Keep wants an ancient powerful artifact in return for their military cooperation.

Rumor: The New Phlan City Council has such an artifact that was found in the ruins of a recently reclaimed building.

Vague Rumor: Joran Alberach wants the artifacts for himself, not for the rulers of Zhentil Keep.

JOURNAL ENTRY 10:

A crude map scratched onto an old piece of parchment.

X = BAD THINGS

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JOURNAL ENTRY 11:

A mangled page of fine paper with entries written in a very find hand.  
 "He is livid about the undead coming out of Valhingen Graveyard. Three times he has sent assault groups, three times none have returned. He dares not send any of the priests of Bane to clear the graveyard. He assumes that if a priest could wrest control of the undead from their current master, that the priest would then become a threat to His power.  
 "I suggested that if we could neutralize the power that leads the undead, that we could then use the undead as a tool.  
 He thought on this and then ordered me to find out who or what is in control in Valhingen Graveyard. Preliminary investigation shows that the graveyard is controlled by a being of great power, perhaps a vampire or a demon. I shall expend a few scouts and low level priests to find out more information."

JOURNAL ENTRY 12:

Message scratch into the wall over the pool.  
 Beware the power of the pool.  
 Death to those unworthy of the gifts of the pool.  
 Power to those who will use the gifts of the pool wisely.  
 Bathe in the pool if you dare.

JOURNAL ENTRY 13:

A flowery note written on stationary emblazoned with the symbol of the City Council of New Phlan.  
 "With the artifact and agreement in this pouch we have made our final concessions to your demands. We have given you everything you have asked for. This should settle our differences and cement our alliance.  
 "Now that we have delivered our part of the bargain we will expect you to uphold your end. Use this protected pouch and our representatives to deliver your part of the bargain to the city council. Remember to include all of the magical items we agreed upon.  
 "With the buried riches in the reclaimed Phlan, and the might of Zhentil Keep we will be able to control all of the northern shows of



Fact: Ulrich Eberhard is old, hard headed in every sense of the word, leader of the initial expedition to retake Phlan.

Strong Rumor: unfaithful to his wife, but she knows, though he doesn't know she knows.

Rumor: hates monsters, with a passion; would kill every last one before surrendering.

Vague Rumor: angry attitude is a cover; he is actually paid by The Boss.

Rumor: opposes rise of Porphyrys Cadorna as a, "Young upstart who doesn't respect his elders!"

JOURNAL ENTRY 24:

A piece of old, expensive paper written in a dried brown fluid.  
"Cursed is the child Porphyrys. He who was visited by the spirit of fire in his cradle. He who burned his nursemaid, and he who called the armies of the night down from the mountains.

"Possessed is the one called Porphyrys. When the spirit of evil is in him you can see the fire in his eyes. When he is possessed, the ground trembles with his power and the nearby plants wither as if exposed to a great heat.

"None of the servants will go near the child any more. I think he should have been drowned at birth. But his mother is blind to his possession. She guards him like a tigress protecting a kitten. I think he has ensorcered her.

"For now we have no choice. We will evacuate the city by ship on the morrow. And the accursed child shall come along. I swear that he smiles every time there is an explosion, or anytime you hear a man scream. Saints preserve us all from this demon child."

JOURNAL ENTRY 25:

An official-looking notice.

"The number of undead creeping out of the Valhingen Graveyard is increasing. These undead have disrupted training, destroyed property, and killed many of our troops. Patrols have been sent into the graveyard to reconnoiter and determine the source of the undead. None have returned. Under your responsibilities as a priest of Bane in the city, you must help combat the menace.

"Lead a group of acolytes into the graveyard with the purpose of discovering the source and leader of the undead. If your group can engage and defeat the leader, or destroy the source, do so. If your group is outmatched, return with your information so that we can form an assault group with clerics and troops. Upon completion of this mission you will be in line for promotion to the next higher rank in the hierarchy of the temple of Bane in Phlan."

Signed  
The Boss

JOURNAL ENTRY 26:

A small bound book.

"I have charted this maze as closely as I can. My way is blocked by both stone and mystic death traps. Yarash must have used his magic to escape this place. I can find no other way out.

"Yarash has been breeding creatures for increased ferocity. Most of his experiments fail. Few live long enough to mature. None that mature have yet bred true. The bodies of his failures are often used as food for his newer creations.

"I do not know when Yarash intends to do when he completes his hideous experiments. But I must assume that he will turn his abominations loose on the world. To these creatures Yarash will be their creator, perhaps even their god! The idea of Yarash as a god to anyone sickens me. I must find a way to stop him."

JOURNAL ENTRY 27:

An impressive announcement.

"BOUNTY of 10,000 GOLD!

"I will pay 10,000 gold pieces for a live sahuagin! I will pay 1,000 gold pieces for a recently dead sahuagin in good condition. I need a specimen of this man-like salt water aquatic creature for my studies.

"Bring your specimen to the shore of Lake Kuto and build a fire as a signal. Your specimen will be examined. If it is truly a sahuagin you could end up with 10,000 gold pieces. But beware, I will know any forgeries, and I will punish any attempt at deception.

"So, capture a live sahuagin, bring him to Lake Kuto, and walk away a rich man!"

Signed  
Yarash the Sorcerer

JOURNAL ENTRY 28:

A crude map burned into an animal skin.

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                Hills                Forest
                p                      Swamp
Target         a                      Hills
                t                      Cave
                Forest                h
    
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JOURNAL ENTRY 29:

A clean map with exact lines.

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JOURNAL ENTRY 30:

Carefully prepared notes.

Note 1: "Tyranthraxus is definitely a produce of immersion in the Pool of Radiance. His extraordinary brilliance, vigor, charisma, and power of command must be a direct result of exposure to the effects of the Pool."

Note 2: "The Pool of Radiance may grant special magical abilities. Tyranthraxus exhibits a fiery aura, obviously magical. He also seems to have extraordinary means of obtaining information. Special magical powers granted by the pool would explain both the aura and the extra information gathering capability."

Note 3: "Tyranthraxus tells stories about moving down from the north. Though he never mentions the Pool, I gather that it is northwest of the Dragonspine Mountains. Strangely, he occasionally lets slip that he is never far from the Pool, but that must be a parenthetical reference."

JOURNAL ENTRY 31:

Told in quiet, hissing speech.

"Thank you for saving my children from the Mutilator Yarash. In return I will aid you in what way I can, though that may not be great.

"I have lost much of my following to young Drythh who listens to the false promises of Tyranthraxus... that if he brings troops to invade Phlan, he will rule the riverbanks.

"So, Drythh and his followers have been proving themselves in raids upon the kobold caves to the southwest and the hobgoblin caves to the south.

"For some time my followers have been disappearing. But, when you freed my children from the clutches of the evil Yarash my status was increased. Drythh kept quiet for a time, but once again the young warriors listen to him and not to me."

JOURNAL ENTRY 32:

An announcement on rugged paper written in large clear symbols.  
 "Be it announced that Mace, the former cleric of our lord Bane, is hereby ejected from the church. His crimes include refusal to follow temple dictates, unauthorized performance of major miracles, and the great heresy of placing other gods above our almighty lord Bane.  
 "All loyal followers of lord Bane must report Mace's presence on sight. He is to be captured, brought before a loyal tribunal for fair and just judgment, and then burned at the stake."

JOURNAL ENTRY 33:

An official looking notice.  
 Yarash,  
 "The time has come for you to add your power to the growing legions of my followers. Come and supplicant yourself to me and I will reward you as an important officer in my magical forces. You will serve as the advisor to the cohort of soldiers to be based at Sorcerer's Island. Resist and you shall be crushed before my almight power. I expect your positive reply within the week."  
 Signed,  
 The Boss

JOURNAL ENTRY 34:

Told in a triumphant tone.  
 "You have no understanding of the subtlety of Tyranthraxus and his allies. Here you have trusted me enough to let your guard down. Now you are my prisoners.  
 "My kobold's friends deserve some reward for their help. Therefore, you are to be taken to their pit. There, unarmed, you shall fight 'Bersheera, my pet serpent. He should be hungry now, merchants don't satisfy him for long."

JOURNAL ENTRY 35:

Told in halting speech.  
 "Thank you for freeing us: Yarash has been experimenting on our people, changing them in horrible ways. Every night we carry off another lizard man with his chest burst open or his head mangled. Yarash say he make us like Sa-Hag-An. He always say that he make us stronger, better hunters. But all he make us is dead.  
 "We were not allowed to speak when Yarash was around. These marks were passed down to us and remind us of home. They represent the friend word used between lizard men of different tribes. If you meet lizard men on the outside, this word may help you."  
 The lizard men carefully scratches marks into the dirt. You recognize the marks as two runes and a path symbol.

JOURNAL ENTRY 36:

Carefully prepared notes.  
 Note 4: "He has fooled me. All this time he has called himself Tyranthraxus the Flamed One. He exhibited his flame, and spoke of deeds attributed to Tyranthraxus. But today, while he did not know I was around, he revealed his true identity. He spoke into the great pool in his lair. I think he spoke to Lord Bane himself. And he referred to himself as Maram. Maram, he of the great spear, is also a servant of Bane.  
 "Why should my leader use a false name? He hides his identity from the world, so that they do not research his past and discover his weaknesses. What if he also hides his identity from his closest advisors, so that they also cannot know his true abilities and weaknesses. Anyone who attacked him, thinking to utilize the weaknesses of Tyranthraxus, would be destroyed by the different powers of Maram of the Great Spear.  
 "My research into Tyranthraxus is now useless. I must scour my

records for details concerning Maram of the Great Spear. I have much work to do."

JOURNAL ENTRY 37:

A massive atlas drawn by the great mathematician Tomarus.

THE MOONSEA

|                             |                                   |                       |
|-----------------------------|-----------------------------------|-----------------------|
| THE RIDE<br>(NOMAD STEPPES) | THE GREAT<br>GREY LAND<br>OF THAR | GLISTER               |
| VAASA<br>DRAGONSPINE MTNS   |                                   |                       |
| STOJANOW<br>RIVER           | PHLAN                             | MELVAUNT              |
| THE RIVER<br>TESH           |                                   | THENTIA               |
| ZHENTIL KEEP                | M O                               |                       |
| YULASH                      |                                   | O N S E A             |
|                             |                                   | IRONFANS<br>KEEP      |
|                             | HILLSFAR                          | ELMWOOD               |
|                             | ELVENTREE                         | ELMWOOD               |
|                             |                                   | ELVEN COURT           |
|                             |                                   | RIVER DUATHAMPER      |
|                             |                                   | RIVER LIS             |
|                             | TO CORMYR<br>AREA NEAR PHLAN      | TO SEMBIA             |
| DRAGONSPINE<br>MTNS.        |                                   |                       |
|                             | LAKE<br>KUTO                      | :                     |
|                             |                                   | :                     |
|                             | STOJANOW<br>RIVER                 | QUIVERING<br>FOREST   |
|                             |                                   | :                     |
|                             |                                   | THE TWINIGHT<br>RIVER |
|                             |                                   | :.....                |
|                             |                                   | :                     |
|                             |                                   | PHLAN :               |
|                             | STORMY<br>BAY                     | TWILIGHT<br>MARSH     |
|                             |                                   | MOONSEA               |
| -----<br>--                 |                                   |                       |
| PHLAN                       |                                   |                       |
|                             | STOJANOW<br>RIVER                 | VALJEVO<br>CASTLE     |
| VALHINGEN<br>GRAVEYARD      |                                   |                       |
|                             |                                   | KOVEL<br>MANSION      |
|                             | STOJANOW<br>GATE                  | TEMPLE<br>OF          |
|                             |                                   | WEALTHY               |

BANE

PODOL  
PLAZA

KUTOS  
WELL

SLUMS

CIVILIZED

CADORNA  
TEXTILE  
HOUSE

MENDORS  
LIBRARY

BAY OF PHLAN

SOKOL  
KEEP

(THORN ISLAND)

JOURNAL ENTRY 38:

Several pieces of paper with highly organized writing.

Fact: Werner Von Urslingen is a retired captain turned business man.

Strong Rumor: mostly interested in the military aspects of the reconquest of Phlan.

Rumor: fought in a mercenary unit hired by The Boss early in his career.

Rumor: hates Zhentarim because he fought in a unit against them several times.

Rumor: has strong contacts with other mercenaries and some ruffians in town; none of our information confirm such contact.

Vague Rumor: Von Urslingen's unit was wiped out by enemy magic users; he was the only survivor; he retired and now secretly hates magic users.

JOURNAL ENTRY 39:

A preserved parchment covered with giant script.

"I am writing to you to describe my further inquiries into the legend of the Pool of Radiance. It seems the pool has moved several times. Long ago, at least one wise wizard actually moved the pool into his abode for a period of time to study it. However, the pool seems to return to its original location after every move. I am now watching the dry hole that is the pool's natural location. When it returns I will be ready. I truly believe that the Pool of Radiance is the key to the secret wisdom that I seek."

Yours in wisdom  
Sorassar

JOURNAL ENTRY 40:

A quick note on an often used piece of paper.

"Both kobolds and hobgoblins exist in large numbers to the east, Experiments show neither makes good breeding material."

JOURNAL ENTRY 41:

A clean map drawn with exact lines.

TYPIST NOTE: This map intentionally left out by me.

JOURNAL ENTRY 42:

A sketch drawing.

TYPIST NOTE: Not included due to illustrations.

JOURNAL ENTRY 43:

A loosely wrapped scroll.

"Armalg-the-Good, paladin and brother of Taimalg-the-Invincible, and Sarasim of Teshwave, the high priestess of Sune, attacked the denziens of the Valhingen Graveyard with a holy vengeance. They came in search of Taimalg and his mercenary band, who assaulted the graveyard and did not return.

"Sarasim used her holy power to dissipate and turn the undead that confronted them. Aramalg wielded his vorpal sword and slew the few that fought her power.

"Together, Aramalg and Sarasim penetrated the graveyard to an evil

marble crypt. They found and splintered an empty coffin, blessing the remains and sprinkling it with holy water. Then they confronted the owner of the coffin, a creature of great evil and the leader of the undead in Valhingen, an ancient vampire. The three began a furious melee.

"The vampire was swayed by Aramalg and Sarasim's power, but would not be turned. The vampire shouted, 'I have defeated Taimalg and his warriors, I will defeat the brother of Taimalg as well!'

"The vampire summoned an army of rats and tried to charm Sarasim to his side, but to no avail. Sarasim resisted his charm and Aramalg charged through the massed vermin. The vampire fell before the might blows of Aramalg's holy sword and Sarasim's enchanted mace.

"Defeated, the ancient vampire dissolved into gas and fled to his coffin. Finding the coffin destroyed he returned to solid form and screamed. Seizing the moment Aramalg grabbed the vampire and held him with all of his strength. Sarasim ran up and drove an oaken stake through the vampire's heart.

"Aramalg and Sarasim performed the proper rituals to banish the vampire forever. Then, wounded, Aramalg and Sarasim left Valhingen Graveyard. It was beyond their power to completely cleanse the evil place, but they had extracted proper vengeance for the death of Taimalg and his troops."

JOURNAL ENTRY 44:

A cleanly written note on standard paper found on the body of a dead trader.

Aleram,

"Hello my good friend. I hope you and your brood are well. I am tired; tired of trekking through unspeakable swamps and over unclimbable mountains to take my meager wares to ungrateful customers.

"Only one event has saved this year's sales. I found a castle full of happy folk, who were very good customers. They were starved for goods and news from the outside world. And well they should be, their castle was in the middle of a small forest, and the forest was in the middle of a swamp!

"These people seemed to know nothing of recent events. They still spoke of Phlan as if it were in its full flower. And they paid in old Phlanian Gold Sovereigns, double the weight of the newer gold coins!

"Though they were out of date, they were very friendly and prosperous. I saw more than one gem glitter in the sun, and several swords showed a flash that made me think they were magic. If you are willing to dodge the vermin of the swamp I would add this castle to your trading route. Speed to your horse, strength to your arm, and skill to your trading."

Your Friend,  
Burach

JOURNAL ENTRY 45:

Told in perfect, stylized common.

"Generations ago, flesh things were fewer and we hard-shelled beings ruled the shores of Lazara, what flesh things call the Moonsea. We gathered much gold and platinum, plus many gems for decoration and to appease our own gods. We are quite adept at finding such trinkets as we make our home by burrowing with our own mandibles. We know the earth like none other can.

"When flesh things began to multiply, we did not look on them as intelligent. They could not decipher our glorious language of sounds and movement and we could not fathom intelligent communication limited to their feeble squeaks and grunts.

As we assumed the flesh creatures were unintelligent we looked on them as slow, soft, weak, but tasty, prey. But the prey soon came riding swift beasts, and so were no longer slow. Then they came in metal shells, and so were no longer soft. And then they came hurling balls of fire and clouds of stink, and so were no longer weak. Our gods told us that the flesh creatures would multiply and that our only hope was to retreat.

"We retreated underground, into caverns by our own mandibles. We only venture to the surface to guard our lands and to find food less

powerful than yourselves. We have kept the location of our nest secret for many generations.

"But now you have come. You have defeated our warriors, evaded our traps. We admit your power. We have nothing further to gain by combat. If you will leave us in peace you may take the gold and gems that were sacred to our gods, we have been abandoned by them. If you will not leave us in peace then we must fight to the last. What is your decision?"

JOURNAL ENTRY 46:

Told as jaunty, after dinner conversation.

"This is an old story that I first heard while serving at the Citadel of The Raven. Dirg was the usual barbarian hero -- the type able to snap five men's backs with his bare hands, wrestle and tame the cloud horses, pierce a man with a javelin from many miles away, and other equally preposterous things.

"The story goes that Dirg and his band of men found a pool of unfrozen water while wandering in the snowy wastes. Dirg's little pet lizard Jezma got too close to the pool and discovered that not only was the water not frozen, it was boiling hot; so hot that it cooked the skin right off of Jezma.

"Dirg was so angered he thrust his spear into the pool and roiled the waters. The demon of fire that inhabited the pool was disturbed and roared out of the pool to do battle. The demon leapt from man to man, consuming them in a single touch.

"But the demon of fire could not defeat Dirg. Neither could Dirg find a weapon strong enough to withstand the creature's fire. After battling for an entire day, Dirg finally called upon his totem god for aid. With this magical aid, Dirg was able to trap the flaming demon in a triangle of power where supposedly he is even to this day."

JOURNAL ENTRY 47:

A small wrinkled parchment with roughly scratched notes.

"Hobgoblins transferred out of Valjevo Castle. Now replaced by giants and trolls. Sounds very tough.

"Stojanow Gate guarded by bugbears and ettins. Heard ettins didn't like light. Must be charmed or controlled. Sounds tough!

"Some smugglers sneak supplies through Stojanow Gate to The Boss. Must check it out.

"Overheard hobgoblins say a dragon scared them into leaving a nice lair in the mountains out east. Couldn't happen to a nicer bunch of creeps."

JOURNAL ENTRY 48:

Several pieces of paper with highly organized writing.

Strong Rumor: The Boss is a dragon or is a human who can take the form of a dragon.

Vague Rumor: The Boss is a metallic dragon. Not considered likely as metallic dragons are 'good'.

Fact: The Boss holds audiences in Valjevo Castle. Castle is guarded by groups of big stupid monsters, with occasional smart human leaders.

Rumor: The Boss doesn't spend full time at Valjevo Castle.

Fact: maze inside castle wall; passwords are needed to get past castle gates.

Rumor: The Boss has been sending out messengers to the tribes of monsters in the area to recruit new units.

Vague Rumor: The Boss is recruiting new units in preparation for an assault to retake the civilized sections of Phlan."

JOURNAL ENTRY 49:

A letter on clean white paper in a strong hand.

To:

The Boss

Valjevo Castle, Phlan

Sir,

"I categorically reject your demand that I submit my island and my powers to your control. I am a free man and I will remain free. No petty tyrant can order about a true mage.

"If you or your troops make any move toward Sorcerer's Island I shall send an army of my unstoppable aquatic creations down the Barren River and sink your precious castle. Until now you have been beneath my notice. If you value your empire, let us keep it that way."

Signed

Yarash, the Sorcerer

of it. Kings and generals have searched for the Pool, and I had a map that led right to it.

"If I ever get back the use of my legs I'll go after them. I'll get back my map. I'll get to the Pool. And this time I'll bathe in its power. Then I'll teach them. I'll teach them all."

JOURNAL ENTRY 55:

Delivered as you sit around the campfire.  
 "You must beware of the many dangers in this region. Several days walk to the west there is the pyramid of evil. It has been long avoided by all sensible men. To the southeast is a lair of many ferocious hobgoblins. The areas to the southwest, are inhabited by evil men -- buccaneers, marauders, and soldiers of an evil empire far to the west. And all good folks avoid the swamps to the east. Nothing but danger grows in the swamps."

JOURNAL ENTRY 56:

An unsent note written on sturdy parchment.  
 "An active dragon has made its home in the Dragonspine Mountains to the northwest. Keep search parties away from the area so as not to catch the dragon's attention."

JOURNAL ENTRY 57:

A ratty piece of parchment with large writing on one side.  
 "Our spies in the city inform us that a party of invaders will travel to Sokal Keep to free it. To combat these invaders, assemble a force of no less than three squads. Travel by boat from the small docks at the west of town to Sokal Keep. Find the adventurers in or around Sokal Keep. Kill them before they can return to the city council with information about the true situation at the keep. Return with the invader's heads as proof of completion of your mission. Upon completion you will be rewarded with food, treasure, and many slaves."  
 Signed,  
 The Boss

JOURNAL ENTRY 58:

A tattered piece of parchment.

|            |                   |           |
|------------|-------------------|-----------|
| MOUNTAINS  | SORCERER'S ISLAND | FOREST    |
|            | :                 |           |
| FOREST     | :                 |           |
| GRASS LAND | FOREST            | .. FOREST |
|            | :                 |           |
|            | :                 | PHLAN     |
|            | WATER             |           |

TAVERN TALES

The taverns of New Phlan are filled with scoundrels, con-men, and adventurers - every one a liar and a gossip. The following tavern tales represent such rumors and lies.

When you are in a tavern, you may be referred to a particular tale by number. Find and read that tale. If you really think of your adventures as rumor mongers, read all the tales.

Some of these tales are true, some are based on truth, and some have never been corrupted by a hint of truth. Even when a tavern tale is referred to by number, it might be false.

TALE 1: Far to the northeast, in the midst of a vast swamp, lie the uninhabited ruins of a powerful wizard's castle.

TALE 2: A drunk bard sits in a corner of the tavern spinning a seemingly endless tale, but no one is listening.

===== DOCUMENT pool.5 =====

JOURNAL ENTRY 50:

An official looking notice.  
 "Assemble a group of at least 30 of your followers. Meet up with a hobgoblin assault force at the small docks to the west of town. You and your group will be under the command of the hobgoblin leader. Follow his orders. Upon completion of the mission you will be rewarded with food, treasure, and many slaves."

Signed,  
 The Boss  
 Scribbled on the back of these orders is Norris the Gray's unsent reply to The Boss

"I will never follow the orders of a hobgoblin. I don't go on missions until I know exactly what we're supposed to do. And I don't go on missions for an unknown amount of food, treasure and slaves. I do go on missions where I am in command; where I know exactly what the target is; and where I know exactly how much I'll get paid. Don't send me another order until you can meet my terms."

Signed,  
 Norris the Gray

JOURNAL ENTRY 51:

Several pieces of paper with highly organized writing.  
 Fact: Bishop Braccio is the highest ranking religious leader in Phlan. Runs small temple in civilized section of city.  
 Vague Rumor: Braccio is actually a front-man for a powerful high priest who never leaves the small temple.

Strong Rumor: Braccio is under fire to 'do something' about the undead problem. So long as the undead were causing the monsters more trouble than the settlers, he had other, more pressing, problems.

Rumor: Braccio is opposed to the temple tendency to sell clerical 'miracles'; but he understands that the temple needs funds. Braccio would rather perform such 'miracles' in exchange for good works done in the name of the church, not just for money or items of power."

JOURNAL ENTRY 52:

Delivered in chillingly clear tones.  
 "Hear us in our hour of need!" the nomad witchdoctor cries, "This night we fight a great battle. By the breaking of dawn either our enemies will be dead or we will have been destroyed.  
 "Accept the sacrifice of these outsiders and give us the strength to defeat the hordes of our enemies. Fill our limbs with your fire, and fill our minds with your fury. Let us vanquish our enemies just as we vanquish these invaders who have come among us."

JOURNAL ENTRY 53:

A crumpled discarded piece of paper, full of rub outs and scratch overs.

|                |    |
|----------------|----|
| Priests:       | 1  |
| Acolytes:      | 4  |
| Ogres:         | 1  |
| Hobgoblins:    | 40 |
| Orcs:          | 90 |
| Goblin Slaves: | 20 |

JOURNAL ENTRY 54:

A page from an unknown diary.  
 "They stole my map to the Pool. Somehow they knew when I was coming and exactly what to look for. They didn't even bother to kill me; they said I wasn't worth killing. They just crippled my legs, took the map, and rode away laughing.  
 "After the attack and the rigors of my trek all I remember is that the Pool is in the Dragonspine, north and west of Sorcerer's Island. It shines just like they said it would. You can feel the power flowing out

Mountains. The dragon is not evil and will help travelers who battle evil.

TALE 3: Wells throughout the city often provide access to hidden dens and underground passages.

TALE 4: An english lord commandeers one corner of the bar to lecture on the ultimate range of his adventurers. The crowd ignores him.

TALE 5: To the east of Phlan lies a gleaming castle of gold that shifts its location from time to time.

TALE 6: A weird looking wizard, dressed all in black, sits alone and mumbles into his beer, "I'll return next time and show them all!"

TALE 7: Great treasures are to be found on the banks of the Barren River as one ventures northward.

TALE 8: The graveyard is controlled by a very powerful and clever undead creature.

TALE 9: A puzzled patron with a limited vocabulary questions everyone he comes across about how to complete a manuscript dated 1977 GUE. Unfortunately, no one can help him.

TALE 10: To the west lives a tribe of insect-men who worship normal men and give valuable gifts to all who visit them.

TALE 11: The Dragonspine Mountains are inhabited by a race of evil dragons who lure travelers to their lairs and slay them.

TALE 12: A bedraggled adventurer decries, "There was a man called turtle, walls that aren't there, living daggers; I never did figure out what was going on!"

TALE 13: A master thief has set up a hidden training ground deep in the old city, right under the noses of monsters.

TALE 14: Ogres who live to the east of Phlan are holding captive a princess for whom a huge reward has been offered.

TALE 15: The merchants of Zhentil Keep are setting up a trading base far to the west of Phlan. They're hiring caravan guards for good wages.

TALE 16: Buccaneers operate a slave auction out of a hidden camp near Stormy Bay.

TALE 17: An old sage sits in a corner with a dark wizard. "You're right," laughs the sage, "they'll do anything I tell them to, no matter how silly or phantastic."

TALE 18: Off to the east of Phlan roams a tribe of marauding nomads. They have been pillaging villages in the plains with the help of a powerful artifact they have discovered.

TALE 19: Mighty tribes of wild dwarves, thousands of them, roam the Dragonspine Mountains, destroying villagers and killing travelers.

TALE 20: "I was totally confused; it was like being lost in the darkness," sighed the overwrought adventurer. "Rabbits, hats, bowling balls? Where in the realms was I?"

TALE 21: The monsters in Phlan are led by one of the generals who sacked the city a generation ago. The general has used great magic to make himself immortal.

TALE 22: A vast fortress of kobolds dominates the western tip of the great swamp. These normally weak creatures grow to great size and have extraordinary powers here.

## APPENDICES

### MONEY CONVERSIONS

| COIN TYPE | GOLD EQUIVALENT |
|-----------|-----------------|
| Copper    | 200 cp = 1 gp   |
| Silver    | 20 sp = 1 gp    |
| Electrum  | 2 ep = 1 gp     |
| Gold      | 1 gp = 1 gp     |
| Platinum  | 1/5 pp = 1 gp   |

### SPELL LIST

This is a listing of spells available to player character clerics and magic-users as they gain in level.

#### FIRST LEVEL CLERICAL SPELLS

Bless/Curse  
Cure Light Wounds/Cause Light Wounds  
Detect Magic  
Protection from Evil/Protection from Good

#### SECOND LEVEL CLERICAL SPELLS

Find Traps  
Hold Person  
Resist Fire  
Silence 15' Radius  
Slow Poison  
Snake Charm  
Spiritual Hammer

#### THIRD LEVEL CLERICAL SPELLS

Animate Dead  
Cure Blindness/Cause Blindness  
Cure Disease/Cause Disease  
Dispel Magic  
Prayer  
Remove Curse/Bestow Curse

#### FIRST LEVEL MAGIC-USER SPELLS

Burning Hands  
Charm Person  
Detect Magic  
Enlarge/Reduce  
Friends  
Magic Missile  
Protection from Evil/Protection from Good  
Read Magic  
Shield  
Shocking Grasp  
Sleep

#### SECOND LEVEL MAGIC-USER SPELLS

Detect Invisibility  
Invisibility  
Knock  
Mirror Image  
Ray of Enfeeblement  
Stinking Cloud  
Strength

#### THIRD LEVEL MAGIC-USER SPELLS

Blink  
Dispel Magic  
Fireball



Haste  
 Hold Person  
 Invisibility, 10' Radius  
 Lightning Bolt  
 Protection from Evil, 10' Radius/Protection from Good, 10' Radius  
 Protection from Normal Missiles  
 Slow

ARMOR LIST

| Armor Type     | Weight<br>in gp. | AC | Maximum<br>Movement* |
|----------------|------------------|----|----------------------|
| None           | 0                | 0  | -                    |
| Shield, Small# | 50               | 9  | -                    |
| Leather        | 150              | 8  | 12 squares           |
| Padded         | 100              | 8  | 9 squares            |
| Studded        | 200              | 7  | 9 squares            |
| Ring           | 250              | 7  | 9 squares            |
| Scale          | 400              | 6  | 6 squares            |
| Chain          | 300              | 5  | 9 squares            |
| Splint         | 400              | 4  | 6 squares            |
| Banded         | 350              | 4  | 9 squares            |
| Plate          | 450              | 3  | 6 squares            |

\*A character carrying many objects, including lots of coins, can be further limited in movement to a minimum of 3 squares per turn.  
 # A Shield subtracts 1 AC from any armor it's used with.

TABLE OF EXPERIENCE PER LEVEL

The following shows the amount of experience a character must earn to gain a level in his character class. All experience earned by multiple-class characters is divided by the number of classes. When a character has earned a gain in level for one class but not another, the Show command shows his highest level. Thus, a character who is a fighter-thief and has earned 1,800 experience points in each class (a total of 3,600 XP), will be shown to be 2nd level because he has earned that level as a thief, though not as a fighter. His fighting abilities are still based on his being a 1st level fighter.

| CLERIC: | Experience    | Spells* |
|---------|---------------|---------|
| Level   | Experience    | 1 2 3   |
| 1       | 0-1,500       | 1 - -   |
| 2       | 1,501-3,000   | 2 - -   |
| 3       | 3,001-6,000   | 2 1 -   |
| 4       | 6,001-13,000  | 3 2 -   |
| 5       | 13,001-27,500 | 3 3 1   |
| 6       | 27,501-55,000 | 3 3 2   |

\*Clerics get additional Spells by Level if they have a Wisdom of 13 or greater.

FIGHTER:

| Level | Experience      |
|-------|-----------------|
| 1     | 0-2,000         |
| 2     | 2,001-4,000     |
| 3     | 4,001-8,000     |
| 4     | 8,001-18,000    |
| 5     | 18,001-35,000   |
| 6     | 35,001-70,000   |
| 7     | 70,001-125,000  |
| 8     | 125,001-250,000 |

MAGIC-USER:

| Level | Experience    | Spells |
|-------|---------------|--------|
| Level | Experience    | 1 2 3  |
| 1     | 0-2,500       | 1 - -  |
| 2     | 2,501-5,000   | 2 - -  |
| 3     | 5,001-10,000  | 2 1 -  |
| 4     | 10,001-22,500 | 3 2 -  |
| 5     | 22,501-40,000 | 4 2 1  |

6 40,001-60,000 4 2 2

THIEF:

| Level | Experience      |
|-------|-----------------|
| 1     | 0-1,250         |
| 2     | 1,251-2,500     |
| 3     | 2,501-5,000     |
| 4     | 5,001-10,000    |
| 5     | 10,001-20,000   |
| 6     | 20,001-42,500   |
| 7     | 42,501-70,000   |
| 8     | 70,001-110,000  |
| 9     | 110,001-160,000 |

CLERIC vs. UNDEAD

A good or evil cleric (not a neutral one) has a certain influence on undead. He extends this influence by using the Turn command in the Combat Menu. His level determines how many undead and what kind he can influence. Evil clerics can make undead either neutral or friendly to the party. Good clerics can drive the undead away and may be able to destroy them if the cleric is of a high enough level and the undead are of a low-enough level.

The following is a list of undead in increasing order of power and what minimum level of cleric a character has to be to have any influence over them. Low level clerics generally have a chance, not a certainty, of affecting undead.

| Undead Type | Minimum<br>Level of Cleric |
|-------------|----------------------------|
| Skeleton    | 1st                        |
| Zombie      | 1st                        |
| Ghoul       | 1st                        |
| Wight       | 1st                        |
| Wraith      | 3rd                        |
| Mummy       | 4th                        |
| Spectre     | 5th                        |
| Vampire     | 6th                        |

GLOSSARY OF AD&D GAME TERMS AND COMPUTER TERMS

ABILITY SCORES. These are numbers that describe the attributes of the characters. There are six ability scores: Strength, Intelligence, Wisdom, Dexterity, Constitution, and Charisma. For the most part, the range of numbers runs from 3 to 18, the higher the better.

ADVENTURER. This is a term for one of the characters you play in this game.

ALIGNMENT. This is the basic philosophy of a character. See Alignment in the What are Characters? section of the rule book.

CHARACTER. This is another name for one of the persons you play in the game. A party consists of several characters.

COMMAND. A one or two word option in a menu. Activating the command allows you either to view another menu or have your characters perform an action.

ENCOUNTER. This is what happens when a party meets a monster. You are given a menu of choices of how you want to handle the situation.

ENTER. The act of giving a command to the computer. How this is done varies depending on the computer.

EXPERIENCE POINTS (XP). Every encounter the characters have yields experience points for every character depending on how successful the encounter was for the party. A character who gains enough XP can

advance a level if he has enough gold for training.

**FACING.** In combat, a character faces a certain direction. An attack from the direction he is not facing has a greater chance of doing damage. A character will always face an opponent if he has only one opponent.

**HIT POINTS (HP).** This is a measure of how healthy a character is. Damage from weapons subtracts hit points from the characters total. When he has lost all of his hit points, he is unconscious and dying. If his wounds are bound by another party member, he is simply unconscious.

**ICON.** This is the small picture of a monster or a character seen in the initial stages of an encounter and during combat. Character icons can be altered using the Alter command in the Camp Menu.

**INITIATIVE.** This is a semi-random determination of which character in a combat acts first. The characters with higher dexterities have a better chance for a higher initiative.

**LEVEL.** This describes the power of a number of different items. The power of characters, dungeons, monsters, and spells are all described with levels.

**CHARACTER LEVEL.** This is a determination of how much experience a character has. The higher the level, the more experienced and important the character is. High-level spellcasters can cast high level spells.

**DUNGEON LEVEL.** This is a measure of how far down in the earth a dungeon is. For the most part, the further down one is, the more ferocious the monsters. Thus, a high-level dungeon refers either to how deep it goes or the relative toughness of the monsters.

**MONSTER LEVEL.** This is a measure of how powerful monsters are. The higher the level, the more powerful the monster.

**SPELL LEVEL.** Spells come in degrees of difficulty. The higher the level of the spell, the higher the difficulty. Only very experienced magic-users and clerics can learn high level spells.

**MAGIC.** This term covers spellcasting, enchanted items, and any other application of the supernatural.

**MELEE COMBAT.** This is hand-to-hand combat with weapons such as swords, spears, and fists.

**MISSILE COMBAT.** This is ranged combat with weapons such as bows and arrows, crossbows and quarrels, and slings and slingstones.

**MONSTER.** This term actually includes human and other player races as well as such creatures as ogres and dragons. In general, if it isn't part of your party, it's a monster. Monsters are not necessarily hostile. Some may be helpful. That's what the Parlay command in the Encounter Menu is for.

**NON-PLAYER CHARACTER (NPC).** This is a member of a player character race who is not controlled by the player. Some NPCs can be brought into a party.

**PARTY.** The group of adventurers you form to perform the missions you are given. A party can be reformed for each adventure, and even altered during the course of an adventure.

**PLAYER CHARACTER (PC).** This is a member of a player character race who is controlled by the player. The characters in your adventuring party are PCs.

**SPELL.** This is a magic incantation that can alter the nature of

reality. Both magic-users and clerics can cast spells after memorizing them. If the spell is cast, it is gone from the user's mind and must be re-memorized.

**SPELL BOOK.** The book a magic-user carries his spells in. If he doesn't have a magic book, he has no spells to memorize.

## ARMOR AND WEAPONS PERMITTED BY CHARACTER CLASS

| Class      | Armor   | Shield | Weapons                                      |
|------------|---------|--------|----------------------------------------------|
| Cleric     | any     | any    | club, flail, hammer, mace, staff             |
| Fighter    | any     | any    | any                                          |
| Magic-User | none    | none   | dagger, dart, staff                          |
| Thief      | leather | none   | club, dagger, dart, sling, one handed swords |

## WEAPON LIST

| Name                 | Damage vs. Man Sized | Damage vs. Larger Than Man Sized | Number of Hands | Class |
|----------------------|----------------------|----------------------------------|-----------------|-------|
| Axe, Hand            | 1-6                  | 1-4                              | 1               | f     |
| Bardiche+            | 2-8                  | 3-12                             | 2               | f     |
| Bastard Sword        | 2-8                  | 2-16                             | 2               | f     |
| Battleaxe            | 1-6                  | 1-8                              | 1               | f     |
| Bec de Corbin+       | 1-6                  | 1-6                              | 2               | f     |
| Bill-Gulsarme+       | 2-8                  | 1-10                             | 2               | f     |
| Bo Stick             | 1-6                  | 1-3                              | 2               | f     |
| Broad Sword          | 2-6                  | 2-7                              | 1               | f,th  |
| Club                 | 1-6                  | 1-3                              | 1               |       |
| f,cl,th              |                      |                                  |                 |       |
| Dagger               | 1-4                  | 1-3                              | 1               |       |
| f,mu,th              |                      |                                  |                 |       |
| Dart                 | 1-3                  | 1-2                              | 1               |       |
| f,mu,th              |                      |                                  |                 |       |
| Fauchard+            | 1-6                  | 1-8                              | 2               | f     |
| Fauchard-Fork+       | 1-8                  | 1-10                             | 2               | f     |
| Flail                | 2-7                  | 2-6                              | 2               | f,cl  |
| Fork, Military+      | 1-6                  | 2-8                              | 2               | f     |
| Glaive+              | 1-6                  | 1-10                             | 2               | f     |
| Glaive, Guisarme+    | 2-8                  | 2-12                             | 2               | f     |
| Guisarme+            | 2-8                  | 1-6                              | 2               | f     |
| Guisarme-Voulge+     | 2-8                  | 2-8                              | 2               | f     |
| Halberd+             | 1-10                 | 2-12                             | 2               | f     |
| Lucern Hammer+       | 2-8                  | 1-6                              | 2               | f     |
| Hammer               | 2-5                  | 1-4                              | 1               | f,cl  |
| Javelin              | 1-6                  | 1-6                              | 1               | f     |
| Jo Stick             | 1-6                  | 1-4                              | 1               | f     |
| Long Sword           | 1-8                  | 1-12                             | 1               | f,th  |
| Mace                 | 2-7                  | 1-6                              | 1               | f,cl  |
| Morning Star         | 2-8                  | 2-7                              | 1               | f     |
| Partisan+            | 1-6                  | 2-7                              | 2               | f     |
| Pick, Military       | 2-5                  | 1-4                              | 1               | f     |
| Pike, Awl+           | 1-6                  | 2-12                             | 1               | f     |
| Quarterstaff         | 1-6                  | 1-6                              | 2               |       |
| f,cl,mu              |                      |                                  |                 |       |
| Ranseur+             | 2-8                  | 2-8                              | 2               | f     |
| Scimitar             | 1-8                  | 1-8                              | 1               | f,th  |
| Short Sword          | 1-6                  | 1-8                              | 1               | f,th  |
| Spear                | 1-6                  | 1-8                              | 1               | f     |
| Spetum+              | 2-7                  | 2-12                             | 2               | f     |
| Trident              | 2-7                  | 3-12                             | 1               | f     |
| Two-Handed Sword     | 1-10                 | 3-18                             | 2               | f     |
| Voulge+              | 2-8                  | 2-8                              | 2               | f     |
| Composite Long Bow*  | 1-6                  | 1-6                              | 2               | f     |
| Composite Short Bow* | 1-6                  | 1-6                              | 2               | f     |
| Long Bow*            | 1-6                  | 1-6                              | 2               | f     |

|                  |     |     |   |      |
|------------------|-----|-----|---|------|
| Heavy Crossbow # | 2-5 | 2-7 | 2 | f    |
| Light Crossbow # | 1-4 | 1-4 | 2 | f    |
| Short Bow*       | 1-6 | 1-6 | 2 | f    |
| Sling            | 1-4 | 1-4 | 1 | f,th |

+ Polearm \* Must have ready arrows to fire  
 # Must have ready quarrels to fire.  
 f=fighter, cl=cleric, th=thief, mu=magic-user

===== DOCUMENT pool.hints =====

The Hemisphere

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 Pool of Radiance  
 Stuff From the clue book  
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Introduction:

Pool of Radiance is Strategic Simulations Inc.'s first Advanced Dungeons & Dragons Computer Role-Playing Epic set in the Forgotten Realms game world. Pool of Radiance is a huge game, with over two dozen different individual missions and adventures. It is designed to mirror the kind of connected adventures that form the basis of the AD&D role-playing game.

Pool of Radiance does not rely on obtuse puzzles or unfathomable word games to create challenges. Instead, Pool of Radiance relies on challenges that arise from within the scope of the adventure. Each adventure centers around solving a mystery, defeating an enemy force, or discovering the true allegiance of the mysterious groups you meet.

You are sure to have questions as you adventure through Pool of Radiance. First, read the rule book and Adventurers Journal that come with the game<I hope somebody gets this thing and types it up!>. These books will answer most of the questions that come up. Second, you can refer to this clue book<this file and others to follow> for answers.

Third, you can look into the many AD&D books for background on the game. The AD&D Players Handbook and the AD&D Dungeon Masters Guide provide the basis for the rules in Pool of Radiance. The Forgotten Realms Campaign Set and Ruins of Adventure module provided the background material for the storyline. These sources should tell you all you need to know about Pool of Radiance.

Keep your current objective in mind while you play through each mission in Pool of Radiance. Each mission has a specific goal that is given in the city council proclamation and in the council clerk's description of each mission. In some missions you simply have to hack<yea!> your way through everything in front of you. In other missions you must simply survive. Stay true to your objective as each mission unfolds.

Finally, remember the overall goal of your quest, the liberation of Phlan from its evil oppressor. It is not necessary to clear every block, defeat every evil, or even complete every mission to free phlan. As soon as the Boss That controls Phlan is defeated, the undirected monsters that were under his control will fall like wheat to the scythe. Always remember that the defeat of the Boss is you're final goal. Good Luck!

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 SELECTING HEROES

With differing ability scores, classes, class combinations, and races you can create many different kinds of characters in Pool of Radiance. You can win the game with almost any combination of characters, but some will make it easier than others.

You will need a party with a balance of fighting ability, clerical spell use, and magic-user spell use. You will also want a character with thieving abilities in your party and at least one character with an extraordinary strength.

You will need to balance each characters race against the class of

characters you need. Human characters can excel at any single character class, but non-human characters can be mixed class and have several sets of capabilities at once. But, mixed class characters advance more slowly than single class characters. They will generally be one or two levels behind a single class character after the same amount of adventuring.

Non-human characters have a maximum possible level in each class <except thieves>. Because of these limits human characters will always achieve higher level than non-human characters after sufficient adventuring. So, non-human characters should play to their strong points and be mixed class and let humans be the single class characters.

Human fighters can be the best fighter in the game because of their high maximum strength and unlimited maximum level. Non-human characters can help with the fighting as mixed class fighter/thief, fighter/magic-user, fighter/cleric, or fighter/magic-user/cleric<as the racial limits allow>. Non-humans have lower maximum strengths and have limited max level. Human clerics can also help with the fighting but they cannot have exceptional strength, or use the best weapons, nor is their HP, THACO, or number of blows as good as a true fighter.

Clerics are especially useful in your party, they have the second fastest advancement and get the most spells of any spell using class. The cleric's bless, cure light wounds, detect magic, hold person, and prayer spells are very useful. Only two races can add clerical abilities to your party, humans and half-elves. Human clerics can reach the maximum 6th level allowed in Pool of Radiance. At 6th level a cleric is much more powerful against undead than at lower levels, he can even destroy skeletons and zombies, rather than just turn them. Half-elf clerics can only reach 5th level, so they are most useful as mixed class cleric/magic-users and fighter/cleric/magic-users.

Magic-user spells provide much of the offensive punch of your party. Charm person, magic missile, sleep, stinking cloud, fireball, Invisibility 10' radius, and lightning bolt are all powerful spells in the magic-user arsenal. But, magic-users are very vulnerable in combat; they have few HP and can wear no armor. But, both elves and half-elves can be magic-users, both can progress to the maximum 6th level allowed in Pool of Radiance, and both can become mixed class to gain the benefits of more HP and Heavier armor. In general, then, Your magic-using characters should be elven or half-elven fighter/magic-users, or half-elven cleric/magic-users or fighter/cleric/magic-users.

Thieves have the fastest advancement of any class. They also have special abilities that allow them to open locks, find and remove traps, climb walls, and backstab. Unfortunately, thieves are almost as vulnerable as magic-users in combat, they have only a few more HP and the heaviest armor they can wear is leather. Luckily, all races have unlimited advancement as thieves, and all the non-human races can be mixed class fighter/thieves. Dwarves and half-elves make the best fighter/thieves because of their high maximum strength and their high maximum strength and their high maximum fighter level.

Some kinds of characters are at a disadvantage because of their ability score or max level limits. Female characters are at a disadvantage as a fighter or fighter mixed class character because of their reduced maximum strength. But, for most other types of characters, especially pure clerics and mixed class cleric/magic-users, they function just as well as male characters. Their lot is actually better than that of halflings and gnomes, neither of which excels at any particular class.

Each character's capabilities are built around his ability scores. Since it only takes a second for the computer to roll a set of scores it is no crime to roll a few times until you get a character whose ability scores match what you want. You can also modify a character's ability scores after he has been built, but not after he has gone up a level.

If you want your characters to have the maximum fighting efficiency they

will need impressive ability scores. Fighters need the highest possible strength to get maximum bonuses to THACO and Damage. Magic-users need an intelligence of at least 16 to get their experience bonus. Clerics need a wisdom of 17 or better to get the maximum number of spells. All characters need the highest possible dexterity because dexterity gives you: the best chance to move before your opponent, a +1 AC for each point of dexterity over 14, and a +1 THACO with missiles for each point of dexterity over 15. All characters need a constitution of 16 or better, and fighter types need a constitution of 18, to get the maximum bonus to their HP. The party's spokesman needs a charisma of 18 to get the maximum reaction bonus.

The characters in a party do not need such amazing scores to win the game. In fact, any well played party should be able to win. The computer is smart enough to gauge the power of the party and it often modifies the number of monsters in an encounter to give the party a good fight regardless of their power. Beginning characters with very high ability scores look to the computer like high level Adventurers. This may put them at a disadvantage because the party does not have the HP, spells or the magic treasure of high level adventurers.

A balanced party needs at least four characters with good fighting capabilities, at least two characters that can throw clerical spells, at least two characters that can throw magic-user spells, at least two characters who are equipped with bows, and at least one character who has thieving abilities. As this is more than six characters, some of the characters will have to have multiple capabilities. Once you have these bases covered, mix and match the party's capabilities to match your style of play.

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### DEFINITIONS AND CONCEPTS

Here are some important concepts that you will need to understand to play Pool of Radiance to the fullest capacity.

**Block:** A 16 square by 16 square area that is displayed from a 3D point of view. Unless the party is lost, or it is impossible to find one's way, the X and Y coordinates are available beneath the list of characters in the party. 0,0 is in the northwest corner; 15,15 is in the southeast corner.

**Commissions:** The city council awards commissions as a way to direct heroes towards awaiting adventures. The party does not have to accept a commission. As soon as the clerk informs the party of a mission, they may freely undertake it. In fact, if the party completes a mission while exploring on their own they may also get the reward, even though they have never formally received word of the commission.

**Drain and Restoration:** Powerful undead such as wights, wraiths, and vampires can drain levels from a character when they hit in combat. The character loses his level or levels along with the additional HP, improved THACO, and the other advantages of level. His XP will be reduced to the minimum for his new level. A cleric can cast a restoration spell of a scroll to restore one drained level. The character will regain his HP, THACO, and other advantages of his level. But, his XP will be raised only to the minimum for his restored level.

**Maps:** Page 25 and 26 of the Adventurers Journal contain three accurate maps of the city of Phlan, the area near Phlan, and the Moonsea. The city map shows the locations of the different blocks within the city. The area near Phlan map shows the extent of the wilderness in Pool of Radiance. The Moonsea map shows where Pool of Radiance occurs in relation to other areas in the Forgotten Realms game world. Other AD&D computer products may be set in the area near the Moonsea.

**Memorizing Spells:** In Pool of Radiance, spell casters must memorize their spells before they can cast them. Each character can only have a small number of spells memorized at any time. The number of spells a character can memorize at one time is based on the characters level and is shown in the

Appendices of the Adventurers Journal.

To memorize spells, send the party to camp. Highlight the first character you want to memorize spells. Access the magic menu and then the memorize command. The characters list of available spells is shown. Use the next and Prevs commands to find the page with the spell you want to memorize. Choose the Memorize command. Highlight the spell you want to memorize and press the Return or the joystick button to pick it. The computer displays the number of remaining spells your character can memorize by level.

Choose spells until you have indicated the spells you want your character to memorize, or your character can memorize no more spells. Choose exit from the spell list and from the memorize menu. The computer displays the list of spells you have chosen. Confirm that this is the list of spells you want your character to memorize. Repeat this process for all of your spell casters.

Once you have picked all the spells your characters want, it is time to rest and actually memorize the spells. Choose the rest command. Note the time already listed on the clock. This is the minimum time necessary to memorize all the spells you have picked. Choose the rest command from the rest menu. The computer will display each spell as it is memorized.

If your characters rest is interrupted, they may not memorize all of their chosen spells. If the characters rest is not interrupted then they will have all their chosen spells memorized and be ready to adventure.

**Quick Combat:** If you don't want to deal with combat, you may turn on Quick Combat and let the computer run things for you. You may put any character into Quick Combat. You may put all characters into Quick Combat by typing "Q" during any characters turn. You may take manual control of all characters by typing the spacebar while one of your characters is moving on the screen. You may set characters to cast spells by typing "M" during any characters turn. When you type "M" the computer displays 'MAGIC ON'. You may turn off spell casting by typing "M" again. Then the computer displays 'MAGIC OFF'. With 'MAGIC ON', the computer will pick spells for player characters in Quick combat. With 'MAGIC OFF', player characters will not throw spells in Quick combat.

You have some tactical control over characters in Quick Combat. Characters with readied arrows and a bow will stand fast and fire arrows until the enemy comes adjacent. Characters without readied arrows will charge toward the enemy. Characters will attempt to use readied magic items.

Your character's choice of spells is also important if you use Magic On in Quick Combat. Avoid spells with large areas; the computer normally aborts an offensive spell if the computer sees an ally in the target area. Offensive spells such as magic missile, hold person, and stinking cloud are useful because they are single target or have a small area of effect. Large area spells, such as sleep or fireball, are very useful under manual control, but may often be aborted in Quick Combat. Healing and detect spells have little use in Quick Combat, though bless and Prayer are sometimes useful.

If you do not want to bother with a fight and want combat over as soon as possible, access a characters second menu and choose the Speed command. Set the Speed to ). Decide how each character will fight by readying or unreadying their arrows and magic items. Then type 'Q' to set all characters in Quick Combat. If a fight is particularly difficult you may want to type 'M' to turn 'Magic On'. Then, sit back and watch the computer do all the work for you.

The computer is not as good a tactician as you are. You may be able to direct your heroes to win a fight that they would lose in Quick Combat. But as your characters get tougher you can use Quick Combat with less risk. But, if your characters begin to lose too badly, be ready to hit the spacebar and take control back. In the end, you may have to save the day.

**RANDOM ENCOUNTERS:** Often monsters roam around the blocks where the missions

take place. These monsters do not have a fixed location or time, but may occur in many different places. Often a player must defeat a number of these random encounters, as well as all the fixed encounters, to clear a block.

**Resting:** A party must rest several hours for characters to memorize spells. The party may also rest for a full day so that each character can heal one HP. Many areas are so dangerous that the party can not rest; they will be interrupted by the enemy. Safe areas are places where the party can rest without interruption.

**SET ENCOUNTERS:** A set encounter is an encounter in a fixed location and/or time. Most set encounters are keyed to the maps in each adventure description.

**TEMPLES:** Temples provide a number of services that the party cannot get anywhere else. If a character has died due to wounds, the temple can raise dead. If a character has been turned to stone, the temple can turn him back to flesh. If a character has been killed by poison, the temple can neutralize poison to remove the poison from the system and then raise him from the dead. If the party has a third level cleric, they can use the slow poison spell to make the poisoned character 'alive' when he goes into the temple. Then the temple need only to throw a neutralize poison to bring the character back. If the party's characters have lost HP it is cheaper to go to an inn and rest for many days than to have the temple throw cure spells.

**THIEVING ABILITIES:** Characters who are thieves or mixed class thieves have a number of special abilities including the chance to : pick locks, climb walls, find traps and disarm traps, and the ability to backstab for multiple damage. But, for a mixed class character to exercise his thievery abilities he must not be wearing any armor heavier than leather. Remember, before the fighter/thief can backstab, or pick a lock, he must unready his heavy armor.

### COMBAT

Your characters will be fighting a lot in Pool of Radiance. Monsters and Human enemies abound. Learning to fight well, and to fight smart will make the game go faster and make it much more enjoyable. There can be a lot of details to successful combat, but most of them are common sense and will become second nature after a few fights.

To fight effectively you must understand your own group's capabilities. Does your group have ranged weapons? Does your group have mass attack magic spells such as sleep or fireball? How heavily armored is the front line of your group? How fast is the fastest and slowest member of your group? All of these details change which tactics your party can apply effectively.

You should also understand your enemy's capabilities. The basic information about ranged weapons, mass attack spells, heavy armor, and speed still apply. Monsters also often have unusual capabilities that you'll want to be aware of.

Finally, you need to understand the terrain where you are fighting. Are you inside a building where space is limited or are you in an open field with unlimited room to maneuver? Are there choke points, such as doorways, that you can use to channel an enemy's attack? Are there large pieces of terrain, such as a tree or a wall, that you can anchor your flanks on?

Taking full advantage of terrain will multiply your fighting strength.

Whether you outnumber the enemy or he outnumbers you will decide your opening tactics. If you outnumber the enemy, move up your toughest fighters and pin them in place. Then move other troops around the enemy's flanks to get attacks from behind. A shot from behind can hurt even to most unstoppable monster. Thieves are at best when they can be part of a gang and backstab. Concentrate your attacks by having a single character attack some of the enemy and have many characters gang up on the remainder to eliminate them as

quickly as possible.

If the enemy has as many or more troops than you have, then make the shortest possible line without giving the enemy a way around your flanks; doorways and corridors are good defensive locations. Don't just attack the enemy in front of you, mass as many attacks against each target as possible to get quick kills. If your tactics are successful, you will soon outnumber the enemy and you can surround and move in for the kill.

An important tactical consideration is whether one side and/or the other has ranged weapons such as bows, crossbows, slings, and ranged attack magic. If neither side has significant ranged weapons, your side should quickly move to the most advantageous terrain and prepare to meet the enemy. If only you have ranged weapons then try to begin the battle at the longest possible range. Keep a front line of clerics and fighters without bows to protect your archers as long as possible. Magic-users with darts and clerics with flasks of oil have a short range, and are only useful once both sides are in contact.

If both sides have ranged weapons then the enemy archers and spell casters should be your primary targets. An enemy who is turning your flank or who can get back shots on your front line is also a good target. Don't shoot at enemy front line fighters unless you are trying to disengage your front line to maneuver or retreat.

If only the enemy has ranged weapons the close as soon as possible. Once you get adjacent to an enemy, it's much harder for him to use his bow or magic against you. Try to use terrain to block the enemy archer's line of sight and limit his targets to your troops with the heaviest armor.

Magic has the capability to change defeat into victory into defeat. Tactically, some simpler spells and magic items act very much like bows or thrown weapons. The more devastating spells are the ones that can incapacitate an entire group of troops in an instant. These mass attack spells include: sleep, hold person, stinking cloud, lightning bolt, and fireball. These spells can turn the tide of battle in an instant.

More often than not, you will have magic and your enemies will not. If you have magic-users or magic items guard them with your life. Magic-users are very fragile in combat; they wear little armor and don't stand up well to being hit. Keep them behind the lines and safe, even if they have thrown all of their spells for this battle. The magic-user you save this battle may save you next battle.

Magic need not kill the enemy to be useful in combat. Sleep, hold person, and stinking cloud can make the enemy helpless and a sitting duck to your fighters attacks. Remember that you can affect up to three different targets with a clerical hold person spell. An effective way to use these spells is to eliminate the threat of enemy archers and magic-users. Another tactic is to make the front ranks of the enemy helpless, thus blocking his melee attacks and making your own shots sure kills. You can even retreat behind the enemies helpless front line troops and safely engage the others with ranged attacks.

If the enemy has mass attack magic, you may have to modify your tactics. Defensively, try to keep your troops spread out; most mass attack magic operates over a limited radius. Keep some fighters unengaged in reserve, so that they can run up and fill any holes in the front lines caused by an enemy magic attack. Be careful not to concentrate important targets like magic users or archers together behind your own lines; such concentration invites attack.

Offensively, you should concentrate magic spells and bow fire on enemy magic-users. Even if a bow shot doesn't kill a magic-user, it can disrupt his ability to cast a spell. Magic Missile is very good for this because it always delivers a few points of damage and keeps an enemy magic-user from casting for the rest of the turn. Proper use of magic, both offensively and defensively, is often the key to your victory and the enemy's defeat.

Some monsters have abilities that might as well be magic. Dragons often have breath weapons that can do great damage over a wide area. Your characters should spread out to avoid several being attacked by a single attack. Phase spiders cannot be affected by any attack until just as they move. Your characters should choose Guard or Delay and then attack as the Phase Spiders advance or after they move. Driders know spells as powerful as any spell caster in Pool of Radiance. Your characters should spread out, just as if they were fighting an enemy magic-user.

One of the most important things to get for your heroes is the best possible Armor Class. A good AC is always useful, but it is especially important against mass attack by weaker monsters. High dexterity, heavy armor, rings of protection, bracers of defense, magic shields and armor all can contribute to giving your heroes the lowest possible AC. Your front line fighters go in harms way more often than the archers and magic-users, make sure they have the best AC in the party.

When fighting a heavily armored foe, flanking, swarming attacks, magic, and the backstab take on increased importance. Tactics that multiply the number and effectiveness of your attacks, and reduce the value of the enemy armor are worthwhile.

Soldiers often forget that mobility is as much a weapon as a sword or spell. If you are more mobile than your opponent, you can remain disengaged and fire arrows. You can choose to retreat or stay for battle. You can occupy the best defensive terrain and force the enemy to come to you. Be careful not to get your troops spread out if they have differing movement rates.

If the enemy is equal or superior in mobility, it multiplies their effective numbers. You must worry more about flank security and keeping your front line secure. Fast enemy's will also try to attempt to run away when their morale breaks. Once the enemies morale has broken, use archers to bring them down. Even a fleeing foe can be dangerous if cornered and forced to fight.

One of the most potent weapons in the hero's arsenal is the ability of thieves to backstab their opponents for extra damage. Thieves of level 1-4 do double damage when they hit with a backstab. Level 5-8 thieves do triple damage when they hit with a backstab. Level 9+ thieves do quadruple damage when they hit with a backstab. Mixed class fighter/thieves with exceptional strength and a magic long sword can take out very large monsters with one shot.

A backstab happens when a thief attacks a monster directly from behind. Unfortunately, whenever a monster attacks or is attacked, his facing can change. The following method can guarantee the thief his chance to backstab..

To attack you need a fighter or cleric as a stalking horse, and a thief. Choose the Delay command when each characters chance to move comes up. This guarantees that the monster will get his chance to move, and that its facing won't be upset. After the monster has moved, have the stalking horse move up adjacent to the monster and attack. This sets the monster's facing towards the stalking horse. Then have the thief move up and attack from directly opposite the stalking horse. This second attack will be a backstab that has large bonuses to hit and does multiple damage. The backstab is an especially effective attack against large monsters that are otherwise difficult to hurt because of a resistance to magic, many HP, and/or a very low AC.

Histories are written about great victories. But they are written by the survivors of well executed retreats. Every party occasionally gets into combat where it is overmatched by enemy numbers or power. The earlier you realize that you should retreat, the easier and more successful the retreat will be.

Once you have engaged the enemy retreat is more difficult. Anytime you turn away from an enemy to disengage, he has a clear shot at your back. This can be devastating if you get surrounded on many sides. You can be attacked half a dozen times by trying to retreat while surrounded.

The first part of any successful retreat is disengagement. Flankers, archers, spell casters, and reserves can normally disengage from the enemy simply by moving away. But the front line has a more difficult problem.

To disengage the front line, concentrate your attacks on a few units to create holes in the enemy front line. When your front line troops each have a few enemies still engaged, turn and begin the retreat. Retreat as far as you can to protected positions that minimize the enemies ability to flank you. Stay on guard so you can strike at the enemy if they pursue. Do not retreat the flankers, archers, and spell casters so fast that they cannot support the retreating fighters. If the enemy is swift and aggressive, you may have to repeat this maneuver several times to completely disengage.

If the enemy is faster then the character, then that character will not be allowed to exit the combat area. A character can often increase his movement by unreadying his heavy armor. When your movement is equal to the enemy's, you have an even chance to exit the combat area. When your movement exceeds the enemy's, you can automatically exit the combat area.

The worst time to decide to retreat is after some of your characters have fallen. Even if your retreat is successful, the troops that have fallen are lost forever. Even worse is cleanly retreating almost all of your heroes, only to see the final character pinned by the enemy and overwhelmed. Do everything in your power to avoid such a situation.

-When all else is said and done here are some rules to live by...

Keep a straight line: Your forses are the least vulnerable and provide each other the most support when they are in a straight line..

Anchor your Flanks on terrain features: Keep the enemy from flanking or overwhelming your troops by anchoring your flanks on impassable terrain.

Put your most Heavily Armored troops in the front line: Front line troops take the greatest number of attacks from the enemy. Heavy armor will increase their chance of survival.

Thieves sould only backstab when you outnumber the enemy: Thieves trying to backstab must be behind enemy lines. Their light armor makes them vulnerable. Onlt send the thieves around the flanks to backstab when the enemy is outnumbered so that he can't concentrate attacks on the thieves.

Spell Casters are High Priority Targets: Enemy spell casters have the greatest capability to quickly turn the tide of battle against you. Target them with archers, friendly spell casters, and flankers.

Don't Panic: Even when the situation seems imposible, trust in your troops. The enemy is probably not as powerful as it seems. Many things can happen to turn the tide of battle yor way. The enemy morale may break, you may make a lucky shot, or the enemy may be weaker than you realize. Keep fighting and stay alive.

### SPELLS

In Pool of Radiance, the efficaint use of spells, both in combat and in camp, makes the game much easiier. Some spells are useful in ways that are not obvious from their description. Here are some 'tricks' to the efficient use of some of the spells.

Unless otherwise specified, all spells have saving throws. In general, damage spells do half damage if the target makes its save; non-damage spells have no effect if the target makes its save.

Clerics get more spells per level than magic-users. Detect Magic, Protection from evil<good>, hold person, and Dispel Magic are available to

both clerics and magic-users. So, if you want these spells in your party your clerics should take them instead of your magic-users.

Offensive spells are of two types, damage causing spells that cause hit points, and restraining spells that make a target helpless. A single melee or missile attack can kill, once a target is helpless. The best offensive spells are:

Hold Person: The most powerful clerical offensive spell. You can aim at three<clerical> or four<magic-user> targets and make them helpless...

Charm Person: This spell makes one target fight on your side in the battle. When the charmed enemy changes side his formor comrades turn on him so he absorbs some enemy fire. If you attack a charmed enemy then NPC's in your party will turn on you <you are attacking an ally, after all>. If the charmed enemy is not killed in the fight then you won't get his treasure.

Magic Missile: Useful because it is low level, because the target gets no saving throw, and because it is fast and cannot be interrupted. This is a good spell to throw at spell casters before they have cast a spell and at undead , who ignore many other attack>. It is also useful if you fight under computer control because it has no chance to catch heroes in an area damage spell.

Sleep: The magic-users most powerful low level spell. Speep can make a whole horde of low level monsters helpless, and it has no saving throw. But it is useless against larger monsters such as Trolls. Remember that sleep has a comparatively short range, and that its variable effect can sleep your heroes if you target the spell too close to your own front lines. Once your heroes reach 5th level, they are immune to sleep and you can theow speep spells with great abandon.

Stinking Cloud: A powerful spell that amkes targets in a 2 square by 2 square area helpless. Its very short range, but exact area of effect, make it useful only after the enemy has closed to melee your front lines.

Fireball: The classic attack spell. In a closed area < when the combat map includes walls>, fireballs have a 3 square radius and affects almost every character on the screen. In an open area, fireballs have a 2 square radius. Try to get as many enemy in the fireball as possible, and be sure to keep your characters out of the radius of effect.

Lightning Bolt: This is often considered the poor cousin to the fireball, because it does the same damage but in a more limited area <a line>. But lightning bolt is best when you have to fight in a closed area. Properly used, you can throw a lightning bolt into a melee, miss your your heroes, and still hurt your enemies. Also, if the enemy is near a wall you can throw the bolt to attack the target, bounce off the wall, and then attack the target a second time. Remember that a lightning bolt always rebounds toward the caster; it does not follow the angle of the wall.

Some spells are useful in preparing for combat. If you know your party is in for a tough fight, you can prepare before combat. Encamp immediately before triggering the combat. Throw as many preparatory spells as you have ready on your characters, then immediately return to the Adventure menu and advance directly into the combat. If you can't prepare before combat, many of these spells are just as effective when you throw them in the first round of combat. Many of these spells can be reversed and thrown on the enemy to make him more vulnerable to your attacks. The best preparatory spells are:

Bless: this spell affects all heroes in a 5\*5 area that are not adjacent to the enemy. Bless is especially useful later in the game against monsters with very low AC's.

Protection from Evil: this spell only protects one person, but it improves your AC and Saving Throws by 2 against attacks from evil monsters.

Prayer: This spell is great because it can be thrown in combat and it

improves your THAC0, Damage, and Saving Throws by 1, while hurting your enemies values by a like amount. It can also be thrown after combat has commenced.

Enlarge: This spell makes a weak character strong, though it doesn't help a character who is already strong. A first level magic-user makes his target's effective strength 18. Each additional level adds one column to the characters effective strength, until at 6th level the target has an effective strength of 18(00).

Strength: This spell adds 1-8 points to a characters effective strength, depending on his class. For every point of strength over 18, 10% is added to his exceptional strength percentage.

Some spells are handy to have memorized for use out of combat, these include..

Cure Light Wounds: This spell is everyone's best friend. Use it after each battle to make sure that everyone gets back to their full HP. You can also use cures during combat to keep a character from going down. Also, if a character is wounded at the beginning of a wave of combats, you can 'Continue Combat' and cure characters to get them ready for the next encounter.

Detect Magic: Use this spell in the Treasure Menu to pick out the magic items from the trash.

Dispel Magic: Use this spell to remove locking spells on doors. Remember that your clerics can memorize this spell too.

Knock: Use this spell to open locked doors and chests.

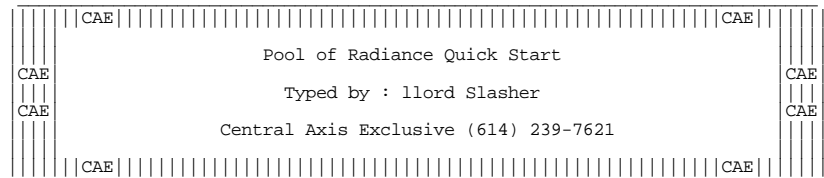
Invisibility 10' Radius: Use this spell while moving through dangerous territory. This keeps the enemy from finding your party until one of characters attacks in combat. Use your enemies confusion to get all your characters in position for 'backstabs', bouncing lightning bolts shots, and sweep attacks. Then have all your characters choose delay, let the enemy take his turn and guard, and then have all your characters attack at once.

Some spells should only be memorized when your party needs them; these spells include: slow poison, cure disease, remove curse, and read magic.....

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 The Exchange BBS . . . . .(215) 926-6203  
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[SuperTac/02]:

===== DOCUMENT pool.qstart =====



BEFORE BEGINNING PLAY: You should back up both sides of all four game disks with the copy option on side 1 or a commercial copy program. Put the originals away and play off of the copies.

TO LOAD THE GAME: Connect you computer, monitor, and disk drive. If you use a joystick, plug it into the joystick port. Set the Shift Lock key off and do not press shift when typing in text. Turn on the monitor, place side 1 into disk drive 1, and then turn on the computer.

First you will be prompted to copy a disk. Type "Y" to make a backup disk or type "N" if you have already made backups of your masters. Next type "Y" or "N" if you wish to have the sound on. After pressing "Y" or "N" for sound, you will have the option of using a joystick by typing "Y" or "N" to use the keyboard. Next, you will have the option to run your machine in Fast mode, type "Y" if your machine has an accelerator card or //GS board, otherwise type "N." Finally, the computer prompts you to change disks, place the correct disk in the drive and press Return. Press any key to pass the title screen. After the credits, press Return to play the game, or if you are using a joystick you will now calibrate your joystick for play. Once your joystick is calibrated, press Return to play the game. Two symbols and a path are displayed. Find the first symbol on the outside of the translation wheel, and the second symbol on the inside ring of the wheel. Match the two symbols and read the word under the path from inside to outside. After typing the translation, the game will load and display the Party Creation Menu.

HOW TO MAKE CHOICES: Pool of Radiance is controlled by using menus. One each menu one item is highlighted. To indicate the command you want, use the joystick or cursor keys to highlight the command. Press the joystick button or Return to select your choice. For example, to look at an overhead view, highlight the Area command and press the joystick button or Return key.

Some commands, such as View, act only on a single character. Use the joystick or cursor keys to highlight the character you want to be active for the command. Then, highlight the command and press the joystick button or Return key. For example, to view a character's ability scores, highlight the character's name in the character list, highlight the View command in the Adventure Menu, and press the joystick button or Return key.

Some commands toggle the program between two states. When you select one of these commands, the name on the screen changes to reflect the new state of the program. For example, if you select the Characters On command in the Pics menu, it will change to Characters Off. From then on the character's portrait picture is not displayed when you view the character.

HOW TO MOVE AROUND: In 3D travel the party can move forward, turn right or left, or move backwards. In the wilderness or in combat you can move in any of eight directions. You may use the joystick or keyboard interchangeable to move in any mode. If you have a problem in making a diagonal move with a joystick in combat or the wilderness, use the 2, 4, 6, or 8 keys instead.

JOYSTICK MOVEMENT:



3D Combat & Wilderness

Move Forward

```

Turn   |      Turn
Left  ---+--- Right
      |

```

Move Backward

KEYBOARD MOVEMENT:

3D Combat & Wilderness

Move Forward

```

Turn   I      Turn
Left  J  K  Right
      M

```

Move Backward

TO BEGIN PLAY QUICKLY: A pre-rolled and pre-equipped party of adventurers are stored as a saved game on disk side 4. Choose Load Save Game from the Party Creation Menu. Insert disk side 4 in the drive when the game disk is requested. After the saved game is loaded choose Begin Adventuring. You will get a tour of the main street of the civilized section of New Phlan. When the tour is over choose the Move command from the Adventure menu.

If you want to start the overall quest, turn around, go back to the city council building and obtain a commission. If you want to try out the game, walk forward into the slums. Once in the slums you won't have to go looking for danger, danger will look for you!

TIPS ON SUCCESSFUL EARLY ADVENTURING: If you build your own party you will need equipment before your adventure into the slums. A shop selling arms and armor is located at 8, 11. Pool your money. Buy fighters banded mail, a shield, and a broad sword. Buy clerics banded mail, a shield, and a flail. Buy thieves leather armour, a broad sword, and a sling. Buy your magic users a staff and a couple of darts. You may want to buy your fighters short bows and some arrows or a two handed sword instead of a sheild.

Make sure you have at least 10 gold left over to pay for your lodging. Use the View, Items, and Ready commands to prepare all your characters' equipment for battle. Once you have bought everything you need, use the Take command and have one character pick up all the money.

Go to the inn at 4,12, pay the money, and memorize spells. Clerics should memorize cure light wounds spells. Magic users should memorize sleep spells. Rest to memorize spells.

Keep Search "off" while you move through the slums, you don't want to attract monster encounters. After you clear the monsters from a room you can put Search "on" and check for treasure. Try the Area command to get a birds-eye view of the slums. The slums are 16 squares by 16 squares.

In many parts of the slums it is unsafe to rest. But after you clear the monsters from some rooms, the rooms become safe to rest in. Clear out your first safe room in the building at 13,1. Here your party can rest to regain hit points and memorize spells. Adventure deeper into the slums, clearing other safe rooms where your party can rest. Whenever your party is low on sleep and cure spells or hit points, return to the nearest safe room to rest up.

Once your characters have enough experience points and money, they should return to the civilized area and train in the training grounds. Before you train, go into a shop and make sure each character is carrying atleast 1000 gp. Remember to Share your money after you Pool it to buy items. If you find a particularly difficult location to clear, go to the training hall in the civilized area and

hire a NPC to help. Once your party clears the slums they should go to the city council and get their reward. Then take a boat to Sokal Keep and clear it.

After you successfully complete each mission, return to the city council for your reward and news of any other commissions available. Once the council clerk has read you a commission, it's yours! Carefully note the messages, proclamations, journal entries, and other clues you get for the best chance to solve the mysteries of Phlan. Good luck!

RULES ERRATA: Wilderness encounters replace your party's icon, they do not appear adjacent to it. Charmed characters will not join your party, but they will fight on your side for one battle. Evil clerics Turn undead, they do not charm them onto your side.

DIFFERENCES IN APPLE ][ VERSION: The Apple // version of Pool of Radiance is slightly different than the rules. These differences include:

Pressing the <ESC> key is the same as choosing the Exit command in a menu. While moving in combat, the <ESC> key will "take back" your current move, but it will not erase any damage taken during the move.

The Monster Portrait On/Off isn't used on the Apple // version.

The "<" and ">" keys can be used for menu cursor up and down.

There is no Exit to DOS on the Party Creation Menu. Turn your computer off and then on to run other programs. A character's portrait picture is only shown in the civilized area. Some items can only be Readied in combat or in camp. If you try to ready these items in other places, the computer responds "NOT HERE."

The following commands can be given at the Combat menu or while a party character is moving under computer control. Press the key to execute the command.

C : Sets all characters to computer control.  
 <Space> : Resets all characters to manual control.  
 M : Toggles magic on or off for characters set to Quick.

Characters set to Quick will always use Readied Magic Items. Characters with Readied arrows will use bows if no enemy is adjacent.

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| Level | Experience        |
|-------|-------------------|
| 1     | 0 - 2,000         |
| 2     | 2,001 - 4000      |
| 3     | 4,001 - 8000      |
| 4     | 8,001 - 18,000    |
| 5     | 18,001 - 35,000   |
| 6     | 35,001 - 70,000   |
| 7     | 70,001 - 125,000  |
| 8     | 125,001 - 250,000 |

| Magic-User Level | Experience      | Spells 1 | Spells 2 | Spells 3 |
|------------------|-----------------|----------|----------|----------|
| 1                | 0 - 2,500       | 1        | -        | -        |
| 2                | 2,501 - 5,000   | 2        | -        | -        |
| 3                | 5,001 - 10,000  | 2        | 1        | -        |
| 4                | 10,001 - 22,500 | 3        | 2        | -        |
| 5                | 22,501 - 40,000 | 4        | 2        | 1        |
| 6                | 40,001 - 60,000 | 4        | 2        | 2        |

Theif:

| Level | Experience        |
|-------|-------------------|
| 1     | 0 - 1,250         |
| 2     | 1,251 - 2,500     |
| 3     | 2,501 - 5,000     |
| 4     | 5,001 - 10,000    |
| 5     | 10,001 - 20,000   |
| 6     | 20,001 - 42,500   |
| 7     | 42,501 - 70,000   |
| 8     | 70,001 - 110,000  |
| 9     | 110,001 - 160,000 |

CLERICS vs. UNDEAD

A good or evil cleric (not a neutral one) has a certain influence on undead. He extends this influence by using the Turn command in the Combat Menu. His level determines how many undead and what kind he can influence. Evil clerics can make undead either neutral or friendly to the party. Good clerics can drive the undead away and may be able to destroy them if the cleric is of a high enough level and the undead are of a low-enough level.

The following is a list of undead in increasing order of power and what minimum level of cleric a character has to be to have any influence over them. Low level clerics generally have a chance, not a certainty, of affecting undead.

| Undead Type | Minimum Level of Cleric |
|-------------|-------------------------|
| Skeleton    | 1st                     |
| Zombie      | 1st                     |
| Ghoul       | 1st                     |
| Wight       | 1st                     |
| Wraith      | 3rd                     |
| Mummy       | 4th                     |
| Spectre     | 5th                     |
| Vampire     | 6th                     |

GLOSSARY OF AD&D GAME TERMS AND COMPUTER TERMS

ABILITY SCORES: These are numbers that describe the attributes of the characters. There are six ability scores: Strength, Intelligence, Wisdom, Dexterity, Constitution, and Charisma. For the most part, the range of numbers runs from 3 to 18, the higher the better.

ADVENTURER: This is a term for one of the characters you play in this game.

ALIGNMENT: This is the basic philosophy of a character.

CHARACTER: This is another name for one of the persons you play in the game. A party consists of several characters.

COMMAND: A one or two word option in a menu. Activating that command allows you to either to view another menu or have your characters perform an action.

ENCOUNTER: This is whay happens when a party meets a monster. You are given a menu of choices of how you want to handle the situation.

ENTER: The act of giving a command to the computer. How this is done varies depending on the computer.

EXPERIENCE POINTS (XP): Every encounter the characters have yeilds experience points for every character depending on how successful the encounter was for the party. A character who gains enough XP can advance a level if he has enough gold for training.

FACING: In combat, a character faces a certain direction. An attack from the direction he is not facing has a greater chance of doing damage. A character will always face an opponent if he only has one opponent.

HIT POINTS (HP): This is a measure of how healthy a character is. Damage from weapons subtracts hit points from the character's total. When he has lost all of his hit points, he is unconscious and dying. If his wounds are bound by another party member, he is simply unconscious.

ICON: This is the small picture of a monster or a character seen in the initial stages of an encounter and during combat. Character icons can be altered using the Alter command in the Camp Menu.

INITIATIVE: This is a semi-random determination of which character in a combat acts first. The characters with higher dexterities have a better chance for a higher initiative.

LEVEL: This describes the power of a number of different items. The power of characters, dungeons, monsters, and spells are all described with levels.

CHARACTER LEVEL: This is a determination of how much experience a character has. The higher the level, the more experience and important the character is. High-level spellcasters can cast high level spells.

DUNGEON LEVEL: This is a measure of how far in the earth a dungeon is. For the most part, the further down one is, the more ferocious the monsters. Thus, a high-level dungeon refers either to how deep it goes of the relative toughness of the monsters.

MONSTER LEVEL: This is a measure of how powerful monsters are. The higher the level, the more powerful the monster.

SPELL LEVEL: Spells come in degrees of difficulty. The higher the level of the spell, the higher the difficulty. Only very experienced magic-users and clerics can learn high level spells.

MAGIC: This term covers spellcasting, enchanted items, and any other application of the supernatural.

MELEE COMBAT: This is hand-to-hand combat with weapons such as swords, spears, and fists.

MISSILE COMBAT: This is ranged combat with weapons such as bows and arrows, crossbows and quarrels, and slings and slingstones.

MONSTER: This term actually includes human and other player races as well as such creatures as ogres and dragons. In general, if it isn't part of your party, it's a monster. Monsters are not necessarily hostile. Some may be helpful. Thats what the Parlay command in the Encounter Menu is for.

NON-PLAYER CHARACTER (NPC): This is a member of a player character race who is not controlled by the player. Some NPCs can be brought into a party.

PARTY: The group of adventurers you form to perform the missions you are given. A party can be reformed for each adventure, and even altered during the course of an adventure.

PLAYER CHARACTER (PC): This is a member of a player character race who is controlled by the player. The characters in your adventuring party are PCs.

SPELL: This is a magic incantation that can alter the nature of reality. Both magic-users and clerics can cast spells after memorizing them. If the spell is cast, it is gone from the user's mind and must be rememorized.

SPELL BOOK: The book a magic-user carries his spells in. If he doesn't have a magic book, he has no spells to memorize.

ARMOR AND WEAPONS PERMITTED BY CHARACTER CLASS

| Class      | Armor   | Shield | Weapons                                      |
|------------|---------|--------|----------------------------------------------|
| Cleric     | any     | any    | club, flail, hammer, mace, staff             |
| Fighter    | any     | any    | any                                          |
| Magic-User | none    | none   | dagger, dart, staff                          |
| Theif      | leather | none   | club, dagger, dart, sling, one handed swords |

WEAPON LIST

| Name               | Damage vs. Man Sized | Damage vs. Larger Than Mans Sized | Number of Hands | Class   |
|--------------------|----------------------|-----------------------------------|-----------------|---------|
| Axe, Hand          | 1-6                  | 1-4                               | 1               | f       |
| Bardiche +         | 2-8                  | 3-12                              | 2               | f       |
| Bastard Sword      | 2-16                 | 2-16                              | 2               | f       |
| Battleaxe          | 1-8                  | 1-8                               | 1               | f       |
| Bec de Corbin +    | 1-8                  | 1-6                               | 2               | f       |
| Bill-Guisarme +    | 2-8                  | 1-10                              | 2               | f       |
| Bo Stick           | 1-6                  | 1-3                               | 2               | f       |
| Broad Sword        | 2-8                  | 2-7                               | 1               | f,th    |
| Club               | 1-6                  | 1-3                               | 1               | f,cl,th |
| Dagger             | 1-4                  | 1-3                               | 1               | f,mu,th |
| Dart               | 1-3                  | 1-2                               | 1               | f,mu,th |
| Fauchard +         | 1-6                  | 1-8                               | 2               | f       |
| Fauchard-Fork +    | 1-8                  | 1-10                              | 2               | f       |
| Flail              | 2-7                  | 2-8                               | 1               | f,cl    |
| Fork, Military +   | 1-8                  | 2-8                               | 2               | f       |
| Glaive +           | 1-6                  | 1-10                              | 2               | f       |
| Glaive, Guisarme + | 2-8                  | 2-12                              | 2               | f       |
| Guisarme +         | 2-8                  | 1-8                               | 2               | f       |
| Guisarme-Voulge +  | 2-8                  | 2-8                               | 2               | f       |
| Halberd +          | 1-10                 | 2-12                              | 2               | f       |
| Lucern Hammer +    | 2-8                  | 1-6                               | 2               | f       |
| Hammer             | 2-5                  | 1-4                               | 1               | f,cl    |
| Javelin            | 1-6                  | 1-6                               | 1               | f       |
| Jo Stick           | 1-6                  | 1-4                               | 1               | f       |
| Long Sword         | 1-8                  | 1-12                              | 1               | f,th    |
| Mace               | 2-7                  | 1-6                               | 1               | f,cl    |
| Morning Star       | 2-8                  | 2-7                               | 1               | f       |
| Partisan +         | 1-6                  | 2-7                               | 2               | f       |
| Pick, Military     | 2-5                  | 1-4                               | 1               | f       |
| Pike, Awl +        | 1-6                  | 2-12                              | 1               | f       |
| Quarterstaff       | 1-6                  | 1-6                               | 2               | f,cl,mu |
| Ranseur +          | 2-8                  | 2-8                               | 2               | f       |
| Scimitar           | 1-8                  | 1-8                               | 1               | f,th    |
| Short Sword        | 1-6                  | 1-8                               | 1               | f,th    |
| Spear              | 1-6                  | 1-8                               | 1               | f       |
| Spectrum +         | 2-7                  | 2-12                              | 2               | f       |
| Trident            | 2-7                  | 3-12                              | 1               | f       |

|                       |      |      |   |      |
|-----------------------|------|------|---|------|
| Two-Handed Sword      | 1-10 | 3-18 | 2 | f    |
| Voulge +              | 2-8  | 2-8  | 2 | f    |
| Composite Long Bow *  | 1-6  | 1-6  | 2 | f    |
| Composite Short Bow * | 1-6  | 1-6  | 2 | f    |
| Long Bow *            | 1-6  | 1-6  | 2 | f    |
| Heavy Crossbow #      | 2-5  | 2-7  | 2 | f    |
| Light Crossbow #      | 1-4  | 1-4  | 2 | f    |
| Short Bow *           | 1-6  | 1-6  | 2 | f    |
| Sling                 | 1-4  | 1-4  | 1 | f,th |

+ Polearm  
 \* Must have ready arrows to fire.  
 # Must have ready quarrels to fire.

f = fighter  
 cl = cleric  
 th = theif  
 mu = magic-user

\*-----\*  
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 \*-----\*

|                 |     |     |   |      |
|-----------------|-----|-----|---|------|
| Long Bow*       | 1-6 | 1-6 | 2 | f    |
| Heavy Crossbow# | 2-5 | 2-7 | 2 | f    |
| Light Crossbow# | 1-4 | 1-4 | 2 | f    |
| Short Bow*      | 1-6 | 1-6 | 2 | f,th |
| Sling           | 1-4 | 1-4 | 1 | f,th |

Polearm \* Must have ready arrows to fire # Must have ready quarrels to fire +  
 f=fighter, cl=cleric, th=thief, mu=magic-user  
 If  
 printing out, you may want to double space it for easier reading.

-Merlin

DOCUMENT pool.wea.list

Pool of Radiance Weapons List

ARMOR AND WEAPONS PERMITTED BY CHARACTER CLASS

| Armor                             | Shield | Weapons                                            | class |
|-----------------------------------|--------|----------------------------------------------------|-------|
| Cleric.....any.....any.....       |        | club, flail, hammer,<br>mace, staff                |       |
| Fighter.....any.....any.....      |        | any                                                |       |
| Magic-User.....none.....none..... |        | dagger, dart, staff                                |       |
| Thief.....leather.....none.....   |        | club, dagger, dart<br>sling, one handed-<br>swords |       |

WEAPON LIST

| Damage vs.          | Damage vs.<br>man sized | Number of Hands<br>larger than man | Class | ame     |
|---------------------|-------------------------|------------------------------------|-------|---------|
| Axe, Hand           | 1-6                     | 1-4                                | 1     | f       |
| Bardiche+           | 2-8                     | 3-12                               | 2     | f       |
| Bastard Sword       | 2-8                     | 2-16                               | 2     | f       |
| Battleaxe           | 1-8                     | 1-8                                | 1     | f       |
| Bec de Corbin+      | 1-8                     | 1-6                                | 2     | f       |
| Bill-Guisarme+      | 2-8                     | 1-10                               | 2     | f       |
| Bo Stick            | 1-6                     | 1-3                                | 2     | f       |
| Broad Sword         | 2-8                     | 2-7                                | 1     | f,th    |
| Club                | 1-6                     | 1-3                                | 1     | f,cl,th |
| Dagger              | 1-4                     | 1-3                                | 1     | f,mu,th |
| Dart                | 1-3                     | 1-2                                | 1     | f,mu,th |
| Fauchard+           | 1-6                     | 1-3                                | 2     | f       |
| Fauchard-Fork+      | 1-8                     | 1-10                               | 2     | f       |
| Flail               | 2-7                     | 2-8                                | 2     | f       |
| Fork, Military+     | 1-8                     | 2-8                                | 2     | f       |
| Glaive+             | 1-6                     | 2-8                                | 2     | f       |
| Glaive, Guisarme+   | 2-8                     | 2-12                               | 2     | f       |
| Guisarme+           | 2-8                     | 1-8                                | 2     | f       |
| Guisarme-Voulge+    | 2-8                     | 2-8                                | 2     | f       |
| Halberd+            | 1-10                    | 2-12                               | 2     | f       |
| Lucern Hammer+      | 2-8                     | 1-6                                | 2     | f       |
| Hammer              | 2-5                     | 1-4                                | 1     | f,cl    |
| Javelin             | 1-6                     | 1-6                                | 1     | f       |
| Jo Stick            | 1-6                     | 1-4                                | 1     | f       |
| Long Sword          | 1-8                     | 1-12                               | 1     | f,th    |
| Mace                | 2-7                     | 1-6                                | 1     | f,cl    |
| Morning Star        | 2-8                     | 2-7                                | 1     | f       |
| Partisan+           | 1-6                     | 2-7                                | 2     | f       |
| Pick, Military      | 2-5                     | 1-4                                | 1     | f       |
| Pike, Awl+          | 1-6                     | 2-12                               | 1     | f       |
| Quarterstaff        | 1-6                     | 1-6                                | 1     | f,cl    |
| Ranseur             | 2-8                     | 2-8                                | 2     | f       |
| Scimitar            | 1-8                     | 1-8                                | 1     | f,th    |
| Short Sword         | 1-6                     | 1-8                                | 1     | f,th    |
| Spear               | 1-6                     | 1-8                                | 1     | f       |
| Spetum+             | 2-7                     | 2-12                               | 2     | f       |
| Trident             | 2-7                     | 3-12                               | 1     | f       |
| Two-Handed Sword    | 1-10                    | 3-18                               | 2     | f       |
| Voulge+             | 2-8                     | 2-8                                | 2     | f       |
| Composite Long Bow* | 1-6                     | 1-6                                | 2     | f       |
| Composite Shrt Bow* | 1-6                     | 1-6                                | 2     | f       |

=====
   
DOCUMENT postcard
   
=====

POSTCARDS (Activision)

- TURN YOUR COMPUTER INTO A WACKY POSTCARD MAKER -

You've probably used your Apple GS computer for a lot of different things. For work or homework. For organizing home business information. For games. Maybe even for creating other types of letters or cards. But you've probably never used your micro to create anything as wacky (and fun!) as the kinds of things you'll create with POSTCARDS.

POSTCARDS gives you everything you need to create you own original, far-out postcards. For starters, you get the craziest assortment of creative clipart ever compiled. There's a bikini-clad warthog. A platypus. A UFO. The Mona Lisa. Insects of all sizes and scariness. And scads more.

Then, you get a wide array of postcard backgrounds. Like a beach, farm, desert, cityscape, and even a moonscape. So you can mix and match the most ridiculously unique combinations.

Put a one-eyed, three-antennaed alien at a busy downtown penguin crossing. Or show a giant tarantula crawling out from behind an erupting volcano. There are thousands of possible possibilities.

Plus, POSTCARDS comes with catchy captions as well as clipart alphabets, for your own writing. It only takes about five minutes to make your first postcard.

SIX EASY STEPS TO MAKING A POSTCARD

Utilizing a GS paint program , like PaintWorks Plus, its as easy as cut, paste, and print.

1. PICK OUT THE SCENE. Open the SCENE1 file and, using the SAVE AS command, give it a new name, like BIRTHDAY, and save it on your work disk. Then CLOSE the file.
2. PICK OUT THE ART. Open the PEOPLE2 file. Use the lasso with the COPY command to select the guy in the Hawaiian shirt, or any other image, to put on your postcard. Then CLOSE the file.
3. PLACE THE ART. Open your BIRTHDAY (or whatever name you used) file. Using the PASTE command, position your guy in the Hawaiian shirt in the bottom right hand corner of the beach. The CLOSE and SAVE your file.
4. PICK OUT A MESSAGE. Open the LETTERS file. Use the lasso with the COPY command to select "HAPPY BIRTHDAY" and place it on your postcard as described in steps 2 and 3 above.
5. PRINT. Just click on your PRINT command.
6. CUT AND GLUE TO CARD STOCK. Loosely cut out your postcard and glue it to a standard US Postcard. Blank stock can be purchased from Activision.

POSTCARDS - Reference Card

Here's a list of the clip art on the POSTCARDS disk, along with the file name and number where you'll find each image.

| SCENE        | FILE NUMBER |
|--------------|-------------|
| Artic        | 1           |
| Beach        | 1           |
| Cityscape    | 2           |
| Country Road | 2           |

|               |           |
|---------------|-----------|
| Desert        | 3         |
| Farm          | 3         |
| Main Street   | 4         |
| Moonscape     | 4         |
| Volcano       | 5         |
| Blank (front) | TEMPLATES |
| Blank (back)  | TEMPLATES |

STRUCTURES FILE

Arc D'Triomphe  
 Billboard  
 Burning House  
 Castles  
 Eiffel Tower  
 Igloo  
 Motel D'Triomphe  
 Pyramid  
 Shack D'Triomphe  
 Taj Majal  
 Teepees  
 Village

SIGNS FILE

"Caution"  
 "Detour Ahead"  
 "Interstate Highway"  
 "No Parking"  
 "Slippery When Wet"  
 "Soft Shoulders"  
 "Speed Limit"  
 "Stop"  
 "Wrong Way"  
 "Yield"

OBJECTS FILE

Ball  
 Balloon  
 Easter Island Stoneface  
 Flag (American)  
 Mona Lisa  
 Part Hats  
 The Thinker  
 Trees  
 Umbrellas  
 Winged Victory

EDIBLES FILE

Apple  
 Birthday Cake  
 Bread and Jug  
 Candle  
 Champagne  
 Coffe & Mug  
 Corn  
 Egg  
 Hot Dog  
 Ice Cream Sundae  
 Orange  
 Pie  
 Pineapple

Potato  
Rose  
Salt & Pepper  
Teapot  
Toaster

TRANSPORTATION FILE

Airplane  
Balloon (hot air)  
Blimp  
Dog Sled  
Flying Saucer  
More Skiers  
Parachutist  
Rocket Ship  
Trucks

PEOPLE FILE

|                        |   |
|------------------------|---|
| Abraham Lincoln        | 3 |
| Alien                  | 2 |
| American Gothic Couple | 3 |
| Astronaut              | 1 |
| Baby                   | 1 |
| Ballerina              | 3 |
| Bathing Beauty         | 3 |
| Beach Couple           | 1 |
| Business-kind-of-guy   | 2 |
| Crawling Westerner     | 2 |
| Elderly Monarch        | 3 |
| Eskimo                 | 1 |
| Fat Beach Person       | 1 |
| Freud, Sigmund         | 3 |
| Hula Dancer            | 1 |
| Indians                | 2 |
| Jungle Men             | 2 |
| Mother-in-law          | 3 |
| Mountie                | 2 |
| Napoleon               | 3 |
| Panicked Crowd         | 1 |
| Part-kind-of-guy       | 2 |
| Prophet                | 2 |
| Robot                  | 1 |
| Romantic Couple        | 1 |
| Skier                  | 1 |
| Sportsman              | 2 |
| Tourist                | 2 |

ANIMALS FILE

|            |   |
|------------|---|
| Alligators | 5 |
| Ants       | 2 |
| Armadillo  | 2 |
| Bear       | 1 |
| Bug        | 2 |
| Bull       | 1 |
| Cats       | 3 |
| Cow        | 1 |
| Crab       | 5 |
| Cricket    | 2 |
| Dinosaur   | 4 |
| Dodo       | 4 |
| Dogs       | 3 |
| Duck       | 3 |

|             |           |
|-------------|-----------|
| Fish        | 5         |
| Flamingos   | 4         |
| Fly         | 2         |
| Gorilla     | 4         |
| Hen         | 3         |
| Kangaroo    | 4         |
| Lizard      | 2         |
| Lobster     | 5         |
| Mole        | 3         |
| Moose       | 1         |
| Mosquito    | 2         |
| Mouse       | 3         |
| Penguis     | 5         |
| Porcupine   | 4         |
| Rabbit      | 3         |
| Rattlesnake | 2         |
| Rhinoceros  | 1         |
| Rooster     | 3         |
| Sea Monster | 5         |
| Seal        | 5         |
| Shark       | 5         |
| Sheep       | 3         |
| Skull       | 1         |
| Snake       | 2         |
| Tarantula   | 2         |
| Walrus      | 5         |
| Wart Hot    | Rooster 3 |
| Sea Monster | Rooster 3 |

-END-





R: Redial current number (useful if your modem lacks automatic busy signal redialing)  
Q: Quit and save datafile (if one is used)  
G: Pop up Graphics Page 2. Useful if mommy walks in to see if you are learning anything with your expensive toy.  
T: Text screen (use to get back to the text display after the 'G' command)  
l: Signal the Prowler that the current number has answered with a carrier and flag it as a successful connect.

An army helmet for your telephone is suggested, but not required.

Happy Warring.  
automatically,  
A U T O M A N  
-|-----

=====  
DOCUMENT president.elect  
=====

[> President Elect Softdocs by The Archer <]

Thanx to [> The Penguin - Jay of A.P.P.L.E. - The Duplicator - Doctor Amoeba

[> These docs are written for any use you [the consumer] see fit <]

Now on to the docs

[> Introduction <]

President Elect is a comprehensive simulation of presidential campaigning from labor day to the election night. Game functions are rooted as closely as possible to real life; to campaign players must plan and execute strategies to their own choosing success is a function of these strategies thje inherent strengths and weaknesses of the candidates, chance events, anc pre-campaign situtation.

[> The Set-Up <]

The first question asked is:

- 1] Start a New Game
- 2] Continue Old Game
- 3] Demo of Graphics
- 4] Computer Demo of Game

If you have selected a new game, you must construct your own scenario. The importance of this segment cannot be overstressed, as the variables you enter have a direct and powerful influence on the course of the game. To construct a scenario, answer each question as requested on the screen and refer to the game manual when necessary. Following are a few notes on setting up a scenario

1] Election years are different in two ways. First, the numbevr of popular and electoral votes conform to history, adjusted in the case of popular votes by likely voter turnout. Ex. Florida had 10 electoral votes in 1960 now it has 23 in 1984, due to population shifts. Second, each state is biased to a different degree for one party or another. Ex. Massachusetts is more liberal than Utah. The bias changes from election to elction.

2] Historical scenarios are just that - the historical candidates anc con- ditions are entered automatically. A historical scenario gives you the ability to change conditions anc candidates, even to the point of constructing a fictitious candidate. This allows YOU to run for president.

3] Candidates can be selected irrespective to their party to actual time frame, however unrealistic Goeogre McGovern running as a Republican in 1894 may seem.

4] How the Sate of the Union affects the campaign depends upon who is the incumbent, how the state of the union was when the incumbent party took office, and how good or bad current conditions are.

The computer can manage all, some , or none of thje candidates. It will make the game decsions a humna must w/o cheating. If you want all the candidates to be run by the computer, then you can run the game on

"Autopilot". The campaigning segment will take 45-60 minutes w/o any player input required. You regain control when the election returns begin.

[> The Game <]

The campaign is nine weeks [turns] long. Each week players receive poll that shows thje national popular vote with a 2% error margin [on rare occasions the error may be greater]. The individual states have a 4% margin of error. For a state to be considered likely to vote for a candidate the polls must show the candidate leading by over 4%. For a state to be considered solidly in support of a candidate thje candidate must be leading be over 8%. During the campaign the candidates try to improve their positions through the expenditure of campaign funds on overhead, advertising, campaign stops, and foreign travel

[Overhead]

Overhead is unaviodal, for major candidates overhead starts are \$500 units a week and increases by \$100 units each week. It does not contribute directly to swaying votes, but is essential is running a campaign. Overhead is variable for Third-Party-Candidates.

[Advertising]

There are three kinds of advertising, each serving a different purpose.

1] National advertising covers the entire nation. Dollar-for-dollar it sways the most net voets;however, it is not focused and is not the most effective way to swing particular states.

2] Regional advertising is more effective in swaying states , but only in the area chosen.

3] Individual state advertising is excellent for swaying large states where the voting is close, but it is a very expensive way to but votes. To select a state, enter its two-letter postal code shown on the map.

[Campaign Stops]

Each candidate may make appearances in the states/regions of his choice. Costs are incurred when entering a region, when entering a given state, and for each stop made. Fatigue effects occur after a given number of stops and no more given stops may be schedule for a dingle week. Stops have diminshing marginal effectiveness in a given week, but have a gradually increading effectiveness each week [Ex. 2 stops in 3 weeks is more effective than 6 stops in 1 one week, but is also more expensive]

[Foriegn Visit]

In the first week only, all candidates decide whether or not to take a trip, and if so who will go, where they will go, when, and for how long. Trips are pure gamble; sometimes they help, somtimes they hurt.

All players recieve an intelligence report at the end of the campaign phase, showing estimate of each candidates's dollar expenditures in each state Also shown are the number of stops made by each candidate in each state.

Each week the players are offered the opportunity to debate, if they are willing. Agreement come only through the mutual consent among potential debaters on who will debate and how many question will be asked.

At the end of each week, strengths ar`e adjusted based on the decisions of the candidates and the events that have transpired. Each new week begins with a new poll.

[> Election Night <]

After the ninth week, result of the election are given and a winner is declared. The election night may be stimulated in real time [4-6 hours] or votes may be tailed in less than 15 seconds. The players are given the opportunity to decide how to resolve the election night.

Whenever you press Control-J, make sure the joystick is in its center (released) position.

-----  
Running, Jumping, and Climbing  
-----

To run: Push the joystick in the direction you want to go (left or right).  
----- Release the joystick to stop.

To take careful steps: Hold down a joystick button and push the joystick in the direction you want to go. You can use careful steps to move right up to the edge of a pit or a suspicious-looking floor section.

To jump up: Push the joystick straight up.  
-----

To jump forward: When you are standing still, push the joystick up diagonally  
----- in the direction you want to jump.

You can jump farther with a running start. For a running jump over a chasm, back up at least two full strides from the edge. Push the joystick forward to start running, then up to jump. Don't be afraid of pushing the joystick up too early; your character will wait until the last possible moment to jump.

To climb up onto a ledge: Stand facing the ledge and push the joystick  
----- straight up. If necessary, use careful steps to position yourself up onto the ledge, push the joystick up.

To hang from a ledge: Press a joystick button and hold it down. To let  
----- yourself drop, release the button. To pull yourself up onto the ledge, push the joystick up.

Any time you jump or fall within reach of a ledge, you can grab onto it by pressing a button. Remember--when you release the button, you let go of the ledge.

To climb down from a ledge: Step up to the edge, turn around, then push the  
----- joystick down. To hang from the ledge, press a joystick button and hold it down.

To duck: Push the joystick straight down. Release it to stand up.  
-----

To pick something up: Stand in front of it and press the button.  
-----

-----  
Fighting  
-----

When you come face to face with an armed opponent, release the joystick. You will automatically draw your sword--if you have one--and go en garde. In this stance, the controls are somewhat different.

To strike: Press a joystick button.  
-----

To advance: Push the joystick in the direction you're facing (towards your  
----- opponent).

To retreat: Push the joystick away from your opponent.  
-----

To block your opponent's strike: Push the joystick up just as your opponent is  
----- striking. It may take some practice to get

===== DOCUMENT prince.persia =====

```

*::::::::::::::::::::::::::::::::::::::::::::::::::::*
|
|                PRINCE of PERSIA
|
|            by Jordan Mechner
|            The Creator of Karateka
|
|    Cracked by: The Ramsacker
|    Documentation by: The Rampager/RamRods
|
|            A Byte Bastards Release
|
*::::::::::::::::::::::::::::::::::::::::::::::::::::*

```

-----  
Introduction  
-----

IIIIIIIIIIIIIIIIII T IS A TIME OF DARKNESS. WHILE THE SULTAN IS OFF FIGHTING A  
III  
III foreign war, his Grand Vizier Jaffar has seized the reins  
III  
III of power. Throughout the land, the people groan under the  
III  
IIIIIIIIIIIIIIIIII yoke of tyranny, and dream of better days.

You are the only obstacle between Jaffar and the throne. An adventurer from a foreign land, innocent of palace intrigues, you have won the heart of the Sultan's lovely young daughter. And in so doing, you have unwittingly made a powerful enemy.

On Jaffar's orders, you are arrested, stripped of your sword and possessions, and thrown into the Sultan's dungeons. As for the Princess, Jaffar gives her a choice, and an hour to decide: Marry him--or die.

Locked in her room high in the palace tower, the Princess rests all her hopes on you. For when the last sands drain from the hourglass, her choice can bring only a throne for the Grand Vizier...a new reign of terror for his long-suffering subjects...and death for the brave youth who might have been...Prince of Persia.

-----  
What you'll Need  
-----

To play PRINCE of PERSIA, you will need an Apple IIe, IIc, or IIGS with two 5.25" disk drives. If you are using an Apple IIe, it must be equipped with an extended 80-column card. A joystick and color monitor are recommended, but not required.

-----  
Joystick Control  
-----

If you use a joystick, it should be the self-centering kind. The joystick buttons can be used interchangeably.

When you boot the disk, the program automatically calibrates itself to match your particular joystick. During play, if your joystick starts to behave strangely, you can recalibrate it by pressing CONTROL-J. If this doesn't fix the problem, try adjusting the joystick's trim controls, and pressing control-J again.

the timing right. Watch your opponent carefully, and wait for him to strike.

To stop fighting: Push the joystick down. Once you have put away your sword, you are free to run, jump and climb as usual. Be careful, though--when you are off guard, a single sword blow can kill you. To draw your sword again, press a joystick button.

## Keyboard Control

In keyboard mode, use the following keys in place of the joystick:

| Movement   | Key |
|------------|-----|
| Left       | J   |
| Right      | L   |
| Up         | I   |
| Down       | K   |
| Jump Left  | U   |
| Jump Right | O   |

Action button: Open-Apple or Closed-Apple

## Hints

- \* To get the maximum distance from a standing jump across a chasm, use careful steps to move right up to the edge of the pit before you jump.
- \* If you jump a chasm but fall short, you may still be able to grab on to the opposite ledge by pushing a button. Remember, when you let go of the button, you let go of the ledge.
- \* Every time you block an opponent's sword strike, the force of the blow pushes you back slightly. If you adopt a defensive strategy, you will find yourself steadily losing ground. Try following up a successful block with a strike.
- \* Test for loose floor sections by jumping up and down.
- \* You can knock out a loose floor section by standing directly beneath it and jumping up. Try not to be there when it lands.
- \* There are two kinds of pressure-activated floor plates. One kind raises gates, the other lowers them. With experience, you can learn to distinguish them from ordinary floor sections and from each other.
- \* Learn to recognize different kinds of potions by sight.
- \* You can cross a bed of spikes safely by taking careful steps.
- \* A two-story drop will hurt you. A three-story drop will kill you.
- \* You never know what you'll find in a dungeon. Don't be afraid to explore, and to experiment. After all, you've got nothing to lose except your life, the Princess, and the entire Kingdom.

## Life and Death

The row of red bullets in the lower left corner of the screen indicates your current strength. Every time you get hurt, you lose one unit of strength. When the last of your strength disappears, you die.

You start the game with three units of strength. (Later on, you may be able to increase your strength beyond this limit.)

Things that cost you one unit of strength include a blow by a guard's sword, two-story falls, and having a section of the floor collapse on your head. Other, more serious accidents can kill you outright.

An opponent's strength is indicated by a row of blue bullets in the lower right corner of the screen. To kill an opponent, you need to take away all his strength units.

## Adventuring

Although this is your time inside the Sultan's palace, you do have some general information that may help you:

- \* The Princess is imprisoned in the high tower of the palace. To reach her, you must find your way out of the dungeons, through the palace's main building, and up to the top to the tower.
- \* Generally speaking, the guards on the dungeon duty tend to be the dregs of the Sultan's corps. The more capable ones are usually assigned to the palace's main building. The very best of them--the deadliest swordsmen in the Sultan's employ--are kept for the elite honor guard in the tower, where they are responsible for the personal safety of the Princess and of the Grand Vizier.
- \* Since your arrival in the city, you have heard some strange rumors. It is whispered that the Grand Vizier Jaffar is a magician, a master of the black arts of enchantment; that his powers are more than mortal. Knowing, as you do, that much of what passes for magic is mere trickery and superstition, you are reluctant to take these stories too seriously. Nevertheless, they don't do much for your peace of mind.

## Death and Continuation

When you die, the message "PRESS BUTTON TO CONTINUE" will appear on the screen. Press a joystick button to return to the beginning of the current level.

If you don't press a button, the message will remain on the screen for about 20 seconds, then start to flash in warning, accompanied by a chime. After ten chimes, the game will end and you will be returned to the title sequence.

If you get yourself into a situation where you can find no way out, press CONTROL-A to restart the level.

You can continue the game as many times as you want without penalty. Remember, though, the sands in the hourglass are draining away....

To see how much time is left, press the SPACE BAR.

## Disk Access

At the end of Level 2, the message "TURN THE DISK OVER" will appear. When you see this message, take the PRINCE of PERSIA disk out of the drive and put it

## Apple II Computer Info

back in with the back side facing up. Close the drive door, and press a joystick button or any key to continue the game.

You will not need to turn the disk over until you end the game and return to the title sequence.

### ----- Saving Your Game -----

Once you have reached Level 3, you will have the option of saving your game to disk and continuing it later. To save your current game, press CONTROL-G at any time during play. The program will briefly access the drive, then continue with the game.

The next time you boot the PRINCE of PERSIA disk, instead of pressing a joystick button or any key to start a new game, press CONTROL-L. The game will resume from the beginning of the level you were on when you last saved it.

### ----- Special Keys -----

Esc.....Freeze frame. Press again for single frame advance.  
Press any other key to resume play.

Control-J.....Selects joystick control. Also recalibrates the program  
to match your joystick. Make sure that when you press  
this key, the joystick is in its center (release)  
position.

Control-K.....Selects keyboard control.

Control-R.....Ends the game and returns you to the title sequence.

Control-A.....Restarts play from the beginning of the current level.

Control-S.....Turns off all sound. Press again to turn the sound  
back on.

Control-N.....Turns off the music. Press again to turn the music  
back on.

Control-G.....Saves the current game to disk.

Control-L.....Resumes the last saved game. (Press during the title  
sequence.)

Control-X.....Flips the verticle axis of your joystick.

Control-Y.....Flips the horizontal axis of your joystick.

Space Bar.....Press to see how much time is left.

### ----- About the Author -----

Jordan Mechner, 25, is the author of the award-winning computer game Karateka. Hailed by Games magazine as "a software landmark," Karateka broke new ground in the use of cinematic techniques to tell a story within a computer game, and has sold over 400,000 copies worldwide.

To achieve the extraordinary realism of the animation in PRINCE of PERSIA, Jordan studied hours of live-action footage, including swordfighting sequences from classic Hollywood swashbuckling films of the Thirties. Two years in the making, PRINCE of PERSIA is the culmination of a lifelong fascination with

animation, and ten years of hacking on the Apple II.

A native New Yorker and a 1985 graduate of Yale University, Jordan now lives in San Francisco.

### ----- About the Music -----

The Music for PRINCE of PERSIA uses a "leitmotiv" approach in which each theme is associated with a specific character or idea. The basic themes are: Prince, Princess, Jaffar, Danger, Sword, Shadow, Death, Time, and Magic.

### ----- Krack Notes from The Ramsacker -----

Due to "Prince of Persia" being an 18 sector ware, a 3rd disk was necessary to accomodate the extra two sectors on each track. An 18 sector ware is not actually 18 DOS 3.3 sectors, but rather the equivalent of 18 sectors of data written in a unique format. It does not use standard DOS 3.3 address and data marks, and uses a totally rewritten DOS altogether to allow more data to be squeezed onto each track.

On the 3rd disk, the area of the disk being used for extra sector storage is: Track \$1A, Sectors \$B-\$0 thru Track \$22. The rest of the disk can be used for DOS 3.3 file storage as it contains a catalog on track \$11. It does not have a bootable DOS although E-Z VIEW is installed on track \$00 for textfile viewing. The original release of the third disk contains the Prince of Persia dox, E-Z VIEW dox, and "Karateka Music and Sound Effects" (just for the hell of it).

Apon boot-up, you should have the 3rd disk in drive 2 as the program begins accessing the second drive immediately after the krack page. It was not possible to fit the extra sectors onto just one disk, nor was it possible to pre-load the extra sectors into RAM because the game uses every inch of memory, main and auxiliary (which is the reason the game run so smoothly).

### Secret Keys -----

While searching through memory in my cracking quest, I came across some strange code that turned out to be a check for a series of keys. I discovered that if you hold down both Apple keys (or Apple and Option on the //gs) and press one of the following keys during boot-up, you will get a keen treat. Here is a summary of what each secret key does (I won't tell you exactly what they do so that it will be as much a pleasant surprise for you as it was for me).

(Remember to hold down both Apple keys for each key)

DELETE - Press the arrow keys (works only on the //gs)  
RETURN - Neat-o  
! - Message from authors (press any key after this one for something else)  
@ - Pretty cool  
^ - Move your joystick around for this one

Also, use a sector editor to view Track \$00, Sector \$F for a quaint message. Them folks at Broderbund sure know how to please. Get ready for one kick-ass game.

\*::::::::::::::::::::::::::[ Call these Byte Bastard Systems ]::::::::::::::::::::::::::\*

Byte Bastards BBS ... (201) 697-7001 12/2400 baud 10 megs (40 megs soon)  
The Chessboard ..... (201) 515-8557 12/24/9600 baud 60 megs GS/Amiga  
Ocean Side Bar ..... (609) 429-8487 2400 baud 20 megs ProNABBS

-- Coming soon --

Times of Yore ..... (916) XXX-XXXX 3/12/2400 baud 20 megs

\*:.....\*

=====
DOCUMENT print.shop
=====

\*\*\*\*\*
\*
\* Print Shop Soft docs \*
\* by Doctor Vax \*
\* 6/24/84 \*
\*
\*\*\*\*\*

Ok, to start off with this is one EXCELLENT program, and all you need is an APPLE II+/IIe/IIc with at least 48k of memory or APPLE III in emulation mode. optional equipment is as follows. Joystick,Koala pad and color ribbons and paper. To start just put boot up the disk and you come to a menu. You can use eitherthe joystick,cursor keys or the Koala pad to move to the proper program.

Obviously if this is your first time you will choose SETUP. Now tell it what type of printer you have, what slot and type of printer interface and how many drives you have. You can use Print Shop with only one drive, but once you start making your own designs you will need two. at this point, to test your printer setup, make sure your printer is ready and type return. You should see 'WELCOME TO THE PRINT SHOP' print out. If it does we're ready to go!! Oh, one last thing, to use the KOALA PAD plug it in BEFORE you boot up. Also the buttons may be used as RETURN and ESCAPE.

Greeting Card

To make a Greeting card highlight it on the menu and press return. You have a choice of 'Ready Made' or 'Design your Own' if you choose design your own, just follow the step by step instructions. First you'll design the FRONT then the INSIDE. You'll be asked to choose a border,graphic,graphic size,grahic layout, font. There are 3 graphic sizes; small,medium and large. The staggered graphic layout will evenly space 13 (small) or 5 (med) sized graphics. The tiled layout will place small graphics side by side on the whole page. Note that the CUSTOM, TILED or STAGGERED layout can't be useWith the large graphic. The Custom layout lets you choose how many SMALL or MEDIUM graphics will be printed. Use the arrow keys or koala pad to the different positions and hit return to select. When done just move to the DONE box and hit return. Choose a FONT and we will type a message. You will now see a box. on the right the 'C' means centered. By pressing ^P (CTRL=P) you can change it to Flush Left/Right. On the left side you will see small boxes. You can change the Font being printed to be SOLID(preset) OUTLINE or 3-D. by pressing ^F will change this. You can also set the print to be larger or smaller by pressing ^S. You will not be able to JUDGE the outcome until AFTER your done. When you done just hit return and now you'll go to the INSIDE card design. This is done exactly the same way. When done with the inside you will be at the print menu. Just position your paper at the perforations and go! The system will pause with 'THINKING' on the screen and then print. Congradulations on you first card! One last note, using graphics #51-60 in the TILE mode will print nice backgrounds

SIGN

The SIGN mode will let you print full page signs. These can be of any graphic supplied or one of your own, that you designed with the Graphics Editor. The procedure is the same as for the front page of the GREETING CARD.

LETTERHEAD

In LETTERHEAD we design the top first. Choose a graphic or no graphic. If you choose graphic, you will now see a way to position them. The options are shown as you move the highlighter up and down. Select one and you will now have to choose the FONT. This is the same as for the GREETING CARD with the exception of not being able to alter the size. Just type in your message. You can use ^F/P as before also. If you want your address printed the line will wrap around the screen but will be printed on one line if your message is too long. If you don't want your address just hit return. For that extra touch you can have a horizontal line your name from the rest of the page. Choosing a graphic for the bottom is the same as the top. When you have finished the design go to the print menu and VIOLA? Nice eh? You can also print multiple copies to use for your word processing needs.

### BANNER

Highlight 'BANNER' then return. Choose a FONT that you want, return and now choose either solid or outline printing. Type your message on the two lines. If your message doesn't fit, you'll have to edit your message. Only one line can go on the banner even though you type your message on two. You can also 'CHAIN' two banners or graphic pictures. By doing this you can get different fonts or graphics on one banner. The graphic choices are done the same as in the GREETING CARD. Choose the positions of the graphics and just print.

### SCREEN MAGIC

Screen Magic is a very powerful SCREEN PRINTING program. It will print different shades of grey as well as printing the whole screen. The menu has five choices. They are: See Kalaidescopes, Draw text on screen, Get screen, Save Screen and Print screen. Let's highlight KALAIDESCOPEs first and then go onto the others. Kalaidescopes will let you see 12 different screens. By pressing RETURN you can advance to the next one. Hitting ESCAPE will freeze the present screen. When you hit ESCAPE the screen will be put into memory and you will go back to the menu. Kalaidescopes 2 will start out like 1 but has only one starting point and return will not work. Hitting ESCAPE will though and also put the screen in memory. NOTE that you can only have one screen in memory at a time. DRAW ON TEXT will let you do just that with the screen in memory. Just choose a FONT and type. The number of lines and characters differs with the font size. Also ^F will toggle between solid and outline as 3-D is not available. Now center your text. It can be done from top to bottom if desired. If you want to get a different screen that you previously saved, type in the name and drive #. Hit return for a catalog of RETRIEVABLE screens. Only screens created with the screen editor are valid. Save screen is just that. It will ask you if you want init disk. If you don't have an init disk get a SCRATCH and just follow the directions. Print screen will print the screen in memory. You can choose between normal or reverse. Reverse meaning that all the BLACK areas of your screen will be printed. You will also be asked if you want a border around the screen. This is a single black line and is not like on the GREETING CARDS. The print menu is like the others with the exception of 'PRINT TOP HALF OR BOTTOM HALF'? This is if you want to fold the paper in 1/2, as the PRINT SHOP works only on 8 1/2 x 11 paper.

### GRAPHIC EDITOR

Last but not least is the Graphic Editor. This will let you edit ANY an ALL graphics CREATED or USED by the PRINT SHOP. The menu to the right of the drawing screen is really self explanatory (so is the whole program so why this big text file??) but, the one thing you should know about is the ^D- device. This is NOT for a drive selection!!! This will let you reactivate the KOALA PAD if it was not on the system when you booted up. The buttons on the joystick and koala pad act as 'D' for draw and 'E' for erase. NOTES: before you can edit the original PRINT SHOP graphics the must be saved to another disk. As I stated before ONLY graphics created with PRINT SHOP can be used.

Print Shop suggests that if you have a serial printer to set it at 9600 baud. Try this if your printing is erratic. For those of us that have the OKIDATA 92 we will not get as good graphics as the other printers. This is because the graphic resolution is only 72x72. The others are 160(120)x72. Who cares, we get better print quality anyway.

=====
   
DOCUMENT printrix
   
=====

```

*****
*
*
*          PRINTRIX V 1.05
*
*          Complete Docs
*
*          Brought to you by
*
*
*          SCUBA <<&&>> THE KID
*
*
*          with thanks to
*
*
*          M
*          THE
*          T
*          MAN
*          L
*
*****
    
```

The page numbers given here have no basis in reality. They just show the relationship, size wise, of the various sections.

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## CHAPTER 1

### INTRODUCTION:

Printrix is a typesetting system which allows you to control the arrangement of text on the paper, and the fonts used. You may also insert graphics into the text.

Printrix functions by taking a text file which you have already created, applying a format or page design to that text file, and printing the result. The text file is created with a word processor. The page design is called a "layout file," and is created with Printrix. There are three components to a layout file: text format, font library format, and graphics format.

Printrix is a ProDOS program. The Printrix system provides ProDOS fonts and 25 clip-art graphics for you to use. You must provide the text files and any additional graphics. Text files from AppleWorks, AppleWriter, Word Juggler, and WordPerfect may be used directly. Other text files may be used IF they are saved in standard ASCII ProDOS format. If your text file is saved in DOS 3.3 format, you must convert it to ProDOS or re-enter it using a ProDOS word processing program. If you are a Fontrix user (Fontrix is the sister program to Printrix), you probably have Fontrix fonts and graphics in DOS 3.3 format. These may be converted to ProDOS format following the instructions in Appendix A.

### WORKING DISKS

-----

The Printrix program contains two disks, and uses both sides of each disk. The first disk is the Program Disk. Its flip side is the Printrix Configuration Disk. The second disk contains fonts on both sides. These disks are named /PRINTRIX, /CONFIGURE, /FONTS1, and /FONTS2.

/PRINTRIX contains the Printrix program and lessons files. /CONFIGURE contains the configuration utility, a Graffile conversion utility, and 25 clip-art graphics. The font disks contain 43 fonts for use with Printrix. See Appendix A for information on the Graffile conversion utility, Appendix C for a listing of fonts, and Appendix D for a listing of clip-art graphics.

The disks are not copy protected. Please make back-up copies of all four sides, using four separate disks for convenience. Then label the working copies and put the original disks in a safe place. See your Apple Systems Manual for copying information.

### Hard Disk

-----

You may use Printrix from a hard disk. We recommend that you create a subdirectory named /TEMP. Copy all four Printrix original disks to this subdirectory, then rename the subdirectory to /PRINTRIX. Then, when you use Printrix, set the prefix to /my hard drive/PRINTRIX, and all fonts, layout files, and graphics will be loaded automatically.

As you develop a library of files, you may want to separate layout files and text files according to their application.

### 3.5 Inch Disks

You may copy all four Printrix original disks to a 3.5 inch disk, using the copying program from your Apple Systems Utilities. We suggest that you name the disk /PRINTRIX.

### CONFIGURATION/RECONFIGURATION

-----

"Configuration" means telling Printrix about your system. It needs to know what computer you're using, how it's connected to the printer (interface card and slot, printer port or modem port and baud rate), what word processor, and what printer.

The Printrix Program Disk is preconfigured for the Apple Imagewriter and an ASCII Soft word processor. The lessons have been designed for this configuration, and the lessons text files are in ASCII Soft word processor form. If you plan to work through the lessons, change the printer configuration if necessary, but reenter ASCII Soft as the word processor. Then, when you're ready to typeset your own text files, reconfigure your word processor.

### Floppy Disk

-----

To configure from floppy disk, insert the Printrix Program Disk in Drive 1, and Press Open-Apple CTRL RESET. When the screen gives the option, press ESCAPE. This boots the system and loads Apple BASIC. Now insert the Printrix Configuration Disk in Drive 1, and set the prefix by entering PREFIX/CONFIGURE. At the prompt, enter -CONFIGURE. The Configuration utility appears on screen.

1. The first question on screen asks which Apple computer you are using: Apple //e, //c, or IIgs. Enter the appropriate number, and press RETURN.
  - a. If you answered //e or IIgs, the next question concerns interface cards. Enter the numbers which corresponds to the manufacturer and type of interface card you are using, then enter the slot/port number. Press RETURN after each input.
  - b. If you answered //c, the next question concerns ports. You may be printing through the printer port, or modem port Type A or Type B. Enter the appropriate information. If you're using a modem port, respond to the question on baud rates. Press RETURN after each input.
2. The next series of questions identifies your printer by manufacturer and model number. Enter the correct codes, pressing RETURN after each.
3. Finally, enter the number corresponding to the word processor you use, and press RETURN.

Printrix now displays all configuration information on screen. If you wish to change any entries, press R and the configuration menus will return. If the settings are correct, replace the Configuration Disk with the Printrix Program Disk, and press RETURN. The configuration file will be copied to the Program Disk.

Thereafter, you will need the Configuration Disk only when you need to change the configuration settings. To reconfigure, insert the Configuration Disk in Drive 1, boot the system, and go through the same sequence, entering the new information.

To run Printrix from this point, insert the Program Disk in Drive 1. You may either press Open-Apple CTRL RESET, which boots the system and loads Printrix automatically, or you may set the prefix to the Printrix disk by entering PREFIX/PRINTRIX and pressing RETURN, then entering -PRINTRIX. Either method is fine.

### Hard Disk, 3.5 Inch Disk

-----

To configure Printrix from hard disk or 3.5 inch disk, set the prefix to /diskname/PRINTRIX, type -CONFIGURE, and respond to the on-screen questions as described above. When the screen prompts you to inset your /PRINTRIX disk, press RETURN, since you're already working from that disk. (Or, if you're working from another disk which contains the /PRINTRIX subdirectory, enter the pathname in response to the screen prompt.) Then, to run Printrix, enter -PRINTRIX and press RETURN.

## CHAPTER 2 - LESSONS

This chapter contains two lessons which introduce you to the Printrix menus, the Printrix embedded commands, creating and saving layout files, and moving files through the system.

Lesson One is a simple business letter, containing some of the more common formatting commands. We recommend that all Printrix users work through this lesson.

Lesson Two contains four special applications: mailing labels, tables, graphics insertion, and printing in columns. Select the applications you need from this lesson, as you need them.

## LESSON ONE - Business Letter

In this lesson, you will learn how to use a standard layout file and a few embedded commands to produce a typical business letter. Formatting features include margin changes, font changes, boldface, italics, and tabs.

### To Begin:

To begin this lesson, you should already have ready Chapter 1 and configured Printrix for your printer. We suggest that you also read through Chapter 3 for a quick overview of Printrix.

### Assumptions:

We're assuming that you are using an ImageWriter, or printer of similar resolution (with print densities between 120-200 dots per inch). The fonts used in this lesson have been chosen accordingly. If your printer is either above or below this range, the print will be a little large or a little small, respectively. Either ignore it for the time being, or load new fonts in the appropriate sizes. See Chapter 6 for instructions on loading fonts, and Appendix C for information on the fonts available.

The sample text files have been created in ASCII Soft, so use the text files we've provided, with Printrix configured for ASCII Soft. Then, when you're ready to typeset your own text files, you'll reconfigure Printrix for your word processor.

The lessons are written for people running from a floppy disk. If you're using a hard disk, the prefix will be /diskname/PRINTRIX for all fonts and layout files.

### Step One: Prepare the Text file

Load your word processor and input the text to be typeset. (Since this is a lesson, we've already created a text file for you. It's on the Printrix Program Disk, under the filename TXT.LETTER.) We've deliberately included several common formatting commands to show you how they're used.

#### Text file:

^TAB^TABJune 15, 1987

Andrew Andrews, President  
Primo Professionals  
1494 High Street  
Tampa, FL

Dear Mr. Andrews:

^TABI couldn't resist writing to let you know that Ace Associates will soon be taking over your business.

^ML=+1^MR=+1^TABWe've got this ^FI=Yhot new software program^FN=N that allows us to typeset all our letters, invoices, literature, anything,  
^FH=1WITHOUT^FH=0 going to a typesetter, and ^FH=1WITHOUT^FH=0 paying through

the teeth, and ^FH=1WITHOUT^FH=0 waiting. We just do it ourselves, here on our Apple II and our office printer.^ML=-1^MR=-1

^TABSo -- we're saving lots of money, lots of time, and ^F=2LOOKING GOOD!^F=1

^TABBeen nice knowin' ya.

Ta ta,

Lucius "Lucky" Long  
V.P. Capitalism

### Step Two: Load a Layout File

Insert the Printrix program disk in Drive 1 and press Open-Apple CTRL RESET. You'll see the Main Menu appear on screen. (See Fig. 1 - Main Menu). From the Main Menu, press L to enter the Layout Document work area. (See Fig. 2 - Layout Document Menu.) Press L again to load a layout file.

We've created a layout file for you named LAY.LETTER. It's on the Program Disk, so enter /PRINTRIX for the prefix, and LAY.LETTER for the filename, and confirm. The fonts are on the same disk, and they will be loaded automatically.

Take a look at this layout file. Press T to examine the text settings. (See Figure 3 - Text Format Menu.) Note that we'll be typesetting on 8.5 x 11 paper, with a top margin of 1.5 inches, side and bottom margins of 1 inch. The justification is set to Fill. Font 1 is active. No page numbers, one copy of the letter. The tabs are set to .5 inches and 4 inches. Then press ESCAPE to return to the Layout Document Menu.

Now press F to look at the font library. (See Fig. 4 - Font Library Menu.) There are two fonts loaded: 1 and 2. Font 1 is active (note the asterisk), so typesetting will begin with that font. (This duplicates the Active Font information on the Text Format Menu.)

This is your opportunity to load new fonts, if you like. You may also examine the font options by pressing C, but don't change any settings right now. You may also look at the Graphic Format Menu by pressing G from the Layout Document Menu.

Now, press ESCAPE from the Layout Document Menu to return to the Main Menu.

PRINTRIX 1.00

|                 |       |
|-----------------|-------|
| Printer:        | Slot: |
| Interface Card: |       |
| Word Processor: |       |

#### MENU

<P> Print a Document  
<L> Layout Document  
<ESC> Exit Printrix System

ENTER CHOICE:

Figure 1. Printrix Main Menu

LAYOUT DOCUMENT

Layout File:

```
<T> Text Format
<F> Font Library Format
<G> Graphic Format
<L> Load New Layout File
<S> Save this Layout File to Disk
<ESC> Exit this Menu
```

ENTER CHOICE

-----  
Figure 2. Layout Document Menu  
-----

TEXT FORMAT

```
<S> Form Size (Inches) Horiz: 8.5 Vert: 11
<M> Margins (Inches) L: 1.0 R: 1.0 T:1.5 B:1.0
<T> Tab Settings (Inches) : .5, .4, 0, 0, 0, 0, 0, 0,
<J> Justify Text (L,R,C,F) : FILL
<F> Active Font (1..4) : 1 (SET.CASLON25)
<A> Linefeed Advance (S,D,T): Single
<Q> Quality of Print (1-5) : 1
<P> Page Numbering : No Pos: Top Start: 1
<C> Two Column Printing : No
<W> Wait at End of Page : No
<N> Number of Copies : 1
```

<ESC> Exit this Menu

ENTER CHOICE:

-----  
Figure 3. Text Format Menu  
-----

FONT LIBRARY FORMAT

```
FONT NAME
*1 SET.CASLON25
2 SET.OLDENG30
3 Empty
4 Empty

<1-4> Select Active Font
<C> Change Active Font Parameters
<D> Delete Active Font
<L> Load into Active Font
<R> Reload Font Library from Disk
<ESC> Exit this Menu
```

ENTER CHOICE:

-----  
Figure 4. Font Library Format Menu  
-----

Step Three: Print a Document

-----  
Press P from the Main Menu. The text file to be printed, TXT.LETTER, is on the Program Disk, so enter /PRINTRIX and TXT.LETTER to the on-screen questions, and confirm the choice.

The Print Document Menu appears on the screen, giving you a final chance to change the text settings or to return to the Layout Document Menu. This menu is a duplicate of the Text Format Menu, except for the print options at the bottom. Make sure your printer is on-line, and press RETURN to begin

typesetting.

That's it - your letter is ready to mail.

Explanation of the Embedded Commands

Take a look at the typeset letter, and notice the effects of the embedded commands. Following is a brief explanation of each:

```
^TAB Jumps typesetting to the next tabstop
^ML=+1 Adds one inch to the current left margin value
^MR=+1 Adds one inch to the current right margin value
^Fi=Y Turns Italics on
^FI=N Turns Italics off
^FH=1 Sets horizontal boldface to 1
^FH=0 Sets horizontal boldface to 0
^ML=-1 Subtracts one inch from the current left margin value
^MR=-1 Subtracts one inch from the current right margin value
^F=2 Switches to Font 2
^F=1 Switches to Font 1
```

It may have looked complicated, but now you see how simple it is. You may use all, any, or none of these commands, as you like. For details on each command, see Chapter Seven.

LESSON TWO - Special Applications

-----  
In this lesson, you will learn how to set up layout files and text files for mailing labels, for tables, for printing a graphic with your letter, and for printing in newspaper-style columns (only possible with selected printers).

We assume that you've already worked through Lesson One and are comfortable with its contents. The assumptions about your printer are still in effect.

Mailing Labels

-----  
The following combination of text file and layout file allows you to print names and addresses on mailing labels which measure 3.5 inches horizontally and 1 inch vertically. These labels are arranged vertically (a long strip of labels). The 1 inch vertical measurement is the distance from the top of one label to the top of the next.

Step One: Create the Text file

The following text file, TXT.MLABEL, is on the Program Disk.

Text file:

```
James Jones
1235 Peachtree Avenue
Atlanta, VA 23535
^NP Amy Anderson
394 Harrison Way
Santa Ana, Ct 07836
^NP William Wilson
74614 Paseo Doble
Houston, TX 73573.....and so on
```

The ^NP command at the beginning of each new line causes Printrix to jump to the top of the next page (defined by the layout files as the top of the next label).

Step Two: Design and Save the Layout File

-----  
Load LAY.LETTER as you did in Lesson 1. We'll adapt it to mailing labels, then save it under a new name for reuse.

Press T to enter the Text Format Menu. Here, enter new settings for Form Size

(3.5 in. x 1 in., HxV). The margins also have to be changed; set each margin to .1 inch. Everything else on this menu is fine as it is, so press ESCAPE to return to the Main Menu.

If you want to change fonts, press F to enter the Font Library and load as in Lesson One.

Again, no graphics, so skip the Graphics Format Menu.

Back at the Layout Document Menu, press S to save the layout file. Save it to the Program Disk under the filename LAY.MLABEL by entering /PRINTRIX and LAY.MLABEL. Now press ESCAPE to return to the Main Menu.

Step Three: Print

-----  
Load your printer with mailing labels of the appropriate size. If you don't have any, just print on regular paper and use your imagination. From the Main Menu, press P, specify TXT.MLABEL, and print.

That's it.

Tables

-----  
Tables, or columns of numbers, are frequently part of a report. They are not difficult, but they do require some special font and tab commands.

Most of the Printrix fonts are set to proportional spacing, which looks good for text but makes it impossible to line up columns. The following layout file has a font specially adapted to table printing.

Step 1: Create the Text file

We've put the following text file on the Program Disk under the filename TXT.TABLE.

Text file:

-----  
^F=1January^F=3^TAB\$ 4926.96^TAB2633.33^TAB\$ 1039.52  
^F=1Febrary^F=3^TAB\$26047.58^TAB\$ 368.11^TAB\$ 3463.85  
^F=1March^F=3^TAB\$ 2356.06^TAB\$1357.07^TAB\$34764.47

Font 3 is defined by the text file for use with columns. The tab commands jump the typesetting to the correct columns; spaces are used within the figures to align the decimal points.

Step 2: Create and Save the Layout File

-----  
Begin by Loading LAY.LETTER as before.

The text settings are fine, so we'll go straight to the Font Library by pressing F.

Load Font 1 into Position 3, through the following procedure.

1. Press 3 to make Position 3 active.
2. Press L to load a font into that position.
3. The font we'll use is SET.CASLON25, on /PRINTRIX, so enter that information.

Now, we need to adapt this font. Press C to change font parameters. The Change Font Parameters menu appears on screen (See Fig. 5).

1. Set the font to non-proportional spacing by pressing P.
2. Set the spacebar width to equal the horizontal cell size. Look at

the top of the screen for that value, then press W and enter the number (here, it's 26).

3. Set the character spacing gap to -9. This causes the character cells to overlap when printed. (The -g value is arrived at by experimentation: different fonts and different printers require different settings. As a rule of thumb, start with a figure that is the horizontal cell size divided by three, then make that cell negative).

Again, there are no graphics, so return to the Layout Document Menu to save this layout file under the filename LAY.TABLE.

Step Three: Print

-----  
Return to the Main Menu, load your printer with regular paper, enter the Print Document area, specify TXT.TABLE, and print.

CHANGE FONT PARAMETERS

```

Font Name      : SET.CASLON25
Cell Size      : 26 x 25
<P> Proportional : Yes
<S> Spacing Gap  : 5
<L> Linefeed Gap : 4
<W> Space Bar Width : 13
<B> Baseline     : 20
<I> Italics      : No
<H> Horizontal Boldface : 0
<X> Horizontal Magnification : 1
<Y> Vertical Magnification  : 1
<ESC> Exit this Menu
    
```

ENTER CHOICE:

-----  
Figure 5. Change Font Parameters Menu

GRAPHIC FORMAT:

```

<X> Horizontal Magnification : 1
<Y> Vertical Magnification   : 1
<N> Negative Image           : No
<H> Horizontal Placement (L.C.R.) : Center
<C> Color Printing           : No
<F> Fit Text to Graphic (B.F.O.) : Break
<S> Separate from Text (inches) : 0.25

<ESC> Exit this Menu
    
```

ENTER CHOICE:

-----  
Figure 6. Graphic Format Menu

Graphics Insertion

This ability to insert graphics into your document can be used in many ways: printing a letterhead with the letter, printing a logo on a card or letter, adding a chart or illustration to a report, or just adding some design interest to a letter, invitation, or greeting card.

To insert a graphic, you must have already created the graphic in one of the three formats Printrix accepts: Fontrix Graffile, single hi-res screen graphic, or "Print Shop style" clip art graphic. For this lesson, we've provided a single-screen graphic (created by Fontrix), named PIC.DRAGON on /PRINTRIX. The

text file which calls the graphic is a postcard-sized invitation.

Step One: Create the Text file

-----  
 The following text file calls the graphic and causes it to print on the second line of text. It is located on /PRINTRIX under the filename TXT.INVITE.

Text file:

```
^GPS="PIC.DRAGON"
^F=1You Are Invited
to the Twenty-Third Annual
Open House
```

```
^F=2^At Pickens Elementary School
3135 Westwood Drive
Bloomington, IN
^F=3Refreshments
```

The embedded command to call the graphic is located on the first line of text. Note that this invitation also uses an embedded command to change justification, and to change fonts.

Step Two: Design and Save the Layout File

Load LAY.LETTER as before. Since this invitation will be photocopied onto 3x5 postcards (3 in. vertical, 5 in. horizontal), we must reset the margins to create a 3x5 printing window. We must also position the graphic on the page.

Press T to enter the Text Format Menu. Reset the margins as follows: Left - 1, Right - 1.5, Top - 4, Bottom - 4. (The horizontal form size [8.5 in.] minus the horizontal dimension of the printing window [5 in.] leaves 3.5 in., which is allocated between the left and right margins. A similar process gives the top and bottom margin values.)

Exit the Text Format Menu and press G to enter the Graphic Format Menu. (See Fig. 6) Here, set Horizontal Placement to R. Nothing else is necessary, although you may experiment with the parameters as you like.

Exit the Graphics Menu and press F to enter the Font Library Menu. The text file uses three fonts. Look at the text file to see which fonts are used where. Then, load fonts accordingly. Load SET.OLDENG30 into Position 1, SET.HELVET30 into Position 2, and SET.CASLON25 into Position 3. All of these fonts are on the /PRINTRIX disk. When you've loaded SET.CASLON25, press C to change its parameters, and set italics to Yes (just a design whimsy).

Return to the Layout Document Menu and save this layout file under the filename LAY.INVITE.

Step Three: Print

-----  
 Return to the Main Menu, and press P to Print a Document. Specify TXT.INVITE on /PRINTRIX, press RETURN, and print.

Two-Column Printing

-----  
 On certain printers with reverse linefeed capabilities, such as the Imagewriter, Printrix can typeset in two newspaper-style columns. This means that text runs down the first column, then back to the top of the second column.

You may control columns from the menu or with embedded commands. An embedded command to end two-column printing takes effect on the next printed page. An embedded command to begin two-column printing takes effect on the current printing line or the following line, depending on the placement of the command.

This example shows the interaction of menu and embedded commands to center a headline across a page, then begin two-column printing.

Step One: Create the Text file

-----  
 ~The following text file is located on /PRINTRIX under the name TXT.ARTICLE.

Text file:

```
^J=C^F=1NEW TYPESETTING SOFTWARE SAVES LIVES
```

```
^C=Y^J=F^F=2Late last March, two teenagers were strolling along a beach in
Southern California, watching the sunset and generally taking it easy.
Something glinting in the last rays of sun caught their eye, and they picked up
a bottle, awkwardly corked with palm leaves and appearing to have a message
inside.
```

The message read: "To whomever finds this bottle - please send rescue mission as our supplies are running low and our health is bad." It went on to give details of the stranded travelers' location; they are on an island several hundred miles from shore.

^NPThe message had been typeset with Printrix, a new typesetting program which offers unparalleled clarity and diversity in fonts and page design. Said one of the teenagers, "As soon as we saw the graphic excellence of the message, we knew we had to act." So they contacted the local Coast Guard.

The rescue was quick and efficient. Five yachtsmen were brought in from their stranded yacht the next day, treated for minor health problems, and released. According to Wendell Walker, the yacht's owner and captain, "I don't know what we'd have done if we hadn't had the resources to attract someone's attention. Not just any written message is effective these days - we used Printrix to make sure.

The columns command is positioned first on the printing line. The ^NP command in this text file moves the typesetting to the top of the next column.

Step Two: Design the Layout File

-----

Load LAY.LETTER, and set right and left margins to 1.5 inches. Use any fonts you like for the headline (Font 1) and the body (Font 2). Leave Two Column Print Set to No, so that the headline will be centered across the entire page.

If you have one of these printers (Apple DMP, ImageWriter, ImageWriter II; C. Itoh 8510, 8510 SCP; Fujitsu DL2400, DL2600; NEC 8023, 8025, CP-7, P5, P5XL, P6, P7; Texas Instruments 855, 857, 865; Toshiba 1340, 1351, P351, P351C), Printrix automatically utilizes a reverse linefeed capacity to return to the top of the page between columns.

If your printer was not listed above, you must return to the top of the page manually. To prepare for this, set Wait at End of Page to Yes.

### Step Three: Print

From the Print Document Menu, specify TXT.ARTICLE, and print.

If Wait at End of Page is set to No, you're done. If Wait at End of Page is set to Yes, the printer will pause at the bottom of the first column. At this point, turn the printer off-line, roll the paper back, turn it on-line, and press the spacebar to resume printing.

## CHAPTER 3: CONCEPTS

This chapter is designed to give you a global, intuitive understanding of Printrix as a typesetting tool. We recommend that all users read this material early in their acquaintance with Printrix.

Covered in this chapter are the raw materials used by Printrix, the operations performed on them by Printrix, and the ways the user may control these operations. We also explain key terms and concepts.

### Printrix

Printrix is a typesetting program, which means that it offers you a variety of font, graphic, and page design possibilities. The fonts and page designs are applied to existing word processor text files. The process of selecting fonts and manipulating page design is called formatting.

Why use Printrix? Without Printrix, you are limited to the fonts built into your printer. These "native" fonts vary in quality, and are limited to the page design capacities of your word processor. Word processors vary greatly in the complexity and control they offer users. Printrix supplements the simple word processing programs and complements the more advanced. Finally, Printrix allows you to insert graphics into your text file during printing, thus eliminating the need for manual paste-up.

When typesetting with Printrix, the user provides the text file and any graphics to be used. Printrix provides the fonts and formatting controls. You may change the fonts and formatting through the Printrix layout file or with embedded commands.

### Text files

Printrix accepts text files from AppleWorks, AppleWriter, and Word Juggler. No special save process is required.

Printrix also accepts ASCII text files. Some, but not all, word processors have a special save procedure to convert their native text files into standard ASCII. See your word processor's manual for information. ("ASCII" stands for American Standard Code for Information Exchange. Each letter, numeral, punctuation symbol, space, etc., has a corresponding number. Information is stored and manipulated in the form of the ASCII equivalents, rather than in its original form.)

### Embedded Commands

The embedded commands are part of the text file, entered by the user through

the word processor. If the text file was created by a supported word processor, Printrix reads both the word processor's standard embedded commands for page design, and special Printrix-style embedded commands which supplement the word processor's capacities.

If the text file was created by an unsupported word processor and converted to standard ASCII, there are no word processor embedded commands. All formatting must be done through Printrix-style commands or through the layout file. Embedded commands take effect within a document at the time Printrix reads them. They give "local" control of formatting.

### Layout Files

The layout file consists of a set of Printrix menus grouped together to control all aspects of a typeset page. Three main menus control text, graphics, and fonts. A layout file may be designed by the user for specific documents, and saved to disk for reuse at any time, with the same or different text files. Commands from a layout file affect the entire document, unless an embedded command changes a setting or a new layout file is loaded. Layout files offer "global" control of formatting.

### Fonts

Fonts, like type, are complete sets of letters, numerals, and punctuation of a particular design.

Printrix's fonts exist as files on disk. These font files were created using Printrix's sister program, Fontrix. Font files are loaded from disk into your computer's memory in order to be used for typesetting. Printrix can use a maximum of four fonts in typesetting any one line. An unlimited number of fonts may be used in a document.

The Printrix fonts are "bit-mapped," meaning that they are formed by arrangements of dots in a rectangular grid. When Printrix reads a text file, it automatically converts the numerical code for each character in the text file into the corresponding bit-map. The individual bit-maps are composed into lines of type. Each line of type is then sent to your printer as a unit.

### Graphics

Computer graphics are files on disk which contain illustrations, charts, graphics, art, or other images stored in a bit-mapped format. Printrix accepts and prints three types of graphics: the standard single hi-res screen, the Fontrix Graffile, and the four-sector Print Shop compatible graphic.

A Graffile is a graphic image of varying size, created by Fontrix. It may contain fonts and other images in any combination.

A single hi-res screen can be created by Fontrix or by a number of Apple graphics programs.

A four-sector clip art graphic can be created by Print Shop or by a number of Apple graphics programs which are compatible with Print Shop.

### Output to the Printer

Since the Printrix fonts are bit-mapped, or arrangements of dots, they are printed in graphics mode. This means that the information sent to your printer is a stream of dots. The capacity to insert graphics into text is a consequence of this feature.

The alternative to printing in graphics mode is printing in text mode. This means that the information sent to your printer is the ASCII code for the character in the text file. The printer then converts the code into the corresponding character in the printer's native fonts. Word processors utilize text mode. This requires them to depend on the native fonts of the printer, and prevents their merging of text and graphics.

## Consequences of Graphics Mode

As mentioned above, printing in graphics mode allows Printrix to merge graphics into the text, since the text is also graphic.

Printing in graphics mode also allows much more flexibility in page design, linefeed advance, and font choice.

Graphics mode and text mode vary in printing speed: text mode is almost always faster since less information is being sent to the printer.

Finally, printing in graphics mode means that the size and proportion of the output is dependent on your printer's resolution and aspect ratio.

## Printer Resolution

Printer resolution, or print density, refers to the number of printer dots per inch. Resolution is measured for both horizontal and vertical dimensions. Most printers offer several choices of resolution. Low-resolution printers may print 60-100 dots per inch; medium-resolution printers may print 120-180 dots per inch; high-resolution printers print 300 or more dots per inch. In general, the higher your printer's resolution, the better the quality of print from Printrix.

Since Printrix fonts exist as bit-maps, with horizontal and vertical dimensions measured in dots, a given font will produce output of different sizes when printed on printers of different resolutions. High-resolution printers will produce smaller output; low-resolution printers will produce larger output. Printer resolution should be taken into consideration when selecting fonts.

## Aspect Ratio

Aspect ratio is the relationship of horizontal resolution to vertical resolution (width to height). Some printers have a "square" aspect ratio, in which the horizontal and vertical values are equal. Other printers have a "non-square" aspect ratio, in which the horizontal and vertical values are significantly different.

If you create a square on screen, with each side measuring 100 dots, a printer with a square aspect ratio will print a square, 100 dots per side. A printer with a non-square aspect ratio will print a rectangle, also measuring 100 dots per side. The proportions of the rectangle depend on the printer's aspect ratio.

This same principle applies to graphics and to the Printrix fonts. Depending on your printer, a given font may appear elongated, compressed, or normal when printed. Again, aspect ratio should be considered when selecting fonts.

You may like the effect of aspect ratio on the appearance of your output and choose to accept it. Alternatively, you may use the magnification commands to counteract the effects of aspect ratio. When magnifying a font, be sure that the original font is small enough so that when you magnify it, the result is the size desired.

The Apple ImageWriter has two print modes. The first has a non-square aspect ratio, 161x72 dpi, and produces tall narrow print. The second, quad density, has a near-square aspect ratio, 160x144 dpi, and produces print of normal proportions.

## CHAPTER 4 - CONVENTIONS

This chapter covers the conventions used by Printrix. These conventions include syntax for both menu input and embedded commands. Covered here are filenames, file locations, use of the wildcard, letter values, number values, and relative vs. absolute values. The exact form or code used for input is called "syntax."

### Menu Input

Printrix menus call for different types of responses: filenames and locations, letter values, and numerical values. In some cases, Printrix already suggests responses to the menu options. You may accept the default responses by pressing RETURN, or you may change the responses as follows.

### Filenames

Filenames are entered in the form they exist on disk. A filename may have a maximum of fifteen characters, must be with a letter, and may contain letters, numbers, and periods.

For convenience and clarity inside Printrix, we have used standard naming conventions to separate the file categories. All font names are in the form SET.name; all layout file names are in the form LAY.name.

You may continue this convention if you like, and we suggest that you do. However, Printrix will try to load any file you specify into any part of the program. If you try to load a font as a layout file, or vice versa, Printrix will display a "File Type Mismatch" message.

An additional message: when saving layout files, use names which indicate the text files they are used for. You may find yourself creating files in pairs: one text file and one layout file.

### File Locations

Files are located in your system on disks, either floppy or rigid. The disks are identified by name.

Additionally, a disk may be subdivided into subdirectories, or paths, which organize data storage and facilitate its use. These paths are also identified by name.

Therefore, in order to direct Printrix to a file, you must know the name of the disk and any subdirectories which apply. This location information is referred to as the pathname, or "prefix."

Prefix information is entered into Printrix, with the filename, in the following format:

/prefix/filename

This may, in use, appear as:

/diskname/path/filename

or:

/diskname/filename

Wildcards may not be used for pathname information.

The four Printrix disks are named /PRINTRIX, /CONFIGURE, /FONTS1, and /FONTS2. None of them contain subdirectories. When you boot Printrix, the prefix is automatically set to /PRINTRIX. You may load and save layout files to this

disk automatically as long as there is room on the disk. To load files, and to locate graphics and text files, you must enter the appropriate prefix.

## Letter Values

Letter values, such as L, R, and C (for Left, Right, and Center) are entered by pressing the letter corresponding to the parameter, such as H for Horizontal Placement. The letter value on screen will change to one of the other options. Continue pressing H until the desired option appears.

## Numerical Values

Numerical values, in response to menu options, are entered as absolute values, meaning that the number on screen is based on the zero point for that parameter. In some cases, the value may be negative (e.g. character spacing gap may be set to -8).

## Wildcard Use

Wildcards are a method for scanning a list of files and selecting the one you want. If you enter a wildcard in response to a Printrix menu, Printrix will display on screen a list of all the files that match the wildcard, in the specified location, and allow you to answer Yes or No to each file. Wildcards may be used only in response to menu questions.

The wildcard used by Printrix is the asterisk (\*). The asterisk replaces any character or string of characters. Therefore, if you were trying to load a layout file, you could enter

LAY.\*

and all files on that disk which begin with LAY.\* would be displayed on screen, one at a time. You have the Yes/No option after each file.

If you enter \*, all files on the disk will be displayed. If you enter JOHN\*, all files which begin with JOHN will be displayed.

Wildcards may be used only for filenames. They may not be used for pathnames.

## Embedded Command Syntax

Embedded commands may be used for formatting or for graphics insertion. The commands are typed directly into the text file, in the forms given in the reference section. All embedded commands begin with a carat (^), followed by one to three letters which identify the parameter. In some cases, such as ^TAB or ^NP, that's all. In other cases, the command continues with an equals sign (=) and then adds the value, which may be a number or a letter. Letters in embedded commands may be in either upper or lower case. The letters used in embedded commands match the letters used in the menus, for easy remembering.

Examples: ^ML=3, ^GH=C, ^J=F

## Filename and File Location

Printrix contains two embedded commands, the graphic print command and the load layout file command, which require you to enter filename and file location in the text file.

Filename and file location are input as they are for menus, with the addition of quotation marks to set the prefix and filename off from the rest of the text file. Wildcards may not be used with embedded commands.

Example:

As shown in ^GPG=/prefix/gfl.topo"the illustration

If the prefix is absent from the text file, or if its location information is incorrect, Printrix will pause during printing and display a message asking you

to enter the correct location of the file. You may search as many locations as necessary, or you may omit the graphic and continue printing. However, you may not change the name of the graphic while printing.

## Letter Values

Embedded commands which require letter values are entered into the text file by typing the embedded command and the desired value.

Examples: ^GH=C, ^GH=C, ^J=F

## Numerical Values

Embedded commands which require numerical values are entered into the text file by typing the embedded command and the desired values. The range of accepted values and the form for entering them varies according to the parameter. For each parameter, acceptable values and forms are specified in the reference chapter.

## Positive and Negative Values

In some cases, the numerical value must be positive. For example, linefeed gap may be set to 0 or any positive integer, but cannot be less than 0.

In some cases the numerical value may range from negative to positive, such as with the character spacing gap.

When using a parameter which accepts negative values, the minus sign (-) always means a negative value, NOT a relative value.

## Relative and Absolute Values

In some cases, the numerical value is absolute only. For instance, you may set a page number to any positive integer, but you must specify the integer directly.

In some cases, numerical values may be entered as either relative or absolute values. There are two ways of defining a numerical parameter (such as margins, linefeed gap, etc.). Absolute values are calculated from a constant point, such as the edge of the paper. Relative values are calculated from the previous value of the same parameter.

Relative values are entered as numbers with a plus (+) or minus (-) sign. Absolute values are entered as numbers, WITHOUT a plus or minus sign. If you are using a parameter which expects relative values, the minus sign (-) always means "subtract from previous value," NOT a negative value of the parameter.

Examples:

^ML=1 sets the left margin one inch from the edge of the paper (absolute value).

^ML=+1 adds one inch to the current left margin value (relative value). If the left margin had been 1.5 inches, the new setting is 2.5 inches.

^FL=6 sets the linefeed gap to six dots (absolute value).

^FL=-6 subtracts six dots from the linefeed gap of the current font (relative value). If that value had been 10, the new setting is 4.

Relative values are convenient for two main reasons:

Experimentation. If you are trying out several possible formats, you can use relative values within the text file, and change the starting values by menu



command. This means that you will not have to re-open the text file to change settings.

Convenience. If you forget the original value of a parameter, but you know how much you want to change it, you may use relative values and save yourself the trouble of looking up the original value.

## Isolating Command Values from Text

If you use embedded commands, you may occasionally find that the numbers which are part of the command are adjacent to numbers which are part of the text file to be printed.

Example: Our new telephone number is ^F=2383-4862.

Printrix interprets the entire string of numbers as a font number. When it can't find a font numbered 2383, it continues printing in the previous font and ignores the numbers. The result is the absence of those numbers from the printed text.

To avoid this, enclose the numerical part of the command in parentheses:

Example: Our new telephone number is ^F=(2)383-4862.

If the command contains an = or - sign, enclose it in parentheses as well:

Example: ^ML=(=.5)2001 has become a film classic.

## CHAPTER 5 - WORD PROCESSORS

Printrix accepts several types of text files for typesetting. Some preparation may be necessary, depending on the type of text file and the amount of formatting desired. Preparation may involve a special save processor or addition/substitution of embedded commands. This chapter covers the types of text files which you may use, and the preparation process.

### Overview

Text files fall into two basic categories: formatted and unformatted. Formatted text files are also called "native" text files. Unformatted text files are also called "standard ASCII" or "generic ASCII" text files.

Formatting refers to the process of inserting special codes into the text file to control its printing. These codes do everything from sending carriage returns and form feeds to the printer to changing fonts.

All word processors insert some commands into the text file. Some codes are standard across word processors, while others vary greatly. A text file which contains only standard codes is called "unformatted," and is able to be read and processed by a variety of programs. A text file which contains nonstandard codes can usually be read and processed only by the word processing program used to create it, and other programs which contain special adaptations for those unique codes.

Printrix will accept any unformatted text file, and formatted text files from certain word processors: AppleWorks, AppleWriter, Word Juggler, and WordPerfect.

### ASCII Text files

These files contain only carriage return/linefeed commands. Some word processors can convert native text files into ASCII files by stripping out the nonstandard commands. If you use an unsupported word processor, see its manual

for an ASCII conversion process. If this is possible in your word processor, you may use it to create text files for typesetting through Printrix.

You must find out through experimentation whether your ASCII file is Hard or Soft Return. These two types of files differ in the type of carriage return commands they contain.

### Hard Return

ASCII Hard Return files contain carriage return commands ONLY at the ends of paragraphs. When viewed on screen, the line of text extends off the screen to the right. Word wrap is not in effect.

To use these files with Printrix, merely add any formatting commands that you like, make sure that you're configured to ASCII Hard, and print.

### Soft Return

ASCII Soft Return files contain two types of carriage returns. Hard returns are placed at the ends of paragraphs, AND soft returns are placed between lines of a paragraph, where the word processor has wrapped the text. Most or all of a paragraph may be seen on screen at once.

Since Printrix will re-wrap the text depending on the font and margin settings, the soft returns in the text file must be converted to spaces so that typesetting may continue on the current line.

Printrix performs this conversion automatically. However, the hard carriage returns must be kept operative, to allow you to begin a new paragraph, force a new line, etc.

Because the same code may be used for both hard and soft carriage returns, Printrix has a special convention for distinguishing between them. Any single carriage return is interpreted as a soft return and converted to a space, allowing typesetting to continue ON THE SAME LINE. Any PAIR of carriage returns is interpreted as one hard return, and forces typesetting to continue ON THE NEXT LINE.

Accordingly, to use ASCII Soft Return files with Printrix, move through the text file and add carriage return as necessary. For example, if you want to double-space between paragraphs, the text file must contain four carriage returns in that location. If you want to single-space the lines of an address, there must be two carriage returns between each line. Be sure that the carriage returns actually occur in pairs, with no intervening spaces or other invisible characters.

Finally, add any Printrix formatting commands that you like, make sure that you're configured for ASCII Soft, and print.

### AppleWorks

Printrix can read AppleWorks files, interpret some of the embedded commands, and filter out the rest.

If your AppleWorks files contain formatting commands, refer to the chart in Chapter 5 to see if those commands are supported. If they are, you may print the text file without alterations. If they are not, you must insert the equivalent Printrix commands. You may also add other Printrix commands to expand the formatting possibilities. Then, make sure that you're configured for AppleWorks, and print.

### AppleWriter

Printrix has a special AppleWriter adaptation which automatically ignores the AppleWriter codes. Therefore, you may use native AppleWriter text files. To

prepare them for typesetting, just add any Printrix commands that you like, make sure that you're configured for AppleWriter, and print.

Word Juggler

Printrix has a special adaptation for Word Juggler files, which interprets and carries out some of the common formatting commands and ignores the rest. This means you may use the native text files from Word Juggler.

If these files contain formatting commands, refer to the chart in Chapter 5 to see whether or not the specific command is supported by Printrix. If it is, no action is required. If it is not, insert the equivalent Printrix command. You may also insert other Printrix commands, to expand the formatting and typesetting possibilities. Make sure that you're configured for Word Juggler, and print.

WordPerfect

Printrix also has a special adaptation for WordPerfect files, interpreting and carrying out some of the common formatting commands and ignoring the rest. This means that you may use the native text files from WordPerfect.

If these files contain formatting commands, refer to the chart in Chapter 5 to see whether or not the specific command is supported by Printrix. If it is, no action is required. If it is not, insert the equivalent Printrix command. You may also insert other Printrix commands, to expand the formatting and typesetting possibilities. Make sure that you're configured for WordPerfect, and print.

|               | AppleWorks | AppleWriter | Word Juggler | WordPerfect |
|---------------|------------|-------------|--------------|-------------|
| Boldface      | X          |             | X            |             |
| Underline     | X          |             | X            |             |
| Justification |            |             |              |             |
| Left          | X          | X           | X            | X           |
| Right         |            | X           |              | X           |
| Center        | X          | X           | X            | X           |
| Fill          | X          | X           | X            | X           |
| New Page      | X          | X           | X            | X           |
| Tab           |            |             |              | X           |

Word Processor Commands Supported by Printrix

An "X" in a cell indicates that the word processor's embedded command for this function is automatically supported by Printrix. If a cell is blank, the word processor's embedded command is not supported, and you must use the Printrix form of the command. For example, to utilize tab characters in AppleWorks, AppleWriter, and Word Juggler, insert ^TAB in your text file. If you're using

WordPerfect, the tab key is sufficient.

CHAPTER 6 - PRINTRIX MENUS

Printing in Printrix is controlled by a combination of menu commands, seen on-screen in Printrix, and embedded commands, inserted into your text file from your word processor. The embedded commands are covered in detail in Chapter Seven. This chapter introduces you to the Printrix menus - their interaction within Printrix, how they control your location within the program's work areas, and the individual commands which are contained in each menu.

First Time in Printrix

To enter Printrix for the first time, boot the Printrix Program Disk by inserting it into Drive 1 and pressing Open-Apple CTRL RESET. Then press ESCAPE, insert the Printrix Configuration Disk and Follow the configuration procedure described in Chapter 1.

Thereafter, when you load Printrix, you will enter at the Main Menu. To do this, boot the Printrix Program Disk by inserting it into Drive 1 and pressing Open-Apple CTRL RESET, or set the prefix to /diskname/PRINTRIX and enter -PRINTRIX.

Printrix Main Menu

When you enter Printrix, a layout file name LAY.PRINTRIX is automatically loaded. The screen displays the process, and may ask you for assistance in locating the fonts. Printrix then moves to the Main Menu. See illustration in Lesson two.

The Main Menu is a crossroads between the two work areas of the program: printing and page design. You choose your first task from this menu. After you've finished that task, return to the Main Menu to move to another work area or to exit. (There's one exception: for speed and convenience, you may move directly between the Print Document Menu and the Layout Document Menu.)

To move to a work area from the Main Menu, enter the corresponding letter. To return to the Main Menu from any of its three branches, press ESCAPE. If you are several branches down in one of the work areas, you may need to press ESCAPE several times. To exit Printrix from the Main Menu, press ESCAPE.

See lesson two, figure 1, to see the format of the Printrix Main Menu.

Layout Document Menu

Pressing L from the Main Menu brings up a set of menus which allow you to load an existing layout file from disk, to save the current layout file settings to disk, and to design the printed page, including text, graphics, and fonts.

To load an existing layout file, press L from the Layout Document Menu, and enter the prefix and filename of the desired layout file.

If you wish to save the current page and font settings as a layout file, press S from the Layout Document Menu. Enter the prefix and filename. You may write over the current layout file by saving the new file to the same location under the same filename, or you may create a new layout file by entering a different location or a different filename. The layout file will contain all settings from the Text Format Menu, the Graphics Format Menu, the Font Library, and the font parameters.

To enter the Font Library, the Text Format Menu, or the Graphics Format Menu, press the corresponding letter from the Layout Document Menu. When you have completed your work in the Layout Document Menu, press ESCAPE. Printrix will return you to your previous location (the Main Menu or the Print Document Menu).

See Lesson Two, Figure 2, to view the format of the Printrix Layout Document Menu.

### Text Format Menu -----

Pressing R from the Layout Document Menu brings up a new menu, the Text Format Menu, which lists all options for controlling the placement of text on the page, and related commands. Included are such parameters as form size, margins, text justification, page numbers, numbers of copies, etc.

You may accept the default values, or change as many as you like by pressing the letter which corresponds to the parameter to be changed. If the parameter calls for a numerical or text value, enter the value desired. If the parameter offers a set of delimited options, pressing its menu letter will automatically cause the value to change. (For example, press J for Justification. F will change to L, to R, to C, and back to F, as you continue pressing J. When all parameters are set as desired, press ESCAPE to return to the Layout Document Menu.

See Lesson two, Figure 3, to view the format of the Printrix Text Format Menu.

### Graphics Format Menu -----

Pressing G from the Layout Document Menu brings up the Graphics Format Menu, which displays all options for controlling the printing and placement of graphics in the document. Included are such parameters as magnification, horizontal positioning, and relationship of text to graphics.

You may accept the default values, or change as many as you like by pressing the letter which corresponds to the parameter to be changed, and either entering the desired value or continuing to press the menu letter until the desired value appears on screen. When all parameters are set as desired, press ESCAPE to return to the Layout Document Menu.

See Lesson two, Figure 6, to view the format of the Printrix Graphic Format Menu.

### Font Library Format Menu -----

Pressing F from the Layout Document Menu brings up a sequence of three menus. The first menu displays the fonts that currently are loaded for use in typesetting. Each font is assigned a number. These numbers are used to identify fonts for manipulation by menu and by embedded command. An asterisk by the number indicates the current active font.

If you wish to load one or more new fonts, select the number into which the new font will be loaded by pressing the corresponding number key. Then press L from the list of commands displayed at the bottom of the screen. A question appears on the screen, asking you to identify the desired new font by prefix and filename. Enter the necessary information, pressing RETURN after each entry. Press RETURN alone to accept the default values. Repeat this process for any other new fonts.

If you wish to delete one of the fonts currently loaded, select the corresponding number, and press D to empty that position.

If you wish to change the parameters of one of the current fonts, select that font, then press C. A new menu will appear on screen, listing all possibilities for font manipulation. Change as many as you like, and press ESCAPE to return to the previous menu.

A final option from the Font Library Menu allows you to reload a group of fonts

from a specified area. See Chapter Seven for details on this function.

When all fonts and font parameters are set as desired, press ESCAPE to return to the Layout Document Menu.

See Lesson two to view the format of the Printrix Font Library Format Menu.

### Print Document Menu

Pressing P from the Main Menu brings up a sequence of two menus.

The first menu allows you to specify the text file to be printed, with the prefix information necessary to locate the file on disk.

The second menu displays the current printing parameters, as determined by the layout file in use. The settings include margins, form size, justification, color, page numbers, etc. You may accept the parameters as they stand, or change any or all of them. See Chapter Seven for details on each parameter.

This screen is a duplicate of the Text Format Menu. Any changes here will be reflected there, and vice versa. If you want to change any font or graphics parameters, or if you want to save any changes made to the page design from the Print Document Menu, you must enter the corresponding menu from the Layout Document Menu.

For convenience, you may move directly from the Print Document Menu to the Layout Document Menu, without returning to the Main Menu. Press L, as displayed on screen. When you have finished your work in the Layout Document Menu, press ESCAPE. If you entered the Layout Document Menu from the Print Document Menu, you will return to it. If you entered from the Main Menu, Printrix will return you there.

When all parameters are set as desired, press RETURN to accept them and begin the printing process. When printing is complete, Printrix will return to the Main Menu. You may halt printing at any time by pressing ESCAPE. Printrix kills the print job and returns to the Main Menu.

## CHAPTER 7 - REFERENCE

This chapter gives detailed information on Printrix commands, including menu commands and embedded commands.

This chapter is organized into four sections: layout file parameters, text format parameters, font library parameters, and graphics format parameters.

The function of each command is defined. Then, all acceptable options or settings for the commands are given, along with the correct form of response. Any special considerations are included. These may include the command's interactions with other commands, or certain circumstances which affect the command's operation. When necessary, examples are given for the best use of commands.

Finally, some commands may be used for particular typesetting effects. These special uses are defined and demonstrated.

### Save Layout File -----

This option creates a disk file that records the current setting of all printing parameters from the Text Format Menu, the Font Library Menu, and the Graphic Format Menu. This includes all font settings from the Change Font Parameters Menu such as italics, boldface, etc.

Once you've saved a layout file, you may load it again at any time, for use with the same text file or with a different one. The layout file will restore the previously saved values of the printing parameters, overriding the values it finds in memory, or in the font files.

NOTE: If you want to change the name of a layout file, do not use the ProDOS

"Rename" function. Instead, load the layout file into Printrix, then save it again under the new name.

Location:

Layout Document Menu (menu command only)

Procedure:

1. Set the printing parameters to the desired values, using the Text Format Menu, the Font Library Menu, and the Graphics Format Menu. Then return to the Layout Document Menu.
2. Choose option S.
3. In response to Printrix's screen prompts, enter the prefix and filename specifying the disk where the file will be located, and the name of the new file. Use the LAY.filename form for layout files.

If you accept the default filename, the new layout file will be written over the old file. If you want to keep old files, enter a new filename.

Create a "Default" Layout

When Printrix is booted, it automatically looks for and loads a layout file names LAY.PRINTRIX. If you use Printrix for one application a majority of the time, you'll probably have a standard layout file. You can load those values automatically, every time you load Printrix, by naming this layout file LAY.PRINTRIX.

Load a Layout File.

-----  
This menu option lets you recall a layout file that has been previously saved to disk. Loading a layout file will restore the printing parameters to the values current at the time of saving.

A layout file also reloads the fonts, in the same order as they were saved, so that they may be referred to by the same numbers. Their individual parameters are also restored to the values specified by the layout file.

You may load as many layout files as you wish within a document. When the document has finished printing, Printrix automatically reloads the original layout file, which it had previously saved to disk in a temporary file called LAY.TEMP.

Location:

Layout Document Menu  
Embedded Command

^LL="/prefix/filename"

Procedure - Menu Command

1. From the Layout Document Menu, choose option L.
2. Respond to the program's screen prompts by entering the drive and prefix where the desired layout file is located.

Printrix now searches that location for the specified file. If it finds the file, an on-screen message asks you to confirm. If it cannot find the file, an on-screen message asks for further instructions.

3. Answer Y, and Printrix asks for the directory in which the layout's fonts may be found and loads the layout. Or answer N, and Printrix continues to search.

Procedure

-----

At the desired point in the text file, insert the load layout command:

^LL="/prefix/filename"

You may include or omit the location. If the location is included, Printrix searches that area. When it finds the specified file, that set of parameters and fonts is loaded. If the file is not found in that location, or if you do not specify that location, Printrix will pause typesetting and display a question on screen requesting the necessary information.

In Use

Loading a layout file by embedded commands will cause Printrix to begin a new line of print. Therefore, we recommend that you position the command at the beginning or end of a paragraph, or between paragraphs.

Font Files

-----

When you save a layout file, Printrix stores information obtained from the Font Library about the fonts' parameters and order. The actual font files are not saved to disk with the layout file.

When you load a layout file, you should have the necessary font files available for Printrix to access. It is more convenient, although not necessary, to have all fonts together on one disk or one path. If the fonts are in different locations, switching between fonts by embedded command will cause Printrix to pause typesetting and request you to input the location for the new font.

TEXT FORMAT PARAMETERS

-----

Form Size

This parameter defines the absolute horizontal and vertical dimensions (in inches) of the form you're printing on.

The printing window, the space on which you may print, is a smaller rectangle within the form size. The printing window is defined by the margin settings.

Range:

-----

Horizontal: .01 to 14.00 inches  
(.01 to 8.50 for narrow cartridge printers)

Vertical: .01 to 99.99 inches

NOTE: On some laser printers, the vertical size of the printing window is limited by the printer's graphic buffer. See Appendix B for specific information on your laser printer.

Location:

Print Document Menu (menu command only)

Top of Form

-----

Printrix uses the vertical form size parameter to gauge the location of top-of-form. Therefore, if you're printing a multi-page document or multiple copies, especially on small forms such as mailing labels, be sure your vertical form size is accurate. Measure from the top of one form to the top of the next. (For mailing labels, measure from the top of one label to the top of the next, including the space between labels in the measurement.)

Margins

-----

A margin is a blank space at the top, bottom, left, or right of the form. Margins are measured from the edge of the form inward, in hundredths of an inch. You may define each margin separately.

The inner rectangle formed by the four margins is the printing window, or space

on which you may typeset. If you're printing on standard 8.5x11 inch paper, a left margin of 1 inch and a right margin of 1.5 inches results in a line length of 6 inches. A top margin of 1.5 inches and a bottom margin of .75 inches allows you to print on 8.75 vertical inches of paper. The printing window, then, is 6x8.75.

Range:  
0.00\* to max

max = form size minus opposite margin value

(In other words, the left and right margins together cannot exceed the horizontal form size: the top and bottom margins together cannot exceed the vertical form size.)

\* EXCEPTION:

Some printers are not capable of printing all the way across a page. If you try to set the left or right margin to a value which exceeds your printer's horizontal printing capacity, Printrix will automatically reset that margin to your printer's best value. If both right and left margins are out of bounds, Printrix will adjust both margins to center the printing window on the page.

Location:

Print Document Menu

Embedded Command

|               |       |
|---------------|-------|
| Left Margin   | ^ML=n |
| Right Margin  | ^MR=n |
| Top Margin    | ^MT=n |
| Bottom Margin | ^MB=n |

n is a number within the accepted range

Timing:

Embedded commands to change margins take effect at different times, depending on their positions. A command to change the left or right margin will take effect on the current line IF nothing has yet been printed on that line. If the command is found while Printrix is in the middle of a line, the margin commands will take effect on the following line.

Embedded commands to change the top and bottom margins take effect on the following page, no matter where they occur on the printed page.

Relative Values Apply:

When you change margins using the embedded commands, you may set the new values either by absolute distance from the edges of the form, or by relative distance from the previous margin values.

Absolute margin values are calculated in the same way that the menu command margin values are. Do not use a + or - symbol when using absolute margin values.

Relative margin values are added to or subtracted from the previous value of the margin. Relative values are indicated by using a + or - in the command. Relative values are convenient when you've forgotten the starting value of the margin, or when you want to change starting values from the menu, but keep the relationship between the margins the same.

Examples:

^ML=1^MR=1This paragraph will have left and right margins of one inch, for all lines in the paragraph.

This paragraph ^ML=+5will have the preset margin values on the first line. All following lines will be indented .5 inches on the left, to produce a "hanging paragraph."

prints as:

This paragraph will have the preset margin values on the first line All

following lines will be indented .5 inches on the left, to produce a "hanging paragraph."

In Use:

When a paragraph is printed through Printrix, the arrangement of words on a line depends on the current font and the current margins. In most cases, the arrangement will be different from the arrangement of that same paragraph in your word processor.

When printing a graphic, the horizontal placement (left, right, or center) is calculated from the current margins. If the graphic is too large to fit within the current margins, it will be cropped at the right and/or bottom edge to fit. If a margin change command is found while Printrix is printing a graphic, the new margin will take effect AFTER the graphic has finished printing.

TABSTOP SETTINGS/TAB CHARACTERS

-----  
Tabs in Printrix are controlled by two parameters: tab characters and tabstop settings. Tabstop settings are positions on the printing line, set by either menu or embedded command. Tab characters are commands embedded in the text file which cause Printrix to jump to the next tabstop and begin printing from that position.

Tabstop Settings

-----  
You may set up to eight tabstops per line. Tabstops are measured from the current left margin, in hundredths of an inch. If the left margin changes, the tabstops remain the same with respect to the left margin, and change with respect to the left edge of the paper.

You may enter the tabstops in any order. Printrix automatically rearranges them in order of increasing distance from the left margin.

Range:

0.00 inches to max

max = length of printing line (horizontal form size minus the left and right margins)

Location:

Print Document Menu

Embedded Command

|               |       |
|---------------|-------|
| Tabstop Clear | ^TC   |
| Tabstop Set   | ^TS=n |

n is a number within the accepted range

Tab Characters

-----  
Tab characters are used to indent paragraphs or align text to a preset tabstop position. When Printrix reads a tab character in the text file, it jumps to the next available tabstop position.

To enter a tab character in your text file, either press the tab key or type ^TAB. Some word processors don't utilize standard tab characters, so these require the ^TAB command. See Chapter Five for information on your word processor.

Relative Values Apply:

When using the embedded command to set tabstops, you may use either absolute or relative measurements.

Absolute tabstop values are added to the left margin value in order to determine their position on the page. They do not contain + or - signs.

Relative tabstop values are added to or subtracted from the current position on the printing line. Relative value commands contain a + or - sign.

In Use:

In most practical settings, you'll avoid confusion by first clearing all old tabstop settings before issuing new ones. Use the ^TC for this purpose. Then use the ^TS command to set new positions, one position at a time. You may enter up to eight. Printrix will ignore all tabstop settings to the right of the eighth position.

Example:  
^TC^TS=.5^TS-1.5^TABThis ^TABparagraph will be indented .5 inches on its first line. The word "paragraph" will be positioned 1.5 inches from the left margin.

prints as:

This paragraph will be indented .5 inches on its first line.  
The word "paragraph" will be positioned 1.5 inches from the left margin.

Oops!

-----

If your text file contains a tab character which falls to the right of the rightmost tabstop on the line, Printrix is unable to position it correctly, and will begin a new line instead. If this occurs, either remove the tab character from the text file, or set a new tabstop.

JUSTIFICATION

-----

Justification is the horizontal arrangement of words on the printing line. Printrix offers four justification styles:

Left:  
lines of text have even left edges and ragged right edges.

Right:  
lines of text have ragged left edges and even right edges.

Center:  
lines of text are centered between the current left and right margins.

Fill:  
lines of text have even left and right margins. Printrix uses "microjustification," adding space between words and between letters as needed, for the best visual effect.

Location:  
Print Document Menu  
Embedded Command  
Left ^J=L  
Right ^J=R  
Center ^J=C  
Fill ^J=F

Timing:  
Embedded commands to change justification take effect on the current printing line. If the line contains more than one justification command, and there are no tab characters in the line, the last justification command takes precedence.

Correct: ^J=CThe Gettysburg Address  
^J=FFourscore and seven years ago....

Incorrect: ^J=CThe Gettysburg Address^J=F  
Fourscore and seven years ago....

ACTIVE FONT

-----

Printrix keeps track of four fonts for use during a single typesetting line. Of these four fonts, one is "active" at any given time. The "active" font is the font currently in use, either being acted upon through menus or being used for typesetting.

Printrix uses the number keys to control the active font. You may change

active fonts from the menu or from embedded command.

Range: 1-4

Location:  
Print Document Menu  
Font Library Menu  
Embedded Command  
^F=n  
n is a number between 1 and 4

Timing:  
An embedded command to change fonts takes effect immediately, even within a word. All text following the command will be typeset in the new font until another font change command is found. You may change fonts within your document as often as you like.

All font enhancement commands apply only to the current active font.

In Use:  
Printrix begins typesetting a document in the active font specified from menu. This font will remain active until an embedded font change command is found. If your document begins with or contains several blank lines, the vertical gap on paper depends on the current active font.

LINEFEED ADVANCE

-----

This parameter allows you to select single, double, or triple-spacing between lines of text.

When lines are single-spaced, the distance from the baseline of one line to the baseline of the next is equal to the vertical cell size of the largest font on the line plus that font's linefeed gap. Double-spacing and triple-spacing are twice and three times that distance.

The linefeed advance command affects all fonts and all text in the document.

Range: S, D, or T

Location:  
Print Document Menu (menu command only)

Fine-Tuning

-----

If you want more precise control over distance between lines than you can achieve with Linefeed Advance, use the Linefeed Gap command. This is a font parameter, which can be changed for each individual font, and allows you to specify distances measured in dots.

QUALITY OF PRINT

-----

This command allows you to control the blackness of print. Single-strike mode, in which the printhead makes one pass over the line of print, is lightest. The maximum setting is 5, which causes the printhead to make five passes of the line of print, striking every dot five times.

Range: 1 - 5

Location:  
Text Format Menu  
Embedded Command  
^Q=n  
n is a number within the accepted range

In Use:  
Quality of print affects all print on a line, both text and graphics.

Since print quality operates on a printing line, it can change only between lines. When an embedded command to change print quality is found, the actual change takes place on the current line, affecting even previous text on that line. You may want to place the print quality command only at the beginning of a paragraph or on a line by itself.

## PAGE NUMBERING; POSITION; START

This group of commands controls the automatic printing of page numbers on each page of your document.

The first command turns page numbers on or off. The second command, Position, selects top or bottom of the page. The third command, Start, allows you to begin numbering, with any positive integer. All page numbers are printed in the font loaded into Position 1.

Range: Yes/No; Top/Bottom; 0 - 999

### Location:

Print Document Menu  
Embedded Command

^PG=Y or ^PG=N (print page numbers)  
none (top/bottom)  
^PN=n (start number)

n is a number within the accepted range

### In Use:

Embedded commands to change the start number take effect on the next page number. If page numbers are set to print at the top of the page, any changes will take place on the page following the command. If the page numbers are set to print at the bottom of the page, any changes will take place on the current page.

NOTE: Printrix cannot print page numbers past 999. The page following 999 will be numbered 0.

## NEW PAGE

This command instructs Printrix to begin a new page immediately. Typesetting breaks off at the point where the new page command is found, and resumes at the top of the following page, in single-column printing, or at the top of the next column, in two-column printing.

### Location:

Embedded Command Only  
New Page ^NP

### In Use:

If the new page command happens to coincide with the automatic page break at the bottom margin, Printrix will skip a page before resuming printing. If this occurs, remove the new page command or any adjacent carriage returns, or adjust the bottom margin.

## TWO COLUMN PRINTING

This command allows you to print in newspaper-style columns. Printrix prints the first column, then uses the reverse linefeed capability of the printer to return to the top of that page and print the second column.

Range: Yes/No

### Location:

Text Format Menu  
Embedded Command  
^C=Y or ^C=N

### In Use:

Within the printing window defined by the margin settings, Printrix

automatically calculates column width and gutter space (the space left blank between the columns).

When you are printing in two columns, the ^NP command immediately breaks the current column and moves printing to the top of the next column, whether that is on the same page or the following page.

If you use the embedded command to be in two-column printing (^C=Y), Printrix stops the current printing line immediately, moves to the next line, and resumes printing on that line, in two columns. We suggest you insert this command at the beginning or end of a paragraph or on a line by itself.

If you use the embedded command to end two-column printing (^C=N), Printrix finishes the current page in two-column mode, then begins the next page without columns. You may want to use this command in conjunction with the ^NP command.

## Check Your Printer

If you have one of these printers (Apple DMP, ImageWriter, ImageWriter II; C. Itoh 8510, 8510 SCP; Fujitsu DL2400, DL2600; NEC 8023, 8025, CP-6, CP-7, P5, P5XL, P6, P7; Texas Instruments 855, 857, 865; Toshiba 1340, 1351, P351, P351C), Printrix automatically utilizes a reverse linefeed capacity to return to the top of the page between columns.

If your printer was not listed above, you must return to the top of the page manually. To do this, set Wait at End of Page to Yes. Then, when the printer pauses, turn it off-line, roll the paper back, turn it on-line, and press the spacebar to resume printing.

## Wait at End of Page

This command pauses Printrix between every page of typesetting, allowing you to change paper stock, adjust the paper position, etc. You may not change the Printrix settings or the text file during these pauses.

Range: Yes/No

### Location:

Print Document Menu (menu command only)

Special Use : Two-Column Printing

This command may be used to allow two-column printing on printers which don't have reverse linefeed capabilities. Set Wait to Yes and Two-Column Printing to Yes. When the printer pauses at the bottom of the first column, manually roll the paper back to the top of that page, and press the space bar to resume printing.

## NUMBER OF COPIES

This command allows you to print multiple copies of a document.

Range: 1 - 999

Location:  
Print Document Menu (menu command only)

## PRINT LITERAL CHARACTER

This command is used to print a Printrix embedded command as part of your document. Use it to tell the program to print, rather than interpret, a command.

Range: one character, the carat (^)

Location:  
Embedded Command Only  
^L=^

Examples:  
The text string ^L=^ML=2 will be typeset as ^ML=2.

The text string ^ML2 will result in setting the left margin to a value of 2.

In Use:  
The ^L= command is needed only when you want to print a Printrix command. In all other uses of the carat, when the following characters do not match a Printrix command, they will be printed automatically. This command does not allow you to pass an escape sequence to the printer.

## UNDERLINING

Two embedded commands work together to produce underlining in your documents. The first turns underlining on, the second turns underlining off. All text, numerals, punctuation, spaces, and tabs between the commands will be underlined.

Location:  
Embedded Command Only  
Start Underline ^US  
End Underline ^UE

Timing:  
The underline commands take effect immediately, even between the characters of a word.

Special Uses: Tabs  
Tab commands and underlining work well together to draw horizontal lines. This feature is useful in creating forms, designing tables, etc.

Examples:  
^TC^TS=1.2^TS=3.5NAME^TAB^US^TAB^UE  
ADDRESS^TAB^US^TAB^UE  
^TAB^US^TAB^UE  
^TAB^US^TAB^UE  
TELEPHONE^TAB^US^TAB^UE

will print as:

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
TELEPHONE \_\_\_\_\_

^TC^TS=3  
Chapter One ^US^TAB^UE 3  
Chapter Two ^US^TAB^UE 8  
Chapter Three ^US^TAB^UE 21  
Chapter Four ^US^TAB^UE 35

will print as:

Chapter One \_\_\_\_\_ 3  
Chapter Two \_\_\_\_\_ 8  
Chapter Three \_\_\_\_\_ 21  
Chapter Four \_\_\_\_\_ 35

## FONT LIBRARY PARAMETERS

Select Active Font

Use the number keys, 1 through 4, to select an active font from the group of fonts in the current layout file. Here, the active font is the font or font location which you wish to operate on.

On the screen, an asterisk denotes the currently selected active font.

Range: 1-4

Location:  
Font Library Menu (menu command only)

Load Font from Disk

This command lets you load a font from disk into the currently specified active font location (indicated on screen by an asterisk).

Location:  
Font Library Menu (menu command only)

Procedure:  
1. Select the active font location by pressing a number key.

(Note: There may already be a font associated with that location. You may load a font anyway; Printrix will first delete the current resident, then load the new font.)

2. Press L.

3. Enter the prefix and filename which locate and identify the font you want to load. Press RETURN. Printrix looks at the specified area. If it finds a file of the specified name, it will display the file and ask for confirmation.

(Note: If you press RETURN without entering a prefix or filename, Printrix will search the default area for any file with a SET.filename form. You may accept any of the fonts it finds there.)

If you answer Y, that font is loaded. If you answer N, Printrix continue to search the area. If Printrix cannot find a font with the specified name, the screen will display a message and wait for further instructions.

Delete Font from Memory

This Font Library option deletes the active font from the current layout file. Use it to make room for loading other fonts. Delete Active Font does not disturb any font files on disk, or change the layout file on disk unless you resave it without the deleted font.



Location:  
Font Library Menu (menu command only)

Procedure:  
1. Select the active font location by pressing a number key.  
2. Press D.

## Reload Font Library

This option lets you load an entire new library of fonts in one fell swoop. Printrix will load into the current layout file the first four fonts it finds in a specified prefix, until it runs out of memory space. The fonts are loaded in the order they are found on disk, with the font parameters which are saved with the font. The layout file's font specifications are overwritten. However, this font information will not be saved with the layout file for reuse UNLESS you perform the Save Layout File operation.

Location:  
Font Library Menu (menu command only)

Procedure:  
1. Press R.  
2. Enter the prefix where the desired fonts are located, and press RETURN.

The screen will display the font loading process.

## Font Sub-Directories

If you have a certain group of fonts that you generally use for one application, and another group that gets used for a different application, etc., you may find it convenient to keep the fonts on separate disks or on separate paths. You can then use the Reload command to load an entire group of fonts quickly.

Change Font Parameters:  
This command causes Printrix to display a new menu, from which you may change the printing parameters of the active font.

Location:  
Font Library Menu (menu command only)

## Embedded Commands Override

Each of the nine font parameters has a corresponding embedded command which may be inserted in your text file. The menu parameters define the starting form of the font; embedded commands change the font for special purposes within the text file. Within one printing job, the embedded commands control the font appearance. After the document has finished printing, the fonts are reset to their original parameters for new print jobs.

## Font Name and Cell Size

These two parameters may not be altered, either from the menu or from text file. They are displayed on the Change Font Parameters menu for information purposes.

The font name identifies the current font. It is the filename with which the font was saved to disk in Fontrix. To change a font name, load the font in the Fontrix Font Editor, change its name, and resave it. The ProDOS renaming function is not effective.

Cell size refers to the font character frames - imaginary rectangles which contain the characters. The cell size is the same for all characters of the font, even though the characters within each cell may be of different heights and widths. The cell dimensions are measured in dots.

## Proportional Spacing

This parameter allows you to select proportional or nonproportional character spacing for the active font. If a font is printed in its nonproportional form, each character gets a preset amount of horizontal space, independent of the width of the character. If a font is printed in its proportional form, each character receives a horizontal space determined by its width. The excess space is shaved off the right edge of the character cell.

Range: Yes/No

Location:  
Change Font Parameters Menu  
Embedded Command  
^FP=Y or ^FP=N

In Use:  
For most printing, proportional spacing is preferable because it produces text that is evenly spaced to the eye, while nonproportional spacing can leave distracting gaps between characters.

For some applications, however, nonproportional spacing is required. For example, you may wish to print columns of numbers which are vertically aligned. If this is the case, you will need to set the Spacebar Width equal to the horizontal cell size of the font you are using, and give the font a negative Character Spacing Gap, so that the character cells overlap when printed. Some experimentation may be required to find the best setting for your font; start with a negative value that is one-third the horizontal cell size. Character Spacing Gap and Spacebar Width are other font parameters, covered later in this chapter. For a more extensive explanation of nonproportional printing, with examples, see Lesson Two.

## Character Spacing Gap

This parameter determines the amount of space Printrix issues between characters in a font. Spacing gap is measured in dots (pixels). This space is inserted between the character cells, whether the font is set for proportional or nonproportional printing.

Range: -99 to 99

NOTE: In this case, the - symbol means a negative value. It does NOT mean that the new character spacing gap is relative to the previous value. Do NOT use a + symbol for positive values of the character spacing gap.

Location:  
Change Font Parameters Menu  
Embedded Command  
^FS=n  
n is a value within the accepted range

## Special Uses: Kerning, Nonproportional Printing

The ability to set the spacing gap to a negative value is useful for nonproportional printing, as explained in that section, and in Lesson Two.

The ability to change the spacing gap in either direction allows you to fine-tune your printing. This is especially important with large fonts, and in headlines or captions. The most frequent application is kerning.

Kerning refers to adjusting the spacing gap between particular pairs of letters to keep the overall appearance of the text even.

In the following example, the kerned text was created by adjusting the character spacing gap between the letters T/o, F/a, V/A, T/A, A/G, L/Y, and Y/C. After each adjustment, the character spacing gap must be reset to its original value for the other letters in the word.

or subtracted from the previous spacebar width value.

In Use: Tables/Vertical Alignment

-----  
When printing columns of numbers or characters, the font in use must be set for nonproportional spacing, a negative character spacing gap, and a spacebar width equal to the horizontal cell size. For a more complete discussion, see Lesson Two.

Baseline

-----  
The baseline is an imaginary horizontal line which positions the font upon the page. Letters such as "x," "a," and "l" rest directly upon the baseline. Letters such as "g" and "y" rest their bodies upon the baseline, while their descenders rest below it. When you change fonts, each font is aligned on the same baseline for continuity across the page (the common baseline).

Changing a font's baseline value will move the font vertically with respect to the common baseline. If you increase a font's baseline value, characters will be printed above the common baseline. If you decrease the font's baseline value, it will be printed below the common baseline.

The baseline value is measured in dots. The top row of dots in a character cell is zero, and the bottom row is the vertical cell size of that font.

Range: 0-99

Location:  
Change Font Parameters Menu  
Embedded Command  
^FB=n

n is a value within the accepted range

Relative Values Apply

When using the embedded form of the baseline command, you may enter the baseline in either absolute or relative values. Absolute values are entered WITHOUT + or - symbols. An absolute value counts dots down from the top of the character cell to position the baseline.

Relative baseline values are entered WITH a = or - symbol. The value is added to or subtracted from the previous value.

Special Uses: Superscript/Subscript

You may use the baseline parameter to cause characters to float above or hang below the common baseline or a line of text for performing special effects, or tasks like super- or subscripting. You may also want to change to a smaller font at the same time.

Examples:  
E = MC^FB=(+10)2

prints as:

E = MC2

If your baseline command moves a font up or down more than half of the current linefeed gap, Printrix will increase the space between the lines to accommodate the repositioning.

Italics

-----  
This parameter allows you to italicize (slant to the right) the active font.

Range: Yes/No

Location:

Example:  
Unkerned: Town, Fame, ADVANTAGE, LYCEUM  
Kerned: Town, Fame, ADVANTAGE, LYCEUM

(You'll have to try this to get the full effect. AppleWorks isn't that flexible!)

Text file: T^FS=-2o^FS=lw^FS=4n  
F^FS=-1a^FS=4me  
AD^FS=1^FS=4A^FS=4NT^FS=-2A^FS=-1G^FS=rE  
L^FS=-4^FS=-1C^FS=4EUM

Linefeed Gap

-----  
This parameter is used to set the amount of space between lines. It is measured in dots (pixels). When there is more than one font on a line, the linefeed gap of the largest font is used for the entire line.

Range: 0-99  
Location:  
Change Font Parameters Menu  
Embedded Command  
^FL=n

n is a value within the accepted range

Relative Values Apply

-----  
You may define the embedded command for linefeed gap in either absolute or relative values. Absolute values are entered WITHOUT + or - symbols, and they determine the number of dots between the bottom of one line and the top of the next.

Relative values are entered WITH a + or - symbol. The value is then added to or subtracted from the previous linefeed gap value.

In Use:  
The linefeed gap parameter may be used for fine-tuning the space between lines, or "leading." However, the command applies only to one font at a time (the active font), so be sure to change the linefeed gap values for as many fonts as needed for your format requirements.

If you want to double- or triple-space an entire document, you may either change the linefeed gaps of all fonts, or use the Linefeed Advance parameter (discussed earlier in this chapter). However, if you want to use a combination of single-, double- and/or triple-spacing, use the linefeed gap commands.

Spacebar Width

-----  
This parameter defines the amount of space left blank between words. It is measured in dots.

Range: 0-99

Location:  
Change Font Parameters Menu  
Embedded Command  
^FW=n

n is a value within the accepted range

Relative Values Apply

-----  
When using the embedded form of the spacebar width command, you may define the width in either absolute or relative values. Absolute values are entered WITHOUT = or -symbols, and determine the number of dots between the last character of the previous word and the first character of the following word.

Relative values are entered WITH a + or - symbol. The value is then added to

Change Font Parameters Menu

Embedded Command  
`^FI=Y` or `^FI=N`

Horizontal Boldface

This parameter allows you to increase the weight of vertical lines in the active font.

Range: 0 - 4

Location:  
 Change Font Parameters Menu  
 Embedded Command  
`^FH=n`

n is a value within the accepted range

Relative Values Apply

When you use the embedded form of the boldface command, you may enter either an absolute or a relative value.

Absolute values determine the amount of weight added to the font. They are entered WITHOUT a + or - symbol.

Relative values are added to or subtracted from the previous boldface value. They are entered WITH a + or - symbol.

Font Magnification

The horizontal and vertical magnification parameters may be used together or separately to increase the printed size of a font. The horizontal magnification factor increases a font's width; the vertical magnification factor increases its height. You may double, triple, quadruple, etc., a font; you may not decrease it or enlarge it by a noninteger factor such as 1.5 or 2.75.

Range: 1 - 99

Location:  
 Change Font Parameters Menu  
 Embedded Command  
`^FX=x` (horizontal magnification factor)  
`^FY=y` (vertical magnification factor)

x and y are values within the accepted range

Relative Values Apply

You may use either absolute or relative values with the embedded form of the magnification command. Absolute values are entered WITHOUT + or - symbols, and determine the size of the font directly.

Relative values are entered WITH a + or - sign, and are added to or subtracted from the previous magnification value. In other words, if a font's current horizontal magnification value is 2, and your text file contains the command `^FX+2`, the result will be a font printing at four times the original width.

In Use:  
 With magnification factors of 1, Printrix prints one dot at the printer for each dot in the original font. With a magnification factor of 2, Printrix prints two dots at the printer for each dot in the original font. If you use large magnification values, the resolution (its smoothness) of the font when printed will decrease.

You may use magnification to produce the extended and compressed versions of existing fonts. You may also use magnification to compensate for non-square aspect ratios of printers. (See Chapter Three for a discussion of aspect ratio in relation to graphics printing.)

Font Color

This parameter allows you to change the printing color of a font, if you have a color printer. There are fifteen color options, each designated by a number.

- |                  |                   |
|------------------|-------------------|
| 1 - Black        | 9 - Yellow-Black  |
| 2 - Blue         | 10 - Green        |
| 3 - Blue-Black   | 11 - Green-Black  |
| 4 - Red          | 12 - Orange       |
| 5 - Red-Black    | 13 - Orange-Black |
| 6 - Purple       | 14 - Brown        |
| 7 - Purple-Black | 15 - Brown-Black  |
| 8 - Yellow       |                   |

Range: 1 - 15

Location:

Embedded Command  
`^FC=n`  
 n is a number within the accepted range

In Use:  
 The command to change font color affects only the current active font. If you change fonts, the new font will print in its current color setting, whatever that may be. If you haven't set the font's color yet, the default color is black.

The command takes effect immediately, even within a word.

GRAPHICS PARAMETERS

Three commands exist to print a graphic form from your text file. The first is used to call a standard single hi-res screen, created by many programs including Fontrix. The second is used to call a Fontrix Graffile, which is an extended-screen graphic created only by Fontrix. The third is used to call a Print Shop-compatible ART.graphic.

A graphic must be called from the text file, with the embedded command corresponding to the graphic type. The embedded command contains the filename, the desired graphic, and may or may not also contain location information. The position, magnification, etc., of the graphic is controlled by a combination of embedded commands and menu commands.

Print a single hi-res screen: `^GPS="/prefix/filename"`

Print a Fontrix Graffile: `^GPG="/prefix/filename"`

Print an ART.graphic: `^GPA="/prefix/filename"`

The filename and any location information MUST be enclosed in quotes.

If the location information is omitted, Printrix will search the default path (the last graphic accessed) for the graphic. If it finds a file with the appropriate filename, that file will be printed. If no such file is found, Printrix will display a "File Not Found" message on screen, and offer you the opportunity to enter a new prefix.

If the location information is incorrect, Printrix will first search the specified area, then display the "File Not Found" message and allow you to enter a new location.

Examples:  
 The following embedded command would print a single hi-res screen named pic.halleys which is currently on disk.

`^GPS="/diskname/pic.halleys"`

The following embedded command would print a Graffile named gfl.skyscape, which is stored in a subdirectory named Graffile.

```
^GPG="/diskname/graffile/glf.skyscape"
```

The following embedded command would print a clip-art graphic called art.santa. Since no location is given, Printrix will first search its default directory, then ask you for directions.

```
^GPA="art.santa"
```

#### Timing:

A graphic called by these commands will begin printing on the line immediately following the current printing line, IF there is room remaining on the page. If the graphic call is encountered near the bottom of the page with insufficient space remaining before the bottom margin, Printrix will hold the graphic until the next page.

If you call a graphic while another graphic is printing (if the second call comes too soon in the text file), the second command will be ignored.

#### Watch Your Margins

If you try to print a graphic that is larger than the printing window (the rectangle defined by the four margins), Printrix will automatically move the graphic to the left margin, then crop it on the right and/or bottom edges to fit the available space. To prevent this, reset your margins to accommodate the graphic size BEFORE calling the graphic. If you call a graphic before inserting the margin change command, the new margin values will be put on hold until the graphic has finished printing.

#### GRAPHIC MAGNIFICATION

Two commands control graphic magnification - one for the horizontal dimension and one for the vertical dimension. You may set them to the same or different values, as you choose.

To print a graphic in its original size, use the default magnification values of 1 and 1. To double its size, set both dimensions to 2. Only integer values may be used (in other words, Printrix will not accept a magnification value of 1.5).

A graphic magnification setting will apply to all graphics in the text file, unless changed by a subsequent embedded command.

Remember that the size of the graphic when printed depends not only on the original size of the graphic but also on the resolution of your printer.

Range: 1 - 99

#### Location:

Graphic Format Menu  
Embedded Command

```
^GX=x (horizontal magnification factor)
```

```
^GY=y (vertical magnification factor)
```

x and y are values within the accepted range

Note: As you move from magnification factors of 1x1 to factors of 2x2, you are essentially causing the printer to print a 2x2 block of dots for every dot in the original graphic. This increases the size of the print-out, and also decreases the apparent resolution of the graphic - diagonal lines and curves will exhibit the "stairstep" or "jaggy" effect. Therefore, magnify only when necessary.

Special Uses: Correcting for Non-Square Aspect Ratios

Many printers have different print densities for the horizontal and vertical

dimensions. (The relationship of horizontal to vertical resolution is called aspect ratio.) When printing graphics, this results in distortion of the graphic - stretching in one direction or the other. Circles on screen are printed as ellipses, etc. You may use the magnification commands to correct for non-square aspect ratios by setting the horizontal and vertical dimension accordingly.

For example, many Epson printers have a horizontal resolution of 120 dpi (dots per inch) and a vertical resolution of 75 dpi. Unmagnified, a graphic will print tall and thin. To correct, set the horizontal magnification factor to 3 and the vertical to 2. This results in a horizontal resolution of 40 dpi and a vertical resolution of 37 dpi, accurate enough for most purposes. Of course, the graphic now has increased in size and decreased in resolution, so weigh all these factors against each other and design the page or the graphic accordingly.

#### Negative Image

This parameter allows you to print a graphic as a negative image of itself. Like a photographic negative, dark and light areas of the picture are reversed. If the graphic is in color, pairs of colors will be reversed.

Range: Yes/No

#### Location:

Graphic Format Menu  
Embedded Command  
^GN=Y or ^GN=N

Caution: If you have a dot matrix printer, be careful about printing large areas in solid black - you may overload the printhead element and shorten the life of your printer. If you have an inkjet or laser printer, don't worry.

#### Horizontal Placement

This parameter allows you to position a graphic against the left margin, against the right margin, or centered between the margins.

Range: L, R, or C

#### Location:

Graphic Format Menu  
Embedded Command  
^GH=L, ^GH=R, or ^GH=C

#### Relationship to Text

The relationship of text to graphics is controlled by two parameters, Horizontal Placement and Fit Text to Graphic, described later in this section. If a graphic is positioned left or right, you may command the text to "Flow" around the graphic - "graphic run-around." Lines of text are full length above and below the graphic, and are shortened beside the graphic to fill the space between the graphic and the opposite margin. If a graphic is centered, no run-around is possible, and text will break above and below the graphic.

#### Graphic Color Printing

This parameter allows you to enable or suppress color printing of graphics.

Range: Yes/No

#### Location:

Graphic Format Menu  
Embedded Command  
^GC=Y or ^GC=N

#### Fit Text to Graphic

-----  
 This parameter allows you to select between three arrangements of text around an inserted graphic: Break, Flow, and Overlay.

Break: holds text typesetting while the graphic is being printed. When the graphic has finished, typesetting resumes.

Flow: performs a "graphic run-around" in which any remaining space to the side of the graphic is filled with short lines of text. Flow is operative ONLY when the graphic is positioned left or right. If the graphic is centered, you must choose either Break or Overlay. If you forget and set the parameter to Flow, Printrix will ignore the command and execute a Break. (Left, right, and center are controlled by the Horizontal Placement parameter, discussed earlier in this section.)

Overlay: allows you to print text directly on a graphic.

## Separate from Text

-----  
 This parameter controls the amount of space left blank between a graphic and the surrounding text. Included are the areas above, below, and to either side of the graphic. These areas are sometimes called "gutter space."

Range: 0.00 to max

max = length of printing line, or distance between the left and right text margins

Location:  
 Graphic Format Menu (menu command only)

## APPENDIX A: FILE CONVERSION

-----  
 All files used by Printrix must be in ProDOS format. This includes text files, fonts, and graphics. Your text files and graphics may already be in ProDOS format. However, if you want to use Fontrix Graffiles, fonts from the Fontpaks, or any DOS 3.3 text files and graphics, you must convert those graphics according to the following procedure.

### ProDOS Conversion: Text files and Single-Screen Graphics

Apple provides two utilities to perform the DOS 3.3-ProDOS conversion. They are located on the ProDOS System Utilities Disks. CONVERT comes with the older Apple II computers. CHANGE DISK'S FORMAT comes with the Apple //c and newer Apple II computers.

To use either program, follow the procedures described in your Apple manual.

### ProDOS Conversion: Graffiles

Fontrix Graffiles require special conversion procedures. A conversion utility is provided for you on the /CONFIGURE disk.

To convert a Fontrix Graffile to ProDOS format, set the prefix to /CONFIGURE and insert the /CONFIGURE disk (or, if you're running from hard disk, set the prefix to the appropriate subdirectory). Then input -PX.CONVERT. A menu appears, from which you may specify the source disk and file, catalog the contents of a disk, and begin the conversion. An on-screen counter keeps track of the conversion process.

### ProDOS Conversion: Fonts

-----  
 All Printrix fonts were created by Printrix's sister program, Fontrix, in DOS 3.3 format. The fonts contained on the Printrix disks /FONTS1 and /FONTS2 have already been converted for use with Printrix.

However, if you own Fontpaks, which were created using Fontrix, or if you have created Fontrix fonts for your own use, these fonts must be converted before

you may use them with Printrix.

The font conversion is a two-step process. First, the file structure must be changed to ProDOS. Second, three font parameters must be added to the font file.

To convert the file format to ProDOS, follow the procedure described earlier for conversion of text files and single-screen graphics.

Then, set the prefix to /CONFIGURE disk and insert the /CONFIGURE disk (or, if you're running from hard disk, set the prefix to the appropriate subdirectory). Type -FONT.SETUP. Enter the prefix and filename of the font you're converting. Printrix now goes to a look-up table to read the font size. From this it calculates the three parameters of spacebar width, character spacing gap, and baseline. The results are displayed on screen. You may change any of these values, or accept Printrix's suggestions. Press RETURN to save the font with the new parameters.

Feel free to experiment with these settings. You may find it convenient to set up particular fonts to use in super/subscripting (change the baseline value), or nonproportional printing (change the spacebar width and character spacing gap).

## APPENDIX B: Printers

If you read Chapter 3, you know that Printrix prints in graphics mode, which makes the size and proportion of the print dependent on the printer's graphics resolution and aspect ratio.

Consult the technical manual for your printer to determine the dip switch settings and resolution (dots per inch) of your printer.

## APPENDIX C: FONTS

Printrix comes with 43 fonts, which are contained on the Printrix disks, for your use. They are ready to be loaded and used. Additional fonts are available on Fontpaks.

## APPENDIX D: ART.GRAPHICS

A number of four-sector graphics are contained on the Printrix Configuration Disk. They may be used with the Printrix ^GPA command.

-END-

===== DOCUMENT printrix.quick =====

===== DOCUMENT printrix.tutor =====

Printrix Textfile Command Quick Reference

Printrix Tutor II  
original article by Bill Fortenberry  
Apple Fontrix/Printrix Club Newsletter  
August 1987\*

| Function                | Command/range       | Type     | Units        |
|-------------------------|---------------------|----------|--------------|
| <b>Page</b>             |                     |          |              |
| New Page                | ^NP --              | --       | --           |
| Page Number set         | ^PG=n 0<=n<=999     | absolute | --           |
| Print PaGe num.         | ^PG=a a=Y or N      | --       | --           |
| <b>Justification</b>    |                     |          |              |
| Justify text Left       | ^J=L --             | --       | --           |
| Justify text Right      | ^J=R --             | --       | --           |
| Justify text Center     | ^J=C --             | --       | --           |
| Justify text Fill       | ^J=F --             | --       | --           |
| <b>Graphics</b>         |                     |          |              |
| Graphic Print Graffile  | ^GPG="filename"     |          |              |
| Graphic Print clip Art  | ^GPA="filename"     |          |              |
| Graphic Print hi-res Sc | ^GPS="filename"     |          |              |
| Graphic Horiz.placement | ^GH=a a=L,RorC      |          |              |
| Graphic Color enable    | ^GC=a a=YorN        |          |              |
| Graphic magnify horiz.  | ^GX=n 1<=n<=99      | relative |              |
| Graphic magnify vert.   | ^GY=n 1<=n<=99      | relative |              |
| Graphic Fit to text     | ^GF=a a=B,F,0       |          |              |
| <b>Miscellaneous</b>    |                     |          |              |
| Columns format          | ^C=a a=Y or N       |          |              |
| Literal print command   | ^L=^                |          |              |
| Quality of printing     | ^Q=n 1<=n<=5        | absolute |              |
| Load Layout file        | ^LL="filename"      |          |              |
| <b>Fonts</b>            |                     |          |              |
| Font selection          | ^F=n 1<=n<=4        | absolute |              |
| Font Baseline           | ^FB=n 0<=n<=99      | relative | pixels       |
| Font Color              | ^FC=n 1<=n<=15      | absolute |              |
| Font Horiz. bold        | ^FH=n 0<=n<=4       | relative | pixels       |
| Font magnify horiz.     | ^FX=n 1<=n<=99      | relative |              |
| Font magnify vertical   | ^FY=n 1<=n<=99      | relative |              |
| Font Italicize          | ^FI=a a=Yor N       |          |              |
| Font Space betw letters | ^FS=n -99<=n<=99    | absolute | pixels       |
| Font Width of spacebar  | ^FW=n 0<=n<=99      | relative | pixels       |
| Font Linefeed gap       | ^FL=n 0<=n<=99      | relative | pixels       |
| Font Proportional space | ^FP=a a= Y or N     |          |              |
| Underline Start         | ^US                 |          |              |
| Underline End           | ^UE                 |          |              |
| <b>Margins</b>          |                     |          |              |
| Margin Left             | ^ML=n 0.00<=n<=form | relative | 1/100ths in. |
| Margin Right            | ^MR=n 0.00<=n<=form | relative | 1/100ths in. |
| Margin Top              | ^MT=n 0.00<=n<=form | relative | 1/100ths in. |
| Margin Bottom           | ^MB=n 0.00<=n<=form | relative | 1/100ths in. |
| <b>Tabs</b>             |                     |          |              |
| Tab                     | ^TAB                |          |              |
| Tab Clear all tabs      | ^TC                 |          |              |
| Tab Set                 | ^TS=n 0.00<=n<=form | absolute | 1/100ths in. |

CONFIGURATION Some people have had trouble configuring Printrix. Configuration is necessary so Printrix will know what printer and word processor you are using. Here's how to configure Printrix. On versions 1.00-1.01, when you first boot Printrix, press the ESC key as soon as the disk starts to spin. After a while you should see a flashing cursor and the ] prompt. Put the Configuration disk in the drive and type PREFIX/CONFIGURE [CR] AND THEN RUN CONFIGURE [CR].

If you are using a version over 1.01 then you would boot the program disk, put in the configuration disk and type [C].

The first screen asks for you keyboard type. Type "1" if you have a IIE, "2" if you have a IIC, or a "3" if you have a GS. Next you are asked for the manufacturer of your printer interface card. Find the manufacturer on the list and type the number to the left of their name. Next you will see a list of printer interfaces made by that manufacturer. Select the one you want by number. Then specify what slot the card is in. Normally the slot is one. If you are using the GS printer port, the slot is one. Now you will get a list of printer manufacturers. Find the manufacturer of your printer and select it by typing the number to the left of the name. Next you get a list of their printers. Find yours and select it by number. Some printers may offer more than one printing resolution. If yours does, pick the one you want to use. If one of the options for your printer is followed by (Quad Density), I would recommend you use that option. Quad density will be covered in an upcoming newsletter in more detail, but "in a nut shell" it gives you better printouts. With a few printers, the resolution is so high that Printrix doesn't have enough storage space to use it all. If you see a number, in parenthesis next to your printer, such as "(5.3 max)", it means your documents can only be 5.3 inches wide.

Now comes your word processor. Printrix supports native files from AppleWorks, Apple Writer, Word Juggler and Word Perfect. If you don't use one of these word processors, you will have to save your text as an ASCII text file. A soft ASCII file has a RETURN character at the end of each line, and two RETURN characters at the end of a paragraph. A hard ASCII has a single RETURN character at the end of each paragraph. You will have to consult your word processor's manual to see which type of text file it will create. If you intend to print the tutorial files on the Printrix disk, configure Printrix for your interface card and printer, but set the word processor to ASCII soft.

After you select your word processor, you will see a recap of everything you configured for. Check it over. If it is correct, remove the configuration disk, insert the Printrix disk, and press RETURN to save the configuration info to disk. If you need to reenter anything, press R. To abort the configuration altogether, press ESC.

PRODOS PATHNAMES ProDOS allows files to be stored in a tree like structure. This allows you to store similar files together. It's also important for managing a large number of files on a mass storage device. ProDOS implements this tree structure through volume names and subdirectories. The combination of the volume name, any subdirectories and the filename is called the pathname. This is the path ProDOS must follow to retrieve the file contents. Many Apple users call the name of the volume (or disk name) the "Prefix", the subdirectory information and "Pathname" and then of course the "Filename" the name of the program. Others call the Prefix everything up to the filename and don't use the term pathname. For our examples, the term "Pathname" will be the volume name, subdirectories, and the filename. The term "Prefix" will be the volume name and subdirectories, without the filename.

When you format a ProDOS disk with the system utilities you are asked for a volume name. The volume name is the first step in the pathname. The newly formatted disk is called a volume and it is given the name you supplied. This volume also has a main directory. A volume directory is a special type of file. It contains the information ProDOS needs to find other files on that volume. You can see some of that information by cataloging the volume with the system utilities. There can only be 51 entries in a volume directory. The volume name can be pretty much anything within some limits. The name cannot be longer than 15 characters. The first character must be a letter. After the first character you can use any combination of letters, numbers and periods. Normally a volume name will reflect the contents of the volume and a slash(/) will precede the volume name. For example, the volume Printrix is supplied on is named /PRINTRIX.

At this point you can start storing your programs in the main directory. But if you have a 3.5 disk, or a hard disk, the directory can fill up fast. What's needed is a way to group files together in logical groups. ProDOS provides this function through subdirectories. Subdirectories are the intermediate steps in the pathname. The subdirectory is a fully functioning directory, but it is subordinate to the volume directory. A subdirectory can contain other subdirectories. It's entirely possible to have a directory made up of only subdirectories. Again, a subdirectory can be named anything, but usually describes its contents.

Finally is the filename. The filename is subject to the same naming rules as volumes and subdirectories and is the final step in the pathname. Printrix limits the entire pathname and filename to 79 characters, including all slashes. If you're starting to get confused, think of a big oak tree. The volume name is the trunk of the tree. Each branch is a subdirectory. A branch may have another branch growing out of it, which could also have a branch growing out of it, etc. The leaves are the filenames. A large tree can have a lot of branches and leaves.

Let's say you have Printrix set up on an 800k disk. The volume name is /PRINTRIX. There are two subdirectories called FONTS and CLIP.ART. All the fonts are stored in the FONTS subdirectory. The pathname for SET.CASLON25 would be /PRINTRIX/FONTS/SET.CASLON25. Notice the slashes. The pathname always starts with a slash and slashes separate the volume name, subdirectory names and the filename.

If you have a lot of subdirectories, pathnames can get long, and typing them can be tedious. To get around this ProDOS supplies the prefix. The prefix is a pathname that is always placed on front of the filename to make the complete pathname. Using the example from the last paragraph we could set the prefix to /PRINTRIX/FONTS/. Then we could get to caslon.25 by typing set.caslon.25. To get to a file in another directory, we would have to change the prefix.

To help manage prefixes, there is a bonus program on the Printrix configuration disk. To use it, boot Printrix and press ESC immediately. When you see the ] and flashing cursor insert the configuration disk and type LOAD/CONFIGURE/DEFAULT.PATHS [CR] and then put in the program disk and type PREFIX.PRINTRIX [CR]. When the cursor is again ready, type RUN [CR]. "Default.Paths" doesn't mince words, the prompts are short and to the point. When you see LAYOUT and a question mark, type the prefix for the location of your layout files. Don't forget the starting slash. At the next question mark, enter the location of your fonts. Finally enter the location your text files. Before pressing RETURN insert the Printrix program disk, Printrix will use these prefixes as defaults, but you can always override these prefixes from within Printrix.

EDITING KEYS Printrix has some editing functions that are available anytime you are asked for a prefix or filename. Here's a short summary of the editing keys.

When typing path and filenames you are always inserting characters. Any characters to the right of the cursor will slide right to make room for the new characters. If the cursor is on the first character of a line, the first character pressed (other than a special control, tab, or open-apple character)

will erase the line.

? - The question mark will scan all your disk drives and show you the volume names mounted in those drives.

<-, -> The arrow keys move the cursor to the right or left.

OA-Y - T Holding down the open-apple key and pressing [Y] deletes the characters from the cursor to the end of the line. Characters to the left remain intact.

DELETE - The delete key deletes characters to the left of the cursor, one at a time. characters to the right slide of the left to fill the gap.

OA-DELETE - Holding down the open-apple key and pressing DELETE removes the character under the cursor. The characters to the right slide of the left.

TAB - The TAB key jumps to the next slash. this makes it easy to add a subdirectory to a prefix. Sometimes it is faster to tab to the end of a line and type new information, or delete characters with the [DELETE] key and type new characters as needed.

Control A - Holding down the control key and pressing A will move the cursor to the start of the line.

Control Z - Holding down the control key and pressing Z will move the cursor one past the end of the line.

Control X - Holding down the control key and pressing X will home the cursor and delete the line.

Next month in Printrix tutor we'll get back to covering the Printrix menus. See you next month.

\*Apple Fontrix/Printrix Club  
P.O. Box 29857  
Thornton, CO 80229-0857

August 1987

-END-

=====

```
DOCUMENT proarc
```

=====

---

```
]]]] PROARC V1.0 [[[[
```

---

The PROdos ARChival Utility for 5.25 floppy disks and Files.

Programmed by The Freebooter 5/29/87

Software Encryption Analysts of South Texas

#### Description:

PROARC is a Prodos based utility designed to provide the user the ability to "archive" his 5.25 disks to a Prodos file in a compressed format. A secondary function gives the user the ability to read an input Prodos file and generate a corresponding compressed output file. When archiving disk data, the resultant output file will be of the following format:

```
Filetype = $F7  Filename format = XXXX.DSK
```

When archiving a file, the resultant output file will be of the following format:

```
Filetype = $F8  Filename format = XXXX.ARC
```

This output filename (XXXX) may contain up to 11 characters, not counting the 4 character filename extension (.DSK/.ARC). The extension may be entered manually by the user or the program will automatically append the proper extension for him.

These resultant files can then be placed on a mass-storage device for archival purposes or uploaded to your favorite BBS for disk/files transfers. The degree of compression realized from archiving a disk or file will vary according to the source data. In case of disk archival, the output disk file can be minimized if the source disk is not too fragmented. Fragmentation results from repeated file deletions and allocations. The user can "defragment" a normal DOS 3.3 or PRODOS disk by copying all the files off to a freshly formatted disk. The resulting defragmented disk is then archived by PROARC to achieve minimal output file size. Certain file types will realize significant file size reductions when archiving them, especially text files. In any case, any file size reductions will affect transfer times in BBS uploads/downloads.

The user can then "de-archive" these resultant files back to their original forms. When converting a DISK file back to a floppy, a low-level format is automatically performed on the output disk. In the case of an archived file, the original file's attributes are internally saved so the unarchived file will be identical to the original file.

#### Minimum system:

Any Apple II series computer with at least 64k and one 5.25 floppy drive.

#### Some other features:

If a Prodos compatible clock is detected in the system the time is displayed in 12-hour format at the menus.

If no clock is available the ability to set the system DATE is provided so the user can at least date stamp his output files.

Basic.system is protected by PROARC, therefore all normal Prodos commands are available to the user within PROARC.

Floppy drives MUST be running out of Slot 6. Drive 1 or 2 may be selected for DISK archival/unarchival.

All file accesses follow the normal Prodos file hierarchy.

At the menu screens, CONTROL-A will toggle upper/lower case screen output.

Program exits through Prodos's normal Quit code.

---

Please distribute this program as freely and fluently as possible. Let's campaign for widespread Prodos-based BBS's.

Thank's,

The Freebooter

Software Encryption Analysts of South Texas



Presumably the two species are of different religious beliefs, because each one has its own Supreme Being.

This is the version that you actually have to stick around and play along with your computer. There are several variations in how you can play Divine Intervention. You specify the number of generations which pass before an intervention can take place, and you also specify the level of intervention that can occur. The three possible levels are:

KILL      CREATE      KILL + CREATE

First, elect to have two players, or one player against the computer. The first player always plays red; the computer or second player play blue. You will be asked to place the seed cells, as in the Creation model. Then, after the specified number of generations have passed, one player and then the other will be asked to modify a cell. The KILL level allows you to kill any living cell in the colony by clicking on it. You can kill cells of either species, fertile or infertile. The CREATE level allows you to create a new individual of your species by clicking on an unoccupied cell. The KILL + CREATE level allows you to do either of these things -- but at this level it will take a very long time before one species is actually wiped out. You may need to change the criteria for winning the game -- for example, who has the most living cells after 200 generations have passed. To pass on your modification turn, click on the arrow in the dialog area above the playing board.

NOTE: The computer has been programmed to play "smart" when the KILL level has been selected. In the CREATE or KILL + CREATE levels, the computer essentially reverts to a Darwinian or random player.

INTERRUPTING THE GAME

At any time, you can interrupt the game with the following keyboard inputs:

Apple-P -> Pause      Apple-N -> New Game      Apple-Q -> Quit

PROPAGATION RULES

Here are the rules that govern the birth, death, reproduction, and mutation of both bluons and maruons. These rules may be different from the "Life" rules you are familiar with in other games.

\* Each individual is represented by an arrow pointing left or right. Fertile individuals are represented by colored arrows; infertile individuals are represented by white arrows in a colored background. A fertile individual can give birth to children in adjacent unoccupied cells in an upward, downward, and forward direction. No child can be born in a vacant cell that is behind the fertile cell. If two or more members of the same species are adjacent to a vacant cell, regardless of whether they are fertile or infertile, no child of that species can be born into that cell.

\* When a vacant cell is bordered by exactly one fertile cell of each species, and the cell is not behind either fertile cell, then the species with current "\_priority" successfully reproduces into that cell. Priority alternates with each generation.

\* The two species are "invisible" to each other. Thus, if the species with priority was not able to reproduce into a vacant cell because it had two or more adjoining members, the other species can still reproduce into that cell if it has one and only one adjoining fertile cell.

\* The original individuals in the colony, and their children and immediate descendants, have a life span of two generations, with a fertility span of one generation.

\* When a child is born into the farthest column in its direction of propagation, it mutates. Its life span is increased by two generations, its fertility span is increased by one generation, and its direction of propa-

=====
DOCUMENT propann
=====

PROPAGANNIHILATE
=====

INTRODUCTION

Propagannihilate visits the asteroid Xirxoman, where the Game of Life (as written up in a cover story in Scientific American many years ago) is played out in real life.

This game was written on the Apple //GS using Orca/C. It can be played by one or two players. It's not an action thriller, but it can be exciting in its own way -- kind of the way chess is.

GETTING STARTED

Click on the PROPANN application icon. Read the introduction. THIS IS REALLY IMPORTANT STUFF! Click on "next page" to turn the page, or click on the "skip game" to skip directly to the game.

PLAYING THE GAME

There are three ways of playing PROPAGANNIHILATE, corresponding to the three major models of the origin of life. They are:

DARWIN      CREATION      DIVINE INTERVENTION

In all these three, the playing area is populated by two species: "bluons" (represented by blue arrows), and "maruons" (represented by red arrows). They propagate, mutate, and compete for territory, with the inevitable conclusion being that one species survives while the other is annihilated.

Start the game by clicking on one of the three model options.

DARWIN MODEL

The Darwin model says that the origin of life was an accidental freak of nature. But once life was established, species propagate according to physical and natural laws, with the fittest surviving.

In the game, four seed cells appear at random locations in the colony. They propagate until one species is annihilated. There is no input at all from the players. Sounds fascinating, doesn't it?

CREATION MODEL

The Creation model holds that there was in fact some kind of purpose to the origin of life, but life is still bound by laws of nature that we maybe can understand but certainly can't change.

First, elect to have two players, or one player against the computer. The first player always plays red; the computer or second player play blue. In the game, the player or players are asked to place four seed cells, two of each species, by clicking on empty cells in the playing area. Then you sit back and watch to see how wisely you chose as they spread out over the colony until, again, one species is annihilated. The nice thing is that you can go check the turkey, take a shower, whatever, and not lose any playing time!

DIVINE INTERVENTION

The Divine Intervention model maintains that God's will dictates not only the origin of life, but also every major event in our collective lifetimes.

gation reverses. No original individuals (or newly created individuals in the Divine Intervention model) can be placed into this column.

\* When a new individual is created in the Divine Intervention model, it assumes the same life span, fertility span, and direction of propagation as the highest level of mutation yet to have appeared for that species.

=====
DOCUMENT protalk
=====

ProTALK v2.1
Written by Parik Rao 07/21/88 Thanks to Tom McDonald For his Support
The Apple Rebel BBS @ 916/457-0624
The official ProTALK Support Board
And Networking Home Base.

-----
ProTALK is (c)opyright 1988 Parik Rao
ACOS (tm) is (c)opyrighted by L&L Productions
GBBS (tm) is (c)opyrighted by L&L Productions
ProSEL (tm) is (c)opyrighted by Glen Bredon
Copy II+ (tm) is (c)opyrighted by Central Point
-----

Part I ---> Foreword

Welcome to the wonderful world of ACOS! I would like to introduce you to ProTALK, a GBBS compatible Bulletin Board System (BBS) running under the ACOS environment. ProTALK is a complete BBS package with auto-networking abilities to boot! What is the price of ProTALK you ask? It is absolutely free!

The only thing I ask is you register, so we can keep tabs on who's ready for an upgrade, or who would like to be in the network. We may also ask you to beta-test any future updates,so it would be in your best interests to register! You merely call the ProTALK support board, the information on it is given at the end of this file.

Finally, before I begin with a explanation and instructions on how to setup ProTALK, a word to the reader. I have worked countless hours on this product, in hopes of bettering the Apple II BBS community. I do not wish to recieve mail asking why I let this into the public, or how bad I wrote code. I wrote it, unless you have something constructive to say, don't say anything at all. I am releasing this publicly mainly so I do not have to maintain the hassle of validating systems and such, but also maybe BBS users can appreciate how much work SysOps really do. It seems a current trend that users DEMAND the highest technological advancements from the poor sysops, who must struggle to keep up with such demands if they wish to have any users. It becomes a extremely large power play. Just stop and think about your BBS, whether you are running it for yourself anymore, or for boosting your ego by saying you have the biggest mass storage device in town...

With that deep, philosophical question in mind, let us continue!

Part II ---> ProTALK v2.1

What is ProTALK you may ask? Well, a short discription is needed! ProTALK is a Complete BBS package with networking capabilities quite advanced if I do say so myself! However, as we all know, BBS SysOps are the

"hacker" types who will want to dig through every bit of the source code so I won't delve into the inner workings!

I'll just insert that it is a easy to use, fully configurable BBS without too many hassles! It comes with its own configuration program, so you don't have to become too deep a hacker!

## Part III ---> Installation

\*\* NOTE \*\*

If you have previously run ProTALK, the only thing you need to run is the file CONVERT.S. If you have any questions, feel free to contact me, there are only 15 or so of you so it should not be much of a problem. Read the documentation however for technical aspects of ProTALK not yet revealed!

So you've decided to actually boot up/run ProTALK, eh? Good for you! The installation is quite simple. First, you must own a hard drive, or some other mass storage device. Second, you must configure your hard drive as such for optimal performance. Note the drivemap, where VOLUME stands for /YOUR VOLUME NAME/ (eg, HARD1, CMS, etc, etc)

```
A:/VOLUME/BBS          <--- will contain ACOS, ACOS.OBJ, and all
                        the .S (segment) files
B:/VOLUME/DATA         <--- will contain all the menus, help
                        files, and data files
C:/VOLUME/DATA         <--- not used by ProTALK
D:/VOLUME/DATA         <--- not used by ProTALK
E:/VOLUME/DATA         <--- not used by ProTALK
F:/VOLUME/BOARD        <--- Where Message Base Files are stored
G:/VOLUME/MAIL         <--- Mail/networking Storage areas
H:/RAM                 <--- temporary FAST-ACCESS data area
I:/VOLUME/DATA         <--- not used by ProTALK
J:/VOLUME/DATA         <--- not used by ProTALK
K:/VOLUME/DATA         <--- not used by ProTALK
L:/VOLUME/AE/VOL.     <--- SuperTAC data files
```

A: is where all the .S files will go, and also your copy of ACOS and ACOS.OBJ will go. This is where you will always boot up your BBS.

B: is where all the data files will go. These include any help files you make, and all the menus and data files generated by ProTALK.

F: is where all the message base files (b1,b2,b3,etc) are stored.

G: is where your mail files and networking temporary files are stored.

H: is a area used by ProTALK for fast-access data storage/recall. It's crucial this area be on some sort of ram drive, as if it wasn't the BBS could slow down heavily.

L: is where SuperTAC stores all its data files. Read the documentation packaged with SuperTAC for more information.

If you currently run a BBS, please skip to part V.

## Part IV ---> Configuring a New BBS

\*NOTE\* You must follow these directions if this is your first time running a ACOS board, or if you do not wish to convert GBBSs user files, message bases, etc.

First, create the directories as specified in Part III. Now, you must Get ahold a copy of a master GBBS Disk. Now boot up the GBBS disk, and install GBBS onto your hard drive. Now, go in with a copy utility such as ProSEL (tm) or Copy II+ (tm) and copy ACOS and ACOS.OBJ to the A: drivespecifier as mentioned in the above pathname map. Copy the rest of the /GBBS.PRO subdirectory onto your B: drivespecifier. Copy over B1 to your F: drivespecifier.

Now unpack ProTALK.BQY and copy over all the segments (.S files) to the A: drivespecifier. On A: there should only be ACOS, ACOS.OBJ, and the segments.

Unpack ProTALK2.BQY and copy over the help files and menus to your B: drivespecifier.

Now reboot the GBBS MASTER DISK, and answer "N" when it asks if you wish to configure your BBS from scratch. It'll ask for the pathname of your ACOS file. Enter /VOLUME/bbs, =not= the /GBBS.PRO subdirectory but the subdirectory where ProTALK segments are contained!

Reconfigure all the drivespecifiers to meet the pathname standards, and make sure you make H: as /RAM.

Now, finally, boot up the ACOS on the /VOLUME/bbs drive. Enter for a starting segment "GEN.CONFIG".

After this segment has compiled, you must answer "Y" to "Configure BBS from scratch? ".

Follow the onscreen prompts, and your BBS is now ready to run! You may wish to add boards of course, use the "E" command in system segment...

## Part V ---> Transferring GBBS to ProTALK

Ok, this is for all you SysOps who currently run GBBS Pro v1.3 and wish to convert to ProTALK. If you are starting from scratch or do not wish to convert your BBS, please read PART IV.

The VERY, VERY, VERY first thing to do is => BACK UP YOUR HARD DRIVE <= I cannot guarantee something unexpected will happen, and if it does, you will lose your old BBS and be stuck with nothing! So Back that sucker up first!

Ok, now that it's all backed up, delete ALL your segments. I would suggest also following the guidelines in the DRIVESPEC MAP in Part III, but its up to you. Go into your GBBS Master CONFIG area, and reconfig H: as /RAM.

Now unpack ProTALK.BQY and ProTALK2.BQY into your BBS subdirectory(s). Boot up ACOS. Enter "GEN.CONFIG" as the starting program.

Wait until the segment compiles, and answer "N" to "Configure BBS From Scratch? ".

Follow the online prompts, and you should be ready to go! Read Part VI however for modifications that you will have to do...

## Part VI ---> Modifications Needed.

There are many modifications that will be required to get ProTALK to custom-fit your needs. There is about 15 minutes of work to get it up and running correctly however after configuring it all. You must

merely load each segment, and do a FIND/REPLACE the following...

```
THE APPLE REBEL BBS      = YOUR BOARD NAME
THE REBEL                = YOUR HANDLE/NAME
SLEDGE                   = YOUR COSYSOPS NAME
916/457-0624             = YOUR BOARDs NUMBER
```

There are about 7 segments that must be modified, however, it would be wise to check every segment. The fastest way is to use a Apple IIgs, Diversi-Key, and the ProTERM editor, you merely make four macro's that just automatically find/replace the above.

At any rate, after these modifications, you merely load up ACOS, hit <RETURN> at the SEGMENT TO LOAD: prompt, and after compiling, and a wait, you should see the logon screen. DO NOT WORRY if you get a msg stating "SCANNING VOLUME [xx]", or if you get a BAD DRIVE SPECIFIER after SCANNING VOLUME [xx], it just means that the BBS is making a master directory automatically and could not find one of the drivespec automatically, it will hang for about 3 minutes and reset itself with ease.

Now, you must go manually compile each segment so your users don't have to wait while they're online (you are, after all, a nice sysop!). After testing out various features, and doing whatever pleases you, go to the system segment. You =may= have to run the NEW MESSAGE FIX, the command is "M" from the SYSTEM LEVEL. The reason is that not always are the number of new messages converted due to quirks in ACOS and compression routines. Logon as a few users and see if the number of new messages is correct. This is only applicable if you converted your old GBBS board of course!

Now you must go in, create boards, edit boards, and change any menu's you see fit. eg, you are just making cosmetic changes before you open up for the general public!

The hardest part comes now. Boot up the idle-time-screen, turn off the monitor, and go watch TV or exercise. After all, 24 hours in front of a CRT screen is dangerous!

Part VII

 ---> Segment Descriptions

Herein is a list of all segments and short descriptions of each...

```
LOGON.SEG.S      = Non Proterm logon, also boots up the board and is
                  a very important and heavily used segment...

LOGON2.SEG.S     = ProTERM Logon segment, is basically the same thing
                  as LOGON.SEG.S but is very glittery!

MAIN.SEG.S       = Main subroutine of the BBS, its basically the shell
                  where users execute the main commands

MAIN2.SEG.S      = ProTERM version of MAIN.SEG.S, glittery as usual

MSG.SEG.S        = Message base for Non-ProTERM users

MSG2.SEG.S       = Message base for ProTERM Users

MSG3.SEG.S       = Aux segment for MSG2.SEG.S, contains routines that
                  would not fit!

SYSTEM.SEG.S     = System level, for SysOps only! Contains run-time
                  commands that help you run your BBS...

SYSTEM2.SEG.S    = Exact replicate of SYSTEM.SEG.S, kept in case you
```

```
wish to make a glittery version

MAIL.S           = Mail segment

MAIL2.S          = Same thing as MAIL.S, just kept in case you wish
                  to make a glittery version

SUPERTAC.S       = File transfer Segment, PROTERM Version

STAC2.S          = Non-ProTERM Version of SuperTAC

STAC.AUX2.S      = Contains File Transfer routines of SuperTAC, PT Spec

SUPERTAC.AUX.S   = Contains various routines for SupertAC, PT Spec

STAC.AUX.S       = Various routines, Non-ProTERM version

SUPERTAC.SYS.S   = SuperTAC System Level Segment

NEW.USER.S       = Non-ProTERM Version of segment that handles new users

NEW.USER2.S      = ProTERM version of segment that handles new users

GET.STATS.S      = Converts old users to new upon their logon

CHECK.BYE.S      = Segment that basically checks whether the user
                  really wants to terminate or not in ProTERM Spec

TERMINATE.S      = Segment that handles termination on ProTERM Spec

VOTE.S           = Vote Segment

VOTE2.S          = Held in case you want to make a glittery version

STATS.EDITOR.S   = Segment that holds routines in case the user
                  wants to reconfigure certain statistics

STATS2.EDITOR.S = Same as STATS.EDITOR.S but glittery

HOME.S           = Segment that contains routines for clearing the
                  screen in ProTERM Special

EDITOR.S         = Segment that contains the editor used by most of
                  the BBS

EDITOR2.S        = Segment that contains the editor used by the
                  message base

UP.S             = Segment that allows SysOps to upload to A: - L:
                  drivespecifiers

NEW.MSG.FIX.S    = Called by System Segment whenever a SysOp wants
                  to reset the number of new messages

BOARD.EDIT.S     = Segment that is called by the System Level when
                  a sysop wishes to edit a message base

VAR.EDITOR.S     = Segment that allows global var changes, called
                  by System Level

GEN.CONFIG.S     = Configures the BBS for the first time

NET.CONFIG.S     = Contains the Config for the NetWork
```

Well, there you have it...a list of the segments in ProTALK v2.1!

Part VIII |----> Technical Information

Here are the bytes, flags, variables, and nibbles used by ProTALK v2.1...

- ```

-----
Flags
-----
0   - Unvalidated User
1   - Validated User
2   - Message Base Access
3   - SuperTAC access
4
5   - 10 Pieces of Bulk Mail sendable in EMAIL
6
7
8
9
10
11
12
13
14
15
16
17
18
19   - 50 Pieces of Bulk Mail sendable in EMAIL
20   - SuperTAC Entry/Priviledged User status on Messages
21   - Download Access in SuperTAC
22   - Copy-Incoming Access in SuperTAC
23   - View Files Access in SuperTAC
24   - Upload Access in SuperTAC
25   - Elite in SuperTAC
26   - Super Elite in SuperTAC
27   - Super-Super Elite in SuperTAC
28   - SuperTAC File Manager
29
30   - Elitist Scum status on Messages
31
32
33   - DemiGOD status on Messages, Unlimited Pieces of Bulk Mail Sendable
34   - SYSOPs/COSYSOPs only

-----
Bytes
-----
0   - Nulls used
1
2
3
4
5   - Low Byte of New Message Counter
6   - High Byte of New Message Counter
7   - Time Spent Online (minutes)
8
9
10  - Low byte1 of Bytes Posted
11  - High byte1 of Bytes Posted
12  - Low byte2 of Bytes Posted
13  - High byte2 of Bytes Posted
14
15  - SuperTAC Protocol
16
17
18

```

|----> see addendum

19  
20

Nibbles

- ```

-----
0   - Video Width
1
2
3
4
5   - Users Time Limit (minutes divided by 10)
6   - Calls Made Today
7
8
9
10
11
12
13
14
15
16
17
18
19
20

```

Variables

\*\*\* these variables are user specific

- ```

BP   = Bulletins Posted
TC   = Times Called
CL   = Time Allowed Daily TOTAL (in minutes)
PV   = UNUSED
UL   = Uploads
DL   = Downloads
U1   = High Byte Blocks Uploaded
U2   = Low Byte Blocks Uploaded
D1   = High Byte Blocks Downloaded
D2   = Low Byte Blocks Downloaded
U3   = UNUSED
D3   = UNUSED
PT   = UNUSED (may be used for a point system)
DO   = Days Online
AY   = Whether the user needs to be converted (NEVER change)
LR   = Last Message Read

```

- ```

S1$  = Birthday
S2$  = First Name
S3$  = Computer
S4$  = Sex
S5$  = Group
S6$  = UNUSED
S7$  = UNUSED
S8$  = UNUSED
S9$  = UNUSED

```

\*\*\* These variables are globally applied

- ```

AB   = Number of boards online
DU   = Days BBS has been online
SU   = System Uploads
SD   = System Downloads

```

IT\$ = Idle Time  
 NE\$ = Net Extension

**Part IX** ---> Notes, Etc, Etc

First off, I modified SuperTAC to allow one more level. I describe the entire setup as...

- Flag(20) = User has access to all public volumes
- Flag(25) = User has access to privileged volumes
- Flag(26) = User has access to elite volumes (does NOT show up in logs)
- Flag(27) = User has access to another level of elite volumes (again, does NOT show up in download/upload logs)
- Flag(28) = User is a board manager

I have it setup so that Public Domain utilities are setup for flag(20), then files for trade between higher level users are (25), and then files I have written are for flag(26), and finally ProTALK SysOps get flag(27).

Second off, if you have any trouble modifying ProTALK, getting it up and running, =ONLY= contact me on The Apple Rebel BBS. Sorry, but I do not want to waste long distance phone bills answering any more questions on how to get ProTALK up. I will gladly answers questions of any kind on the BBS though, so feel free to get an account.

The number again is posted at the end of this file.

Thirdly, ProTALK locks out 300 baud users, if you do wish to retain them, remove the line:

```
if info(2)=1 gosub lockout
from LOGON.SEG.S.
```

Lastly, you may be interested in the way ProTALK keeps the users time statistics in order. It has two sets, one to count how much time is allowed per CALL, and one to set how much time is allowed per DAY. There is no calls/day limit, just time limits.

CT = Number of minutes allowed DAILY  
 nibble(5) = Number of minutes allowed per CALL (option #F on Sys Edit)

A good setting is 40 minutes per CALL, and 1 hour per DAY.

**Part X** ---> Technical Information

ProTALK contains two main external routines, they are named X.WAIT and X.CALL respectively. Both are available in the general public, and the documentation is available.

VOTE is a complete vote module, it requires very little work, once you boot it up (by either having the force vote option, or entering "V" at the main prompts) you are prompted with a SYSTEM MENU, enter "G" for GENERATE FILES, it'll automatically generate the files, and now you can procede normally, by letting your users add questions or A)dding a few questions yourself.

There is a file called PROSCRN included with ProTALK. I did =NOT= write it, so don't give me undue credit for this great mod. It allows sysops to view ProTERM Special locally, to use it, copy it over to the prefix where your ACOS.OBJ is, boot up AppleSoft ProDOS Basic, and then enter the following commands:

```
]BLOAD ACOS.OBJ,A$2000,L$5200,TBIN
]BLOAD PROSCRN
]BSAVE ACOS.OBJ,A$2000,L$5200,TBIN
```

Simple enough?

The Message base does not use the standard "F"orward and "R"everse read format, instead you just use "R"ead Messages, selecting "F"orward or "R"everse from there. If you wish to "R"ead Reverse, but not from the last message, merely "S"kip messages once you begin reading. This was done to preserve code space, as the segments are quite large and I did not want to create another MSGX.SEG.S!

The Message Base has a added option, if you use a "%" as the first letter in a message base, the board becomes a "Anonymous" type of board What does the anonymous mode mean? It allows the user to enter a message under any name he/she choose's! This only is available on boards that have "%" as the first letter in their name, eg,"%WHO'S WHO" is a prime example that exists on the Apple Rebel BBS. SysOps are left a little note at the bottom of the message stating:

[Note]:Supposedly from -----

the ----- stands for the name the user chose to assume, eg, they could use "SYSOP" or whatnot. This could be a lighthearted, fun modification or it could start some serious quarrels. Be very careful with this mod!

SuperTAC only uses one data file, L:STAC.DATA (L: can be replaced by whatever drivespecifier you use). It contains the following lines...

```
X1,Y1,X2,Y2,X3,Y3,X4,Y4,X5,Y5,X6,Y6
A$,B$,C$
W1,W2,W3
Z1,Z2,Z3
```

- X1 = SysOp Access Low Volume
- Y1 = SysOp Access High Volume
- X2 = Normal Access Low Volume
- Y2 = Normal Access High Volume
- X3 = Flag(25) Access Low Volume
- Y3 = Flag(25) Access High Volume
- X4 = Flag(26) Access High Volume
- Y4 = Flag(26) Access Low Volume
- X5 = Flag(28) Access Low Volume
- Y5 = Flag(28) Access High Volume
- X6 = Flag(27) Access Low Volume
- Y6 = Flag(27) Access High Volume
- A\$ = Last User to Exfer
- B\$ = Last User to Upload
- C\$ = Last User To Download
- W1-W3 = Total Blocks Uploaded (high1, high, low bytes)
- Z1-Z3 = Total Blocks Downloaded (high1, high, low bytes)

\*\* NOTE \*\*

Any volume that is above the one defined by FLAG(25) [Y3] is =NOT= shown in the system logs, such as DOWNLOAD, UPLOAD, and ABOUTs files. This means if you DO have special volumes setup you do not want your normal users to see, you should set up flag(26) or (27) [this allows two sets of elite volumes] to point to the high volumes, and then set up flags for your users accordingly.

The segment AUTODIR.S automatically creates a master directory every night. You must NEVER create a master directory yourself, just link to AUTODIR if you have to create one for reasons unknown.

## Apple II Computer Info

The segment BOARD.EDIT.S allows you to edit your boards without having to boot up your GBBS Config program. I did not write this program, I merely modified it to keep it compatible with GBBS, it may have bugs for all I know, it does work fine when editing message bases however, and that is all I recommend you use it for.

If you have remote sysops who would like to download segments or such from your A: - L: drivespecifier, get them into your system level, and use the "S"egment Work. You will be able to upload, download, and catalog any of the drivespecifiers, the protocol is set to Batch Ymodem automatically.

Next, for those SysOps who currently run games, I would be VERRRRRRRRY careful with them, some of them will definitely conflict with ProTALK. I have included TURBO.RUN.BQY in its own game module for your users entertainment, I did not write this fine segment, I am merely distributing it.

Also, there is a segment called DIAL.S. It is a beta-test dialing segment I wrote when testing X.CALL, just use it for the heck of it, it doesn't really serve any purpose, it will call out fine, but when you are online things look very strange, with carriage returns not being served properly. My aim was not to write a terminal program, just to test out X.CALL.

There is a segment called VAR.EDITOR.S included with ProTALK v2.1. It lets you to globally effect changes. It is called by typing "V" from the system level, you then select FLAG, BYTE, NIBBLE, or VARIABLE. You can change any of the variables that is specific for each user (a list is presented somewhere above) except AY, since this variable should never be changed.

You merely enter the flag/nibble/byte/variable to globally change, enter the new value, and then enter the starting user number and ending user number. The system will work for awhile, and the variable will have been globally changed!

The system also prints the time in the idle time state, if you have any problems with the board with X.WAIT, please contact me and we can work out something.

X.WAIT also kicks into a slow-wait routine sometimes, you will see the screen print something along the lines of...

```
RETURNING TO IDLE TIME STATE IN      -> 00:00:60 secs"
```

and the 60 will vary from 1-60. Don't worry, this is a function I had to insert to keep the integrity of the board. It will return to the idle state within 1 minute.

SuperTAC allows multiple drivespecifiers to be online, to accomplish this three segments must be changed. They are:

```
SUPERTAC.S
STAC2.S
AUTODIR.S
```

At the beginning of each segment, you will find a line something along the line of...

```
V1$="L":V2$="":FV=0
```

To use 2 drives/volumes, change FV to the highest volume of the first drive, and v2\$="K" or whatever other drivespecifier you wish. An example is:

```
/CMS/TRANSFER/AE/VOL.1      <- These are your L: drive specifiers
 2                          <- previously defined
 3                          <-
 4                          <-
```

```
/CMS.2/TRANSFER/AE/VOL.5    <- These are the transfer volumes on
```

```
6      <- your second drive. They MUST be
7      <- numbered sequentially =AFTER= the
8      <- the ones on the first drive (eg, 5-8)
```

After changing these lines, whenever a user logs to volume 5 for example, SuperTAC checks to see if it indeed is above the first drive, and if so, it changes the drivespec to K: + x, where x represents the volume number. Remember, the second drive must NOT be numbered 1-20 or whatnot, but 20-40.

=Note= This was a built in feature of SuperTAC, I did not write it!

Finally, if you wish to network, please read the accompanying NET.DOCS and call the Apple Rebel BBS as the instructions state. Networking is a exciting, innovative technology coming into full swing for Apple II BBSs, and I have designed cheap alternatives to calling direct, such as PC Pursuit, but these updates are only available on the Apple Rebel BBS.

```
Part XI  ---> Wrapping it Up...
```

Well, I guess you've got ProTALK up now, eh? I wish the best of luck for you, and I sincerely hope you join in the network. Its SysOps who do that make it all worth it, and keep my faith in the Apple II Community alive. Feel free to drop me a note on the Apple Rebel BBS anytime, I'm available on other BBSs but more and more infrequently with other programming projects.

Lastly, I ask you to PLEASE register with the Apple Rebel BBS, I sincerely want to keep track of who's running this sucker. It may be nice to keep a running list or whatnot.

Thank you all for your time, and may God be with you, and your system, which will definitely need him...

: -)

Parik Rao

```
Part XII ---> Ending
```

```
=====
The Apple Rebel BBS      916/457-0624      120 Megabytes      1200-9600 Baud
=====
```

The Official ProTALK Support Board

---

ProTALK is (C)opyright 1988 Parik Rao, and is a trademark (tm) of Rogue Systems

---

```

=====
DOCUMENT pseed
=====
PSVIEWX.XX.BNY
      ProTERM Special Editor v1.4c- Documentation
      program & docs by: Ron Mercer/The Dungeon Master

      Call: The Mist // 216/974-1153 70megs, 9600bps (YES IT'S BACK!)
    
```

## Updates

```

v1.0 : The CTRL-R (repeat) option was modified, thus making it easier to use
      : that command.
      : The Open Apple-C (clear) option was changed to CTRL-K.
      : A Spinning Cursor option was added (Open Apple-C).
v1.0a: There was an error in the Spinning Cursor option (would jump back two
      : spaces). This has been fixed.
v1.1 : There was a MASSIVE error in the "buffer". (would crash if you
      : entered in more than 5000 bytes). This has been fixed (took me long
      : enough)
v1.1a: There was a small error in the Clear Buffer option. (would print a
      : lower case "k" after you cleared the buffer, and would keep the
      : current screen position)
      : A few "tiny" bugs were fixed. (the bytes free were not always updated
      : on a few commands (like Repeat)
      : Some small things were added.. You will notice them when you use the
      : program
v1.2 : Well I thought I fixed the storage error in V1.1, but it seems that I
      : didn't... WELL.. It's been fixed in this version.. I've taken the
      : program through MANY EXCRUCIATING tests to see if it was working this
      : time. (the error was that you couldn't make files that were greater
      : than 3000 or so bytes long)
      : A "Quit" option was added by the request of Tempus Thales
v1.2a: The Spinning Cursor has been sped up a bit.
v1.3 : A LOAD FEATURE HAS NOW BEEN ADDED. Yes, the highly requested command
      : has been added to the program. (lets you LOAD text files up so you
      : can edit them)
      : A KeyClick option was now added so you can create the illusion of
      : someone actually "typing" something out.
      : The Clear Buffer option command key was changed... This is the second
      : time I have done this, sorry... this is the last time it will be
      : changed.
      : A help option was added. This was requested by Ivan Drago. It will
      : give you a mousetext chart, and a control character chart.
      : (when you pull up the help option, the SPACEBAR, RETURN, and ESC keys
      : will get you back to your file)
v1.4 : There was a MASSIVE error in the Tucking/Untucking routines I wrote
      : (to store and retrieve the text pages). The screen would sometimes
      : fill up with garbage after an old screen was restored. This has been
      : FIXED; I RE-WROTE the routines in ML and I changed them around a bit.
      : They COOK! (speed wise)
      : There were alot of bugs in the Repeat Character option, they've all
      : been fixed. Plus the Repeat Character command has been modified a
      : little (the screen is now restored when you hit RETURN or abort the
      : repeat... thus any EXTRA characters that were on the screen cuz of
      : repeat command--or any characters that got deleted while scrolling
      : over them--will be brought back)
      : There was a slight bug in the Free Movement command, whereas if you
      : were in MouseText mode when you went into Free Movement you would be
      : in Normal Text mode when you came out. This has been fixed.
      : The Editor will now display the current time (if you have a ProDOS
      : compatible clock)
      : The KeyClick option wasn't accessable by you (cuz I fucked up). Now
      : it can be (plus it Clicks so YOU can hear it!)
v1.4a: Slight problem that MY program isn't exactly 100% compatible with
    
```

```

ProTERM Special (at least the way that THAT OTHER GUY (that wrote it)
thinks it should be). I've taken a step forward in fixing this
problem, but haven't TOTALLY fixed it. V4.3 WILL have it ALL fixed.
v1.4b: Well.. After alot of testing, I've found that my program is about 98%
      : compatible.. I say this because, whenever I write a file and view it
      : the files are fine, except on a few occasions.. All I can say is
      : the guy that wrote ProTERM Special is really fucked.
      : Some small screen margin bugs were fixed
      : The SAVE BUFFER feature was saving one additional byte that would
      : throw off a text editor, and could possible screw up your file..
      : This was fixed.
      : I added a small text files that is a type of "Credit" file that I
      : would appreciate that you would load into memory before you start
      : writing a new file, this way I will know what files were written with
      : my editor, and I can see if they are working properly.. Plus it will
      : help others, who would like to write ProTERM Special text files, to
      : know what to look for (program wise).
v1.4c: There was a slight problem with the Repeat Character command. (If
      : you exceed the max length of 126 then what was sent to the buffer was
      : really fucked). This has been fixed
      : Positioning bug in the Repeat Character command was fixed
    
```

\*\* THIS IS THE LAST RELEASE UNTIL V2.0 (ML) \*\*  
(unless I find some massive bugs that need to be fixed)

```

Editor commands:
Open Apple-C   Spinning Cursor. Adds a spinning cursor to your file.
Open Apple-E   Turns recording ON/OFF. If ON then all characters are
               recorded. If OFF then you may move around freely and
               characters are not recorded: when you hit Open Apple-E
               again the new cursor position will be recorded and
               recording will continue.
Open Apple-K   KeyClick (adds a tone into your file which sounds like the
               pressing of a key)
Open Apple-L   Load File into Buffer
Open Apple-S   Save current file
Open Apple-Q   Quit to the Viewer part of PSVIEW
Open Apple-<DEL> Clear Buffer (memory)
Open Apple-?   Editor Help Menu (includes MouseText and Ctrl-Char Charts)

CONTROL-A     Jump to beginning of current line (column 1)
CONTROL-B     Jump to end of current line (column 78)
CONTROL-D     Delete current character and shit the chars to the right
               of the cursor to the left
CONTROL-F     Insert space and move characters to the right of the cursor
               to the right.
CONTROL-G     Beep speaker (bell)
CONTROL-H     Backspace (left arrow key)
CONTROL-I     Tab (jump forward 8 spaces / nondestrucable)
CONTROL-J     Down one line (down arrow key)
CONTROL-K     Up one line (up arrow key)
CONTROL-L     Clear screen
CONTROL-M     Carriage return. Jump down one line and go to column 1
CONTROL-N     Enter NORMAL text display mode
CONTROL-O     Enter INVERSE text display mode
CONTROL-P     Enter MOUSETEXT text display mode
CONTROL-R     Repeat character. When CTRL-R is hit you must hit the
               character you want repeated, then use the ARROW KEYS to
               select how many times to repeat it
CONTROL-T     Tone generator. Waits for 3 characters which specify
               which tone to play
CONTROL-U     Move right one character (right arrow key)
CONTROL-V     Insert a blank line and push text down one line
CONTROL-W     Clear screen from cursor to bottom of screen
CONTROL-X     Move to column 1,1 (in status bar)
CONTROL-Y     Clear current line from cursor to the right
CONTROL-Z     Delete current line and suck text under up one line
    
```



---

NetWorks, X.CALL, and X.WAIT are all (c)opyrighted by Parik Rao.

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=====

DOCUMENT pt.networks

=====

---

NetWorks v1.0  
(c)opyright 1988 Parik Rao

ProTALK v2.1  
07/21/88

---

Welcome to NetWorks, a networking environment for ProTALK! NetWorks supports the following features...

- o Networking Message Bases
- o Networking Mail
- o Security Modes
- o Checking Modes
- o Macro Functions (v1.1)
- o Configurable Networking Message Bases
- o Many, many, many more features!

NetWorks is constantly expanding, I am already planning regional centers if the needs demand, which would mean the NetWork Bases would expand and you could find possibly a closer NetWork Base or be a NetWork Base yourself!

NetWorks is simple to configure, you must first call The Apple Rebel BBS and receive a net password and message number. Please leave mail to user #4 once you have been validated on The Apple Rebel BBS stating you would like to participate in the network, with a voice number I can reach you at. I will discuss terms of service (no costs), and give you a network password, message number, and board names in the network, you may of course choose which ones you desire.

After these two things have been received, run the program NET.CONFIG from the SYSTEM LEVEL [(B)ridge Segments], and answer all online prompts to the best of your abilities. When it is finished configuring, hit CONTROL\_RESET and reboot the board. Networking is now installed, it is all automatic and you don't need to do much!

Notice how I said MUCH. There is one thing you will be required to do. That is forward any mail sent to you. The problems I discovered was that I could not obviously maintain a global NetWork user listing, as replicates would start to appear! Instead, the name of the user is entered. The Networked mail is sent, if that user does NOT exist on your board, the mail is sent to you. The mistake may be due to a typo. If the user still does not exist on your board, merely delete the message. Otherwise you will have to <F>orward your mail towards the correct user.

You are also strongly urged (eg, required) to call the Apple Rebel BBS for updates to the segment. For the next few weeks, updates will be quite regular, as there may be bugs, or enhancements to be made (such as a full macro-type language to allow scripts), and this is the only BBS these will become available.

Thanks for participating in the network, and I hope your users enjoy it!

---

IMPORTANT UPDATE

---

NetWorks has now evolved, I am currently writing a daisy chain/tree structure network, at the suggestion and with the help of Ram Chip. There will be an update to the network, only available at the Apple Rebel BBS. If you wish this update, please call the Apple Rebel BBS @ 916/457-0624. Thanks for your support....

=====

DOCUMENT pt3.0.quickref

=====

Proterm 3.0 Quick Reference/Short Cut Keys  
 Written by Excalibur 11-20-91/23:53 to 11-21-91/00:43

Golly gosh, Proterm 3.0. How ironic: new terminal program, no new wares to use it with. Anyway, its quite a change from 2.2, although I've noticed it's still got a few bugs which I'll mention later (I don't profess to know ALL of them... just the ones I've come across).

Anyway, while online the other day, I accidentally hit a key combination (if you are one of insatiable curiosity, I'll tell you that it was option-L) and something happened. So, I hung up and tried hitting a bunch of keys and that's how I got around to writing up this file. The thing about Proterm 3.0 is that a lot of the apple key combos aren't shown in the pulldowns. This one happened to be for launching a program.

Anyway, all of the option-key combinations, as I later found out, are defined in the global macro on the Proterm disk. You can change the macro file to suit your needs. It'd be nice if we had some macro docs. I've noticed that the macros (both global and logon) are a bit different from Proterm 2.2. Maybe some kind soul who bought the program would be willing to type up some short reference docs for the macros... but then again, probably not.

Almost all of the apple-key combos are shown in the pulldowns, but there are a few that are not. I'll list them all here for sake of completeness. I'm sure that there are some folks out there who are just getting used to Proterm for the first time and would appreciate it.

-----

Option-key combos (for neophytes: hold the option key down while hitting the appropriate letter.... for //e users, that'd be the closed apple key)

- A - autosave toggle (receive ascii)
- K - clear editor
- L - launch application dialog
- M - execute dialing list conversion macro
- P - dunno... someone explain this to me... it went so fast I couldn't follow
- S - send ascii directly from editor
- T - toggle between online/offline
- V - short cut to view file
- W - extended show time connected dialog
- X - do formatted xmodem-text upload
- Z - read global macros

Apple-key combos (for neophytes: hold down the apple key while hitting the appropriate letter.... for //e users, you got the same thing us GS'ers do)

- B - send break (seriously, have you ever used this? What is it good for?)
  - C - turn copy buffer on/off
  - E - enter editor
  - H - hang up
  - I - install hardware (and you DON'T lose scrollbar in this version!)
  - L - set online parms
  - N - autolearn macros (for logons and such)
  - P - printer echo toggle
  - Q - quit (duh)
  - R - receive file
  - S - send file
  - U - enter unattended mode
  - V - paste to modem (haven't tried this yet)
  - W - show time connected (do NOT leave this on!)
  - Z - enter scrollbar (you can also use apple-arrow keys... just like in 2.2)
- 

Well, that's that. Now, for a few bug reports.

I've been told by Mr. Atoz that the Zmodem send is STILL fucked up. I haven't had too much trouble... except on his board and on Talisman. I have used Zmodem DOWNLOAD successfully, and Mr. Atoz, with his technical point of view, says it functions flawlessly. Let's give a hand to InSync for FINALLY getting it right... at least 50% anyway.

Now, when I first saw that online cost function, I thought it was really cool. Yah, ReadyLink had it, but ReadyLink sucks. Well, it's a 50-50 bummer here. The thing works fine once you are OFFLINE. However, if you are ONLINE, and chose, in the individual board entry, to have that function on while you are online, the program will crash BIG TIME. My screen went into crazy 640 graphics mode and it looked like it jumped into 50 Hz. If anyone tries this out and DOESN'T have it happen, let me know. I'd like to know how you get around it. Anyway, the least they could have done was to do the damn thing RIGHT... like set up parms for "First minute" and "each additional minute". You know how fucked up the phone company bills. Not important to most, though. Just a personal gripe of mine.

I had lots of trouble with 2.2 crashing during disk swapping (mostly after I installed my Zip). I've noticed that Proterm 3.0 handles this problem better, but I still can't get away from that occasional crash.

Watch out. For some reason, the PT3.CODE4 file loves to get corrupted. That's the one with all the emulation names. Why? Dunno... I've been trying to figure that out. If you find out, lemme know.

There is a bug with inverse characters in scrollbar. Call up a board like the Magnetic Field (708-498-5189) and look at the main menu in scrollbar. You'll see what I mean.

-----

Miscellaneous info: For batch transfers, simply highlight the file(s) and hit the spacebar (like in ShrinkIt). The files will have a checkmark next to them. Same thing with cyclical or rotary dialing. Just hit the spacebar next to the system name. That hasn't changed from 2.2.

Another gripe: the ANSI BBS emulation sucks big time. They could have done better.

Macro stuff: new delimiter is " (quotes) instead of / (slash). It's about time. Old logon macros should still work, but best to switch them over manually.

Check out the new transfer segments. I think these are much better than the old ones. Another cool thing is that after the transfer, you can see the results, including CPS. Proterm has grown up a bit.

Overall, I'd say the program is a pretty good improvement. However, all this fucking mousetext in the editor is enough to make someone sick. Hopefully, they'll release some additional emulations as they said they would. That would be interesting to see. AND they need a new ANSI BBS emulation. Ack.

If I think of anything else <not likely in my current state> that needs to be said, I'll type it up and append it or just send around volume two or whatever.

PS: how many of you think that 2.2 was less cumbersome and a little quicker? Hmmm... maybe 3.0 just needs some getting used to.

-----

Call these boards... before they go down.

|                   |                |      |                                 |
|-------------------|----------------|------|---------------------------------|
| Silver Tongue     | /708-759-1916/ | 2400 | 80 megs                         |
| The Hellfire Club | /212-860-2794/ | FAST | lotsa megs                      |
| Talisman          | /414-933-1617/ | FAST | lotsa megs/FTA/GSA/etc USA base |
| Base Cochise      | /718-454-7490/ | 2400 | lotsa megs                      |

-eof-

=====

DOCUMENT publish.it

=====

THE FIVE STEPS TO DESKTOP PUBLISHING  
More information for PUBLISH IT!

Written by the JAZZMAN.

There are several preliminary steps in creating any document for the first time. The file should be named, and a number of program settings should be checked.

Fortunately, none of these steps requires you to memorize anything. Each step is on a pull-down menu, and the help menu can lead the way if you get stuck.

#### THE HELP MENU

When you choose one of the options from the help menu, an informational Dialog Box appears. Click on OK to return to your document.

#### ACTIVE MENU OPTIONS

There is a strong interaction between the Toolbox and the menus in Publish it! When you first enter the screens Work Area and the arrow is selected as a default, the EDIT, FONT and FORMAT menus are dimmed, showing that they are inactive and not available for use. Pull down one of these menus, and you'll see that the menu items are also dimmed.

Items within the active menus are also effected by the tool you've chosen. If you pull down the FILE, PAGE and OBJECTS menus, you can see the highlighted commands and functions which are available as well as those which cannot be selected at this time.

When a menu is selected, you should also notice that some items have keyboard equivalents ("Quick Keys") listed to the right of the function name. Once you've learned Publish it!, you can save time by using the Quick Keys. There are Quick Keys for a number of menu functions. At the beginning though, the program is easier to learn by using the pull down menus.

As you experiment with the powerful features of Publish It!, the program will be your best teacher. The process will soon become intuitive.

#### SELECTING YOUR DATA DRIVE

Choose Select Data Drive ...from the File menu to tell Publish it! where your data drive is located. Your choice will depend on your hardware and configuration of your system. Notice that you can use PRODOS pathnames.

#### SAVING YOUR SETTINGS

This option saves your default settings for any option that was active at the time you chose SAVE SETTINGS, including settings for your data drive, the page size, line, pen and fill choices. IT DOES NOT SAVE YOUR DOCUMENT...

#### OPENING A NEW FILE

Publish it! provides a default document name of "Untitled". If you wish to name your document before starting it, or you wish to abandon the current document you are working on, choose the New File...option from the File Menu. A box will appear with a blank line for the file name. Type a short word (not more than 15 characters) which quickly describes the theme of your document. Use letters, numbers and the period, but must begin with a letter. To return to your document, click on OK.

#### SAVING FILES

The Save File option saves your document under the current file name. If you save frequently, another way to do it is to press O-Apple-S, the save file Quick Key. On single drive systems, you will be prompted to insert your data disk. If you want to use a different name, choose the Save File As... option.

#### SAVING A FILE WITH A NEW FILE NAME

This option allows you to save the current document under a new name. Choose Save File As... from the File menu. The ability to save a document to a different file name can be useful in a number of ways. For example, if you want to save a layout to use in designing other documents, you can save your current document under more than one name so that you can preserve the current document and still have copies available for use in creating other layouts. You can also save the document in various stages of development under different names.

A dialog box will appear with the current file name. To change, type in a new name. To save the file and return to your current document, click on OK.

#### DELETING FILES

To permanently remove a file from your data disk, choose Delete File...from the File menu. You can only delete one file at a time. A Dialog box will appear with a list of file names. Select the one you want to delete and click on delete. A second Dialog Box will appear asking you to confirm your decision.

#### CHECKING AVAILABLE MEMORY

From time to time you will want to check the memory available for your document. Pull down the Apple menu and select Status...for information on your computers current memory availability and information on how many objects you have remaining to use (the maximum allowed is 65). If you run out of memory, the program will notify you. To return to your document, click on OK.

Now lets start to produce a document.

While it is possible to start your document anywhere, with design, art work or words, and to move back and forth among these three parts of your documents whenever you wish, I will present these ideas starting with the page layout, continuing with the text possibilities, then graphics and finishing with the printing.

Objects are such an important part of the program that they bear some discussion. With the Toolbox, you can create six types of objects. they are:

Graphic frames [x]  
Text columns [T]  
Horizontal or vertical lines [l-]  
Rectangles [ [] ]  
Round-cornered rectangles [ ( \_ ) ]  
Circles [O]

(Note: these symbols are not perfect, but as close as I can produce.)

Only one tool can be selected at a time. Select the tool by clicking on it. Tools are deselected automatically when you choose another. Selecting one of the tools will activate some menus and menu options and deactivate others.

To create an object, first click on the desired tool and then move to the spot on the page where you want to place the upper left hand corner of the object. Press the mouse button and drag to where you want the lower right corner, then release the button. Several objects drawn on a single page may overlap each other. Each object is actually on a single plane, with the most recently created on the top.

#### DESIGN GUIDES

To make designing your pages easier, we provide a guide system that helps

position your objects quickly and accurately on the page. Although these guide appear on the screen, they will not be printed on your document. A check mark next to Snap To Guides, indicates this option is active. Snap To Guides works when creating text, columns and graphics, not when moving or resizing. If you overlap a guide when drawing it, Your object will snap to the outer edge of those guides.

To use this feature, select the page guides you want to use with the Select Guides option. The page can be divided into rectangular regions composed of 1 (1x1), 4 (2x2), 9 (3x3), 16 (4x4) equal parts or no guides if you do not want guides to appear on your display. The guides you choose will remain in effect until you change them or until you quit Publish It!. To save a guide setting as a default, set your guides and then choose Save Settings from the C-Apple menu.

You may change or remove guides at any time. If the Snap To Guides are on, when you create a text column, graphic or graphic frame, it will automatically be aligned with the nearest page guide.

### SHOWING THE COLUMN OUTLINES

This option from the SPECIAL menu allows you to turn the display of text column outlines on and off. It does not effect the text within the defined areas or the text columns themselves or printing, since column outlines are never printed. Choosing Show Column Outlines from the SPECIAL menu toggles this option on and off. A check mark next to Show Column Outlines indicates that the option is active.

### SELECTING OBJECTS

AN OBJECT MUST BE SELECTED BEFORE IT CAN BE MANIPULATED. Click on the desired object with the arrow.(or pointer). Selecting a new object deselects any other object on the page. A newly created object is selected until you click on another object, to select it. To deselect an object without selecting another, Click in a blank section of the work area. When an object is selected, it may be dragged by the lower right handle to resize it. Objects may overlap each other on the page. You may also change the order in which the objects are stacked by selecting objects with the arrow and choosing either Move To Front or Move To Back from the objects menu.

WARNING.....If the object you are moving to the back (bottom) is smaller than the other objects, it may be hidden by other objects.

### GROUPING OBJECTS

You can drag several objects around by using the grouping feature. Using the arrow, drag the arrow pointer from a point above and left of the target objects to a point below and right. Be sure to start dragging from a point that has no objects. As you drag, you will see the outline of a box being drawn, almost as if you were creating another object. When you release the mouse button, the box will disappear, and every object that was inside the box will become selected. You may now drag any one of these selected objects and all the rest will follow. Other functions for grouped objects are, delete, change fill patterns and change line weights.

NOTE...Some object menu items are not available for groups. They will appear dimmed.

### SPECIFYING OBJECTS

Objects can be moved or resized with the arrow. For more precise work, you can choose Show Specifications... from the OBJECT menu. With this option you can determine and modify the exact size of a selected object.

Specifications sheets vary with the type of object selected, but all have Left Start and Top Start coordinates.

What the Dialog Box displays:

#### LEFT START...

Shows where the objects left edge starts relative to the left edge of the page (in a measurement determined by the UNIT MEASURE option in the SPECIAL menu.

#### TOP START...

Shows where the selected objects top edge starts relative to the top edge of the page.

#### WIDTH...

How wide the selected object is.

#### HEIGHT...

How high the selected object is.

You may resize and reposition the selected objects with precision by changing any or all of the four selections in the Dialog Box. For some objects, not all four will be available. For example, There is no width option shown for a vertical line, because width is determined by the line weight selected when the line is drawn.

Click on the box with the value you want to modify and type in the change. When you finish, click on OK. The selected object will be adjusted according to your changes.

### COPYING, CUTTING AND PASTING

When working at the object level with the pointer (arrow) tool, if you want to duplicate an object, use the arrow to select the object, then choose Copy (O-Apple-C)from the objects menu to copy the object to the programs internal clipboard. The object will not disappear from the screen, but a duplicate will be held in a buffer (clipboard) until you are ready to use it. Choose PASTE from the objects menu, or O-Apple-V. A copy of your graphic will appear in the center of your screen. Use the arrow to drag it to a new position. Once an object has been copied to the clipboard, the original object can be moved or deleted without effecting the size or position of the copy in the clipboard. cutting an object works the same as copying except the original is removed from the screen.

### DELETING OBJECTS

You can remove objects using one of two methods. The DELETE key or the CUT method. To delete an object using the DELETE key, select it with the arrow, then press DELETE. The object is permanently erased from the screen.

The CUT option on the OBJECTS menu also deletes objects. Unlike the above method, cut objects are placed in the clipboard and can later be recalled with the Paste option, providing nothing else has been cut or copied to the clipboard. The clipboard can only hold one object at a time; cutting or copying will replace any previously cut or copied objects.

### SETTING THE PAGE SIZE

Before you start your layout, you must tell the computer which page size you want to use. Select the SET PAGE SIZE option on the PAGE menu.

Selecting this option allows you to choose your page size from four U.S. and international standard page sizes. The choices are: U.S.LETTER, U.S.LEGAL, A4

LETTER and B5 LETTER. These last two are approximately 8 1/4 x 11 2/3 inches and 7x10 inches respectfully.

The two choices under each of these are for the width of paper your printer uses. Only wide carriage printers can handle a full 8 1/2 inch line width. DO NOT SELECT 8 1/2 inch IF YOU HAVE A STANDARD SIZE PRINTER.

A Dialog Box will appear with four clearly defined page sizes. Select the page size for the paper you have loaded in your printer (or a page size you plan to use for this document or publication). Click on the page size you want to use, then click on OK. What do you do if the page size you want is not listed? For example, you want to layout a business card or an 11x17 flyer. For the smaller page sizes, use the on-screen rulers to insure that your design stays within the size you want for your business card. When the page is printed, you will only use the section of the page you want.

For a larger page, like an 11x17 sheet, you could work with two 8 1/2 x 11" pages and paste them next to each other.

### SELECTING PAGES

You select pages by clicking on the left arrow and right arrow in the lower left corner of the display. The current page number is shown after the document title.

### ADDING AND DELETING PAGES

To add pages to a document, choose the Insert Page option on the Page menu. Selecting this option will cause a new page to be inserted before your current location. The page you are working on and all subsequent pages will be renumbered.

To append pages at the end of the document, click on the left arrow until you reach the last page. If you click on the left arrow again, you will be asked if you want to add a page. Click on OK to do so.

To delete a page, select the Delete Page option on the Page menu. Selecting this option will delete the current page. All subsequent pages will be renumbered and moved up one page in your document. You will be given a chance to reverse your decision to delete a page. If you decide not to delete the page, click on CANCEL or press RETURN.

NOTE...Delete Page erases text columns and reflows your text through the remaining chain. Text will not be lost, if any linked columns remain. Text that is not part of a chain on another page will be lost.

### VIEWING PAGES

Publish It! lets you work on a document in four different views. To change to a different view, choose a size from the SPECIAL menu. You will be able to edit text, define graphics, or use the arrow to move and resize objects in any view as shown later.

1. With the SHOW FULL SIZE option, you can see text and graphic elements on the display in the size they will appear on your print-out. However, you can only view a portion of the page at a time.
2. The SHOW HALF SIZE option shows the page at about half the size that it will print out. You will view the page in full width, but will be able to view only a portion of the length.
3. SHOW DOUBLE SIZE is like a close-up. Use for fine tuning your text or graphic elements. Use the scroll arrows and scroll boxes on the sides of the screen's work area to move the page up, down and from side to side so you can view

different sections of it. As you move, the rulers on the top and sides will inform you of your location on the page.

4. Use the SIZE TO FIT option if you would like to view the whole page at once. You may not see the text clearly because of its reduced size, but you can see what your layout looks like. Your page will appear on the left half of the screen.

In all views except Full Size, imported bit maps (graphics) will be represented as grey shaded boxes. When in FULL SIZE, the picture itself will be visible.

WARNING...You cannot print anything you place outside the page area in the SIZE TO FIT view, but you can use that area to try out ideas and then move them to the left half of the screen. Anything on the right side will be saved, even though it will not be printed.

### WHITE SPACE

When laying out your page, keep in mind that the absence of objects is important too. The space left over after you have everything in place, in fact, becomes as much a part of the page as the elements you inserted. This is called white space. Used properly, it adds pleasing contrast to the art and text on the page. So, when you're reviewing your page layout, take a moment to review the size of the margins, the amount of space between the lines of text, the amount of space around the art work, and the distances between the headlines and the body copy. White space adds to a crisp, clean looking page. Avoid, however what is called negative white space, that is, white space surrounded by art or text. This white space is considered undesirable because it resembles a doughnut hole on a page.

### AESTHETIC CONSIDERATIONS

All page layouts should consider the audience. Obviously, the audience for an advertising flyer is not expecting something that looks like a wedding invitation. A greater proportion of black to white may be perfectly acceptable in an ad, but very unacceptable in a poetic greeting card. As you design each document, try to put yourself in the readers shoes. If you're writing for senior citizens, for example maybe you don't want 9-point text. Perhaps 12-point is a better choice.

### CHOOSING MEASURING UNITS

Choosing measurement units for the on-screen rulers is as simple as choosing Select Unit Measure from the Special menu. With this option, you are free to choose the unit of measure with which you want to work. Inches, Centimeters, or Picas ( 6 Picas = 1 inch).

NOTE...In publish It!, picas will be both the horizontal and vertical unit of measurement, even though the type fonts will be measured in points. A point is 1/12th of a pica (1/72 of an inch).

The default settings are in inches. The units of measure chosen here affect the on-screen rulers and other measurements, especially in the FORMAT, PAGE and OBJECTS menus.

### SETTING THE ON-SCREEN RULERS

Rulers help place items and size them on the page with reasonable precision. Two indicators, one on each ruler, show the position of the mouse pointer at any time. As you scroll the page, the rulers change to reflect the current position.

The Show Rulers option toggles the horizontal and vertical rulers on and off. Rulers are very helpful when laying out a page, but as you work on text, you may want the extra screen space that is made available by turning off the rulers.

Now that you understand the concepts of objects, let's talk about specific ways you can use them, beginning with your text.

### CREATING TEXT COLUMNS

Move the pointer to [T] in the tool box and click on the Text tool. Notice how this tool is now highlighted and arrow is deselected. You are ready to create a text column.

Simply move the mouse into the work area. As long as the [T] tool is active, every drag in the work area will start a new column.

A text column is a defined region on the screen which resembles an empty box or frame (if you have the column outlines turned on). The program displays a rectangle to indicate the border of the new text column, so you can judge its size and shape as you create it. If you move the pointer past the window boundary while creating a text column, the window scrolls automatically.

Release the mouse button when the column is the right size. If a guide is visible and SNAP TO GUIDES are selected, your text column will snap to the nearest guide.

Text may be entered from the keyboard or imported from another file to a particular text column or to a specified series of columns. Publish It! considers text columns to be objects, so you can drag, resize, delete, cut, copy and paste using the pointer. Remember, if you cut or copy a text column, the frame, not the text within is cut or copied. A little experimentation with this function will show you how to create text columns of all sizes any where on the screen, including on top of each other.

NOTE...At least one column must exist before you can enter or import text. Furthermore, Publish It! will not allow text to be placed outside of the text column. Two or more text columns must exist before you can link them for the flow of text.

### SETTING TABS

To set tabs on your page, select the TABS...option on the PAGE menu. A Dialog box will appear. Click on the first input box and type in the tab setting you want. You do not have to enter the tabs in order. They will be put in order for you. You can set up to six tab stops per page. Tabs are measured in inches, centimeters or picas, as set in the SET UNIT MEASURE...option of the SPECIAL menu. To move the text insertion point to a tab location, press the TAB key on your keyboard.

### THE TEXT TOOL AND ENTERING TEXT

There are two ways to enter text: either use its built-in word-processor or import text from your own word processor or other programs. Before you can enter any text, you need to create a text column as explained before.

To enter text, select the I-BEAM tool and click the I-BEAM pointer on the next column in which you want to work.

The text insertion point will appear and you can begin typing. As you type, words wrap automatically at the end of the line. Text will fill the column and any overflowed (extra) text will be indicated by a double width border at the bottom of the text column (assuming Show Column Outline is on). The appearance of your text input depends on the font you're using and on the size of your screen objects. The default font is Deerfield 12 point. Text layout within the column depends on the settings for FORMAT and PAGE.

### SELECTING TEXT

You must select [I] before you can select many of the text functions. You can change fonts, type sizes or styles (special effects) for text already entered. Drag the I-BEAM pointer [I] over the text you want to change to highlight a text block. Then, select a new font or style from the FONT menu.

### IMPORTING TEXT

Text columns may also be filled with text imported from other documents. Publish It! reads documents created by Appleworks and Bank Street Writer directly and most other word processors if the files are in standard ASCII.

To import text, select [I], and click on the text column you want the file to be placed in. Choose Import Text File from the File menu (or Import Appleworks File or Import Bank Street Writer file).

A Dialog box will appear with a list of file names. Select the one you want.

To import the file and return to your document, click on OK.

REMEMBER...you can double click on file names to open them).

The files do not have to be just word processing files. If they are ASCII files, you can import data base and spreadsheets too.

When importing files, the program only looks for the files on the disk drive currently selected as the data disk drive. Make sure you have the correct disk in the drive.

NOTE...The Import Text File option will be dim and unavailable on the menu, unless you have clicked on the [I] in your text column to create an insertion point.

Importing Appleworks files this way will preserve underline, bold, superscript and subscript text. Bank Street Writer files cannot be distinguished from picture or other program files, so be careful when selecting the file name. Other formatting options, such as tabs indent and margins must be assigned in Publish It!.

### LINKING TEXT COLUMNS

In publish It ,Text columns are usually independent objects.

To support articles that span several columns (and even pages), the program lets you link text columns together in a chain. If text in a linked column is edited the entire chain is automatically updated. For example, if you enter text in the first of two linked columns, text overflows automatically into the second column. If you resize the text column, the program dynamically reflows the text to fit the new column size. Use the Link Tool to link text columns by clicking on each column in the sequence you want your text to flow. If the text columns are on different pages, flip the pages with the left-right arrows between clicks of the linking tool. When you finish creating the chain, click on the linking tool again to complete the link. When you enter or import text, it will automatically flow through the text columns in the order in which you have linked.

To relink a series of columns, click on the linking tool and then click on the new series of columns starting with the original column.

### UNLINKING COLUMNS

To unlink columns, double click on the column you want unlinked. For example, you have linked three columns -1, 2, and 3. Double click on column 2, and the text will disappear from it. Columns 1 and 3 are still linked and 3 will contain the text that was previously in 2. When you have unlinked a column, click on the linking tool in the tool box to complete the process.

### INSERTING COLUMNS

If you insert columns into an existing chain, use the linking tool to link them. Click on a column in the chain and then click on the new text columns. When you're finished, click on the linking tool in the tool box to complete linking process. If you cut or copy and paste linked text columns from another page or document, you must use the linking tool to relink the text columns.

### DELETING COLUMNS

Columns are objects, so they may be cut, copied or deleted as instructed earlier. However, the text within a column is treated separately. If you delete the middle column of a three column page, the text within that column would reflow to the third column ( assuming they were linked). If you try to delete a

single column without links that contains text, the program will warn you that you are about to lose that text, as text cannot exist independently of a column.

### RULES OF LINKING

There are some rules to linking that you must observe:  
Selecting the linking tool (looks like one page on top of another), you will see a small hook on the bottom of the linking tool. The first click of linking tool establishes the start of a chain (or insertion into a chain) and moves the hook to the top of the linking box. Subsequent clicks on different columns create the links. Clicking on linking tool in the tool box ends the chain.

Columns selected with the pointer can be deleted by the delete key, but the text remains and is distributed to other columns, if any remain in the chain. If no columns remain, the text in the deleted column is lost. A Dialog box will appear giving you a chance to change your mind.

Columns selected with the pointer are removed completely from a chain by CUT. All linking information will be lost.

Paste does not insert a column into a chain. Use the linking tool to link columns.

A column can only belong to one chain at a time.

Double clicking with the linking tool unlinks a text column from a chain.

Linking is not permitted to a previous page.

### EDITING YOUR TEXT

Editing text is the same as in any word processor. Following is a discussion on how to delete, cut, copy and paste text.

**Deleting Text.....**  
First be sure the I-Beam is selected from the tool box. To delete a section of text from within a text column, highlight the text by dragging, then press the delete key or choose CUT from the EDIT menu (O-Apple-X). Delete erases text permanently. CUT moves text to the clipboard where it can later be recovered with Paste. The text to be cut can be as little as one character or as long as about 1000 characters.

**Cutting and Pasting Text.....**  
Highlight the text you wish to move. Pull down the Edit menu and choose CUT or O-Apple-X. The selected text will disappear from the screen and be stored on the clipboard. Choose a new insertion point with the I-Beam and select Paste from the Edit menu (O-Apple-V). Paste retrieves the text from the clipboard and places it at the new insertion point. You may continue to paste the cut text as many times as you want until you cut or copy again.

**Copying and Pasting Text.....**  
Use copy to place selected text in the internal clipboard while leaving it on the screen. To copy, highlight a text range and choose Copy from the Edit menu, or use O-Apple-C. The selected text will not disappear from the screen (but will be held in the clipboard until you are ready to use it). Point and click at the position you want to place it (on the same or another page). Choose Paste from the Edit menu or O-Apple-V. You can repeat the last two steps if you want to insert the selected text in more than one location.

**Finding Text.....**  
Publish It can search your text for a particular character, word or phrase (numbers too) and, if you want, replace it with something else. These features are found in the Edit menu labeled FIND..., FIND NEXT, REPLACE...and REPLACE and FIND.

To find a particular word or phrase, move the I-BEAM to the first character in the text column you want to search. Click (a text insertion point will appear). Select the Find option on the EDIT menu and type the text you are searching for

in the Dialog box. Then click on OK. If the search was successful, the character, word or phrase will be high lighted on the screen, and a text insertion point will appear at the end of the highlighted text. Once a character, word or phrase has been entered in the Dialog box of the Find command, every occurrence can be found in the same page by using the FIND NEXT option. To repeat the search, select FIND NEXT or press O-Apple-F.  
NOTE...You must use Find before you can use FIND NEXT.  
If the search was unsuccessful or no more occurrences are found, an Alert box will tell you so.

NOTE... When the text is highlighted, you can manipulate or change the text area, using options in the EDIT and FONT menus. The text could, for example, be changed from plain to bold, to another font or size, or it could be copied and pasted elsewhere.

### Replacing Text.....

To replace a text string in your document, use REPLACE from the EDIT menu. This command enables you to find a character, word or phrase and replace it with another. It is especially useful when editing large amounts of text within Publish It. Since the program remembers the last used find and replace string, you can easily change either string in the Dialog box. To use this option, move the I-BEAM to the first character in the text column you want to search. Click and a text insertion point will appear. Choose REPLACE from the EDIT menu. A dialog box will appear. Click on the top box and type in the character, word or phrase, you want to find. Move to the next box, click (or use the TAB key), and type in the replacement text. Click on FIND. You'll be informed if the string is not found.

Once a character, word or phrase to find, and a replacement has been defined in the Dialog box under REPLACE, you can repeat the sequence throughout the entire page. Choose REPLACE and FIND from the EDIT menu (O-Apple-R). Use O-Apple-F to find the next occurrence without replacing.

### Sticky Spaces.....

If you have a phrase or name that you don't want to split between two lines, use the Sticky Space option. Bill Johnson, Sticky Spaces and Search & Replace, for example, could all use sticky spaces. When Publish It wraps words from one line to another and a sticky space has been entered, it will treat the group of words as one. If the group is too long to fit at the end of a line, Publish It moves the whole group together to the next line. To use Sticky Space, put the I-BEAM between two words and press O-Apple-Spacebar. Repeat as often as necessary.

### Soft Hyphens.....

If a word is broken at a point you don't like, you can change it. Click on the word at the point you would insert a hyphen should the word need to be broken. Press O-Apple-Dash (-). As the text flows, if that word is broken, Publish It will insert a Hyphen at that point. Later, as you make changes in text and the column rewraps, that hyphen will disappear if the word no longer needs to be broken and reappear later if needed. You can place as many soft hyphens in a word as necessary.

### Number Spaces.....

When creating tables of numbers in the program, you will find that all digits take up the same amount of space, that is, they are not proportionally spaced as alphabetic characters are. Consequently, pressing the spacebar between columns of digits introduces uneven spacing, since spaces are considered alphabetic characters. To solve this dilemma, we have included number spaces. Number spaces, as their name implies, take up the same amount of space as a digit. Press the O-Apple-O to get a number space. When you use number space, lines of text will be easier to align than with variable word spacing.

### Automatic Runaround.....

If you have completed columns of text and then decide to drop in an object, Publish It automatically flows text around the new object.

### Text Formatting

You can set the justification, spacing and margin/indents for all the text on

the entire page. Select these options from the PAGE menu to do so. These options require that the I-BEAM be selected before you select them.

NOTE....Most of the settings in the page menu become the default settings for the options in the FORMAT menu, unless you decide to specifically change a setting for a particular document.

The sections below give you details on using the Justification, Spacing and Margins/Indent options on the Format pull down menu. Use the same procedures for these options on the PAGE pull down menu.

### Justifying Paragraphs....

You can align text in the paragraph you are currently working in using the FORMAT menu. You can justify text left or right, aligning text on the left or right column margin, leaving the other margin ragged or uneven. Two other choices are Full and Center. Full justification will make the paragraph look like a newspaper or book column, aligned on both sides. Center will make the column ragged on both sides by centering each line. Justification can be applied to a single paragraph, selected paragraphs or the whole page. To change the justification characteristics of an individual line, click on any line in the paragraph line you wish to work on with the I-Beam. Then pull down the FORMAT menu and choose Justification.

NOTE...The Use Page Standard selections refer to the values entered in the Margins/Indents option on the PAGE menu.

A Dialog box will appear. Click on the options you want to use. (You must click the Use Page Standard setting off if you want to change the justification of this paragraph or group of paragraphs).

Note...The options on the FORMAT menu only affect the paragraph the text insertion point is currently in or the group of paragraphs you have selected. The similar options on the PAGE menu affect all the text on the entire page. Those options will not be available if you have highlighted a block of text.

Justification can apply to groups of paragraphs; simply highlight the paragraph and choose Justification.

### Letter Spacing....

You also have the ability to change the horizontal and vertical spacing between letters, words, lines and paragraphs. To change any of this type of spacing, click at a point in the paragraph where you want to work. Then select the Spacing option on the FORMAT menu and a dialog box will appear. Click on your selection and enter revised spacing for the item. Then click on the box next to the Use Page Standard for that item to deactivate current settings.

### Letter Spacing....

Letter spacing is the exact opposite of kerning. You will use this option to move all the letters in a paragraph further apart. To space letters, use the I-BEAM to select the paragraph with the letters you want to space. Select the Spacing option on the FORMAT menu and type a value (inches, cms, picas) in for letter spacing. When you click on OK, the letters will be spaced that many points apart.

### Word Spacing....

The word spacing option on the Spacing Dialog Box is used to modify the spacing between words in a paragraph.

Click the I-BEAM on the paragraph with the words you want to work with and then select the Spacing option on the FORMAT menu. When the dialog box appears, click on the word spacing entry box and enter the new spacing you would like to use.

### Line Spacing....

Lines of text are also spaced vertically within a paragraph. To change the spacing between lines (also referred to as leading), select your paragraph and choose Spacing from the FORMAT menu. When the Dialog box appears, enter the desired spacing in points. The value you specify represents the distance, in points, added between the lines of text.

### Paragraph Spacing....

Paragraph spacing is the amount of spacing between paragraphs. Normally, spacing between paragraphs is the same as between lines. Paragraph spacing is changed by selecting a range of paragraphs, choosing Spacing from the FORMAT menu, and typing a new value in the dialog box, followed by clicking on OK. The program then adds the point value as extra space before the paragraph. Click on OK to return to your document.

### Margins and Indents....

Choose Margins/Indents to set or change your left or right margins and paragraph indents. Use the I-BEAM to select a paragraph, then select Margins/Indents option on the FORMAT menu. A dialog box will appear. Enter the left, first line and right margins, then click on OK. To make your paragraphs hanging, that is, with the first line set out from the remainder, set the left margin indent to a value more than 0 and click on Hanging. Use the right margin specification to tell the computer the distance from the right edge of the text column to the right edge of the text. Set both left and right margins for a paragraph, as for long quotations. The first line is for typical, non-block style paragraph indentation.

### Kerning....

Spacing between letter pairs is controlled by the defined width of each character. In certain cases you may wish to change the spacing on a character-by-character basis. With Publish IT you can reposition individual characters, moving them closer together using KERN from the FORMAT menu. A typical situation where a change in character spacing is warranted, is with certain combinations of letters like AV, that show too much space between them. To move the letters AV together, place the I-BEAM between the two letters you want to kern and click. The text insertion point will appear between the letters. Choose KERN from the FORMAT menu and a Dialog box will appear. Type in the number of points you want to remove in the selected space. When you click on OK, the spacing between the letters is reduced by that number of points. The larger the number, the closer together the two letters move. (you must repeat this sequence each time you want to reduce the space between letter pairs).

NOTE....Sometimes text on the screen may appear to need kerning because the on screen representation of the text does not exactly match what will be printed out. We suggest that you do a test print-out before deciding to kern.

To increase space between two characters, Place an extra space between then and then kern.

### Fonts, Faces and Special Effects....

Text font, size and style are chosen from the font menu. As with other text options, these are assigned by selecting a text range and then choosing the appropriate menu options. Publish It! automatically chooses Deerfield 12-point as the start-up text font. To change to a new font, select block of text, or just click on I-BEAM and then select Select Font from the font menu, or O-Apple-W. A scrolling dialog box will appear with all the available fonts and sizes. Click on the font size you want to use. Then click on OPEN. The text you have selected will convert to this font and size.

Style (special effects) options are selected from the font menu also. Style choices include Plain, Bold, Italic, Underline, Outline, Shadow, Superscript and subscript. If you establish a new text type (font, size and style) without selecting a block of characters, the text insertion point takes on the chosen text type, so any characters typed from that point on will be in the new type.



To quickly cycle through the different type options, pull down the font menu and you will see these options:

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NEXT SIZE...(O-Apple-N)
NEXT TYPE FACE...(O-Apple-T)
```

Highlight a block of text and then press O-Apple-T or select the Next Type Face option from the font menu. The block you have marked will automatically changer to the next type face available in the same size. If you press O-Apple-T again, it will change again. Keep pressing and it will cycle through to the original type face again.

Press O-Apple-N or select Next Size option to cycle through the available type sizes for the current font. This is a convenient way to view alternatives right on the computer display.

### Plain Text.....

Use this option to return to the basic (plain) style of a type face if you have been using, for example, Bold or Italics. Select a range of text, then choose Plain from the Font menu, or O-Apple-P. This will erase all the attributes (bold, italics, etc.) of the selected text.

### Bold Face.....

Choose Bold for a more dramatic (thicker) style of type face. Select a range of text, then choose Bold from the Font menu, or O-Apple-B.

### Italics.....

Choose Italics to make a word or phrase stand out (slanted) from the rest of the text. Select a range of text then choose Italics from the Font menu, or O-Apple-I

### Underlining Text.....

Choose underline as another way to make a word or phrase stand out from the rest of the text. Select a range of text, then choose Underline from the Font menu, or O-Apple-U.

### Outlined Faced Lettering.....

Outline is a Graphic style of a font. Each letter looks like a frame. It should be used sparingly for such things as announcements, invitations or brochures. Select a range of text, then choose Outline from the Font menu.

### Shadow Faced Lettering.....

Like Outline, shadow should be used sparingly for special effects. To use this option, select a range of text, then choose Shadow from the Font menu.

### Superscript.....

Superscript and subscript are used mostly in technical publications (i.e. footnotes in a mathematical, medical article). Choose Superscript to set text a half line above the other text. Select a range of text, then choose Superscript from the Font menu, or O-Apple-H.

### Subscript....

Same as Superscript, except sets type a half line below the other text. Select a range of text, then choose Subscript from the Font menu, or O-Apple-L.

### Combining Styles of a Type Face.....

You can combine all styles of a type face (bold, italics,underline etc.) except Superscript and Subscript for special effects or emphasis. To combine styles:

1. Select a range of text, then choose the first style (i.e. Bold) from the Font menu to select and you are returned to the screens work area.

2. Pull down the Font menu. You will see a check mark next to Bold, which indicates it has been selected.

3. Select the next style and you are returned to the screens work area.

4. Repeat steps 2 and 3 as many times as you want. If you click on a style again, the check mark will disappear, and that style will no longer be active. You will be in the combined style until you select another style or face.

### Creating your Graphics.....

There are two ways to include graphics in your publications.

1. Create graphics with the drawing tools included in the program. These tools can be used to draw simple objects such as lines, circles, boxes, etc.. You can also use these tools to highlight elements of your page layout.
2. Import graphics from other sources. Publish It! recognizes standard Apple high res graphics. Dazzle Draw, MousePaint, Computer Eyes from Digital Vision can also produce this type of graphic.

Another way to include graphics in your publications that will be professionally printed, is to leave a "Hole" on your page and insert the graphic before it is reproduced.

### Graphic Objects.....

You can add lines, rectangles, circles and round cornered rectangles to your pages using a variety of line types, widths and patterns. Publish It provides four graphic object tools: line, rectangle, round-cornered rectangle, and circle. Use [1-] to create either horizontal or vertical lines (rules) by dragging up or down, left or right. Select [ ] to create a square or rectangle with right angle corners. Select [ \_ ] to create a square or rectangle with rounded corners. Select [O] to create circles. All these types of objects may be moved, overlaid, underlaid, resized or deleted by using the arrow (pointer). You can create interesting visual effects by experimenting with the pen patterns for borders and fill patterns.

A moving rectangle indicates the size of the object being drawn. If the cross hair pointer leaves the window area, the window scrolls automatically. You can also use guides and the Snap to Guides option.

### Line Weights and Pen Patterns....

The program provides a large assortment of widths and styles for borders and lines. You can choose from six solid line widths and 24 pen patterns, including eight user defined pen patterns. Change the width or style of a selected line with Set Line Width, or the outline of a filled box or circle with Set Pen Pattern on the Objects menu. To change a line weight or pen pattern, select the object by clicking on it with the pointer and, selecting this option from the Objects menu.

### Selecting Fill Patterns.....

The program features 24 fill patterns that can be used for the interiors of graphic objects and offers the ability to create your own pattern with Define Pattern. To choose a fill pattern, select a graphic object, then select the Set Fill Pattern option on the Objects menu. A Selected pattern fills the interior of any selected object. The selected pattern becomes the default until you change it. To change a fill pattern, select the object, then select this option. Click on the fill pattern you want. Then, click on O-Apple.

### Defining a New Pattern.....

Design your own or modify any one of up to eight existing patterns. Selecting this option will bring up a Dialog box with eight pen or fill patterns which you can define. Click on a pattern and select it. The currently chosen pattern is shown in a close-up cell at the right. The Work Area is at the bottom left. Clicking on a cell in the 8 X 8 matrix shown in the dialog box, will toggle it black or white. Choose Define Pattern from the Special menu. AS dialog box will appear. Click on a pattern to select it. To design your own pattern, a work area is provided at the bottom left of the dialog box. Your new design will be stored

on disk when you click on OK.

## Importing Art work

Publish It! lets you add graphic elements to your documents, lending them a professional appearance. Before you can insert pictures on a page, you must create graphic frames to house the art work. Graphic frames are created with the graphic frame tool [X] from the tool box. Position the [X] in the area where you want to insert the picture and drag it across the page to define the size of the graphic frame. If you have the Snap To Guides on, the block will snap to the nearest grid boundaries automatically. Graphic frames appear as shaded boxes on the screen. this provides a visual way of distinguishing the from text columns. Graphic frames are objects, They can be moved, resized, cut, copied, pasted and deleted like any other object.

NOTE...You cannot create a graphic frame that is larger than the importing screen-- about 4 2/3" X 2 2/3".

Publish It can directly access Dazzle Draw, MousePaint, and Beagle Graphics files or any other pictures in Apple standard high res or double high res format.

To Import Art work....

1. Insert the disk containing the art file into the drive you have designated for data.
2. Select a graphic frame by clicking on it with the pointer and choose Import Picture from the File menu.
3. A dialog box appears, listing all the picture files on the data drive. If necessary, scroll the list to locate the picture you wish to import. Click on the file name, then click on OK. The picture will appear in full size on the display.
4. A box is shown along with the picture to indicate the size of the graphic frame in your document. Drag this cropping box until it is around the part of the picture you want. You may change the size of the cropping box with the O-Apple key and the arrow keys. You may also use the arrow keys to move the box. When you are satisfied, press return.

You will return to your document with the picture in the graphic frame you have selected.

NOTE.....You will only be able to view the picture in the Show Full Size display. When you are in other viewing modes, bit maps are represented with a shaded box. The art work you cropped will print out completely, and be the proper size. If you import a small piece of a bit mapped picture, and subsequently enlarge the graphic frame, the extra area is shown as gray shading, because the area shown outside the crop box, is discarded when you return to your document. If you find you need a part of the bit map that fell outside the crop box, you should resize the frame and import the picture again.

Adding the Finishing Touches....

The difference between an OKAY looking document and a GREAT looking document is often nothing more than a slight adjustment here and there and one more pass through the printer. So, consider your first print-out a draft. Look it over and see what you can do to make it better. Don't be afraid to experiment. With practice, each draft will be better than the one before.

Printing Your Documents....

Printers are an intregal part of your desktop publishing system. Most dot matrix printers produce output at a resolution of 120 dots-per-inch horizontally by 72 vertically, well suited for inter-office memos, newsletters, and other documents you'll produce with this program. You should find this print resolution easy to read and suitable for most of you publishing needs. For extra contrast, you can choose the Double Strike option from the Print dialog box (on the File menu) when its time to print.

To print your document on a laser printer, you will need to use Timeworks Publish It Laser Pack. Instructions are included with this program.

The Page Numbering Tool....

Selecting [#] from the tool box enables you to create a page number up to 100, for the page you are currently working on. Just click on [#], then click anywhere on your document. An object containing a "#" will be created. This object cannot be resized, but can be repositioned.

After you have defined the page number, you may change it by clicking on the pointer to reposition it. The page will be given a sequential number during printing. To change the font, select the page number object [#] on your page and change the font size using Select Font from the Font menu.

How To Print....

To print a document, choose Print from the File menu. A dialog box will appear. Normally you'll want to print all the pages of a document, but a number of possible choices are available:

ALL---

All the pages of the current document are printed.

FROM/TO---

Lets you pick a range of pages you want to print. Click on the radio button, then type in the numbers of the first and last pages you want printed.

COPIES---

If you want more than one copy, type the number you want.

START PAGE #s at PAGE---

If you have page numbers, enter the page number from which you want to start printing. This is useful when printing multi-page documents that are stored in several different disk files.

DOUBLE STRIKE---Select this if you want your copies to appear darker.

PAUSE FOR PAGE---Choose this option to make the printer stop at the end of each page to allow you to hand feed another sheet.

The OK and CANCEL buttons let you begin printing or cancel. Printing can be canceled or momentarily suspended at any time by pressing the appropriate key shown in the dialog box that appears while the program is printing the document.

Exiting Publish It!

Use Quit to exit Publish It! Just choose Quit from the File menu or O-Apple-Q. A dialog box will appear and ask for confirmation. To exit the program, click on OK. If you have a program selector installed (such as ProSel or Catalyst), Quit will return you to your selector.

Appendix...There are a few more chapters in the manual, but these appear to be the same as the Mini- manual which was up-loaded earlier. There are some pictures in the manual which I cannot reproduce for you so, I tried to explain it all with words. I am sure you can learn to run the program very expertly from the instructions. To load the program on a hard drive, load all the files from the program disk as you normally would. Include all the font files and art files. then set it up in your program selector. (such as ProSel, or the one that you have installed yourself. Be patient with the program, and read all the instructions. Everything you need to know has been covered here.

-END-

===== DOCUMENT puzzle.time =====

+++

```
^+-----+@
^! Puzzle Time !@
^+-----+@
```

This month's puzzle is an expanded version of a classic. With lower levels being very easy and the upper levels offering a major challenge, this is sure to keep you going for a while!

After the opening screen, you will be prompted for the size of your puzzle. Start easy, choose a 3 x 3 grid. The puzzle will randomize itself before your eyes, press [RETURN] to stop it.

The object of the game is to get all the numbered tiles re-arranged to their starting positions, i.e. sorted numerically like so:

```
^+-----+@
^!^ 1 2 3 ^!@
^!^ 4 5 6 ^!@
^!^ 7 8 ^!@
^+-----+@
```

To accomplish this, simply press the appropriate direction key (I, J, K ,M, or the arrow keys) to move the tile of your choice into the empty location (where "9" would be in the example above). Only the legal moves are shown on the screen, to help remind you of your choices. The game checks for the correct solution after each move, and will acknowledge your accomplishment when you solve the puzzle, as well as reporting how many tries it took you.

If you get tired of playing a game, press the [ESC] key to exit. You will be given the choice of playing another game or exiting to the UPTIME menu.

^ HINTS @

When first starting, try the 3 x 3 grid until you get the hang of it. Then experiment. Strange arrangements (7 x 4 for example) will play much differently than the classic arrangements.

If you really want to impress someone with your 'skill', press [RETURN] immediately after pressing the second number key of your choice matrix (it's most impressive with the 8 x 8 matrix). This will stop the randomization process after only one tile has been moved, and thus you can solve any puzzle in only ONE move!!!

^ Files Needed @

The following files are needed to run this program:

```
PUZZLE TIME - The main program.
ALPHA - Character set used to print on the HiRes screen
```

```
~~~
~~~he HiRes screen
```

~~~

===== DOCUMENT qix.gs =====

```
-----
- _- E)ast C)oast C)onnection & FactUS -_- -
..02/28/90.. proudly brings to you: ..02/28/90..
.,;,.Qix.GS.by.Taito.,;.
```

Please give these boards a ring or two:

```
The Outer Limits - 255 Megs/8mHz/9600bps/HowieNet-CyberTac - (718) 492-3054
Oblivion GS - 45 Megs/GS/9600/Cool PSE - (516) 922-4213
Private Storage - (215) 836-1258
Brave New World - 256 Megs/9600bps - (707) 938-2997
The Temple of Karnak - 85 Megs/8mHz/9600bps/ProTALK - (516) 361-4999
```

- * "Sorry-Ass" Protection RAPED & MUTILATED by The OverByte
- * Thanks to Star Gazer, The Mercenary, The Wanderer
Static Vengeance, Commie Scum, The Overlord
- * Title Page by Ferrari

DISK LOADING INSTRUCTIONS

Turn on the computer (duh!). Insert the game disk into drive 1 with the label facing upwards. The game will load automatically using the GS/OS residing on the QIX diskette.

If the GS Operating System is already up, insert the game disk into the drive. Click the mouse pointer twice on the QIX icon when it appears. The game will load automatically.

Please Note:

At least 768k, but preferably 1 megabyte, of free memory is required if you want to load QIX from the Finder. One megabyte of expansion memory is required to run QIX under Finder 5.0.2

If your GS has less free memory than required, you will only be able to boot directly from the supplied disk.

If you want to boot directly from the QIX disk, with the disk in the drive, reset the computer in the usual manner and the game will load automatically.

GAME CONTROLS

This game is played with a joystick or keyboard.

- * IMPORTANT * Plug the joystick into the appropriate port before turning on the power.

After the game has loaded:

Press any key to display the input device screen.

Press "J" to select the joystick.
Press "K" to select the keyboard.

JOYSTICK

The joystick must be calibrated to ensure accurate game play. When the calibration screen appears, please follow the on-screen instructions carefully.

When the player selection screen appears:

Move the joystick up or down to select a ONE-player game, TWO-player game, or a ONE-player PRACTICE game.

Press the fire button to begin play.

During game play:

Move your STIX up/down/left/right with the joystick.
Press and hold down the FIRE button to begin a SLOW draw.
Releasing the FIRE button starts a FAST draw.

KEYBOARD

When the player selection screen appears:

Use the UP/DOWN arrow keys to select a ONE-player game, TWO-player game, or a ONE-player PRACTICE game.

During game play:

Press the 2 key to move the STIX up.
Press the 3 key to move the STIX left.
Press the 6 key to move the STIX right.
Press the 8 key to move the STIX down.

You can also use the I/J/K/M keys to move the STIX.

Press and hold down the OPTION key to begin a SLOW draw.
Releasing the OPTION key starts a fast draw.

You can also use the OPEN APPLE key to begin a SLOW draw.

VALID KEYS during game play:

Control + R Restarts game.
Control + Q Reboots the game. If the game was launched from
Finder, this option will return you to Finder.

Press ESC to PAUSE the game; press the FIRE button or OPTION key to resume play.

HOW TO PLAY

The QIX is an evil and terrifying computer virus. Nobody knows where it comes from (yeah, right!). Your mission: immunize the system against this insidious infection! But the QIX is intelligent; it learns from its mistakes. It also breeds lethal subviruses that can quickly spread and infect your system.

Each player starts with three lives. Fill in sections of computer memory without becoming infected. A level is completed when the required section of memory is immunized against the QIX. For example, you must immunize 65 percent of level one to proceed to level two. The percentage increases as your progress.

A life is lost if the QIX touches an incomplete line, or if the marker is attacked by a FUSE, SPARX, or SPRITZ.

STATUS AND SCORING

The status panel on the right side of the screen shows the current number of lives, required claim, completed claim, and current level. The SPARX timer is located above the game screen. It begins to shrink during play. Two SPARX are created each time the line disappears. On higher levels, the SPARX will follow you up your line once the alarm rings.

Player scores are located at the top of the screen. Points are awarded for filled section of memory. A SLOW draw earns twice as many points as a FAST draw. A player earns 1,000 bonus points for each percent over the required claim.

Trapping a SPRITZ virus inside a filled section is worth 500 points. All FAST fills will now generate SLOW points until you die. Splitting two QIX from each other multiplies the point value for each new FAST and SLOW fill. An extra life is awarded every 50,000 points.

HIGH SCORE SCREEN

Enter your name in the QIX Hall of Fame by using the keyboard to enter your initials. Press RETURN to return to the title screen.

STEREO CARDS

This game supports several stereo cards, such as the SUPERSONIC(tm) from MDIdeas. When this type of card is installed, QIX provides rich stereo sound for your listening enjoyment.

HINTS AND TIPS:

- o QIX has no time limit; plan your strategies carefully.
- o Build alls to guide the QIX into a position where you can trap it.
- o Try and split a pair of moving QIX as often as you can; your score will multiply.
- o Keep moving; the SPARX are always looking for you.
- o Second guessing the QIX isn't recommended.

end of file.

=====

DOCUMENT questron

=====

```

=====
=
=   QUESTRON SOFT-DOCS AND HINTS   =
=   BY: APPLE JACK                 =
=
=====
    
```

```

A-ARM (PUT WEAPON IN HAND)      C-CLIMB
D-DISMOUNT                      E-END GAME
F-FIGHT (WITH WEAPON IN HAND)  G-GAME SPEED
H-HOLD ITEM (NOT WEAPON OR ARMOR) I-INVENTORY (WHAT ELSE)
K-KILL YOURSELF                O-OPERATE ITEM IN HAND
P-PICK SPELL                    R-ROB
S-SPEAK                        U-USE MAGIC
V-VACATE TOWN OR CATHEDRAL      W-WEAR ARMOR (AS OPPOSED TO CARRYING IT)
X-EXAMINE THINGS AROUND YOU
    
```

THERE ARE 100 CREATURES TO BE KILLED USING VARIOUS WEAPONS

WHEN USING (I)NVENTORY AN ASTERISK CONNOTES AN ITEM BEING *HELD* ALL ELSE IS IN YOUR BACKPACK.

CREATURE HINTS:

A PIERCING PUNGLER NEEDS SPECIAL KNOWLEDGE TO KILL IT.

DO NOT KILL A HYDRO IF IT SETS THE WATER ON FIRE UNTIL IT PUTS IT OUT.

STONE AX BEAK - YOU MUST THROW ROCKS IN ITS EYES.

IRISH STALKER - USE A MACE TO DISPATCH IT.

***** ENJOY THE GAME *****

=====

DOCUMENT questron.ii

=====

Questron // Full docs.

Typed By The Psycho

Your Quest: (As told by Merson, The Great Wizard)

"Though you have completed your quest to save the land of Questron from the crazed magician Mantor and his Evil Book of Magic, the book itself still exists. The book is so evil that it cannot be destroyed by normal means. Its very presence, anywhere in our continuum, poses the threat of corruption and doom to all civilizations. You must journey back in time to ensure that this abomination is never created.

"I will send you back through time and space to Landor, where Mantor has enticed six mad sorcerers to create the Evil Book of Magic. I have bent my power to allow communication with Landor through the "Hall of Visions". An important early step in your quest is to search out the hall so that I can lend you my guidance. Through the hall I have learned a few scraps of information concerning the situation on that troubled world. Within these parchments I pass information on to you.

"You have never existed on Landor, so there you will not have the title and standing you have earned on Questron. My transportation spell is limited to sending only you and a few items. You shall take along the Evil Book of Magic, for we would trust no other to guard it, and the glittering gold key. Beyond these items I can send you only the barest of equipment. Also, the temporal transition will cause the loss of some of your Questron-renowned power.

"When you get to Landor you must quickly gain equipment to improve your chances of survival. Talk to many, for you will have much to learn about the land and its situation. Regain your fighting prowess and equipment as soon as possible, for Landor is at least as dangerous as Questron. Learn how to survive in cities, as well as the wilderness. Visit the cathedrals and learn their secrets. Venture carefully into the castles. And be ready for the dangers of the tombs and dungeons. To stop the six mad sorcerers you will have to brave the perils of all these locations.

"Your victories on Questron prove you are the only one we can send on mission. You are our last, best hope of destroying the Evil Book of Magic. Go now; the future of all people rides with you into the depths of the past."

Theory and Practice Of Time Travel

(As told Morle the Magician in his text "Magic for the Masses")

Moving through space you accept without question. Moving through time you find impossible to believe. This is understandable, but foolish. To a wizard, time and space are but different sides of the same coin. Just because your experience forces you to see events occurring from past to future, do not be fooled into believing the grand plan operates in that way.

Among wizards, time travel is a common phenomenon. Yet it is often misunderstood. The fabric of time is self-repairing. Going back in time to prevent an event can do nothing to alter the years between the event and the moment you move back through time. Only the future after your departure will be altered. The past is but an elusive shadow - only the future can truly be changed.

The Six Mad Sorcerers (As chronicled by Lady Myrando, Historian to His Majesty, King Kelfar of The Realm of the Sorcerers.)

For decades the Council of Seven Sorcerers jointly ruled The realm of Sorcerers, for no mortal king could challenge their magic and no king was allowed to be a

wielder of spells. In the beginning the council's rulings were fair, but harsh. But longer they ruled unopposed, the more despotic their decisions became.

As the council rulings became more self-serving and forced greater and greater cruelty upon people, one member of the council was revolted by the misuse of power. Kelfar was a junior member of the council, but he understood that the council members' vanity and suspicions were their weaknesses. He secretly gained the confidence of the common people, and dug to discover every vulnerability of the other six members of the council.

When Kelfar was finally prepared, and the rest of the council was in total disarray over a minuscule dispute, he renounced his sorcerers ways and took up sword to become one with his followers. With the common people behind him and the scattered despots at their weakest, Kelfar struck down the power of the council members and banished them as one from the civilized areas of the realm. His joy claimed him His Majesty, King Kelfar, Lord of The Realm of the Sorcerers!

His Majesty's rule was wise and fair, but his mercy in banishing, and not eliminating, his former comrades has cost the realm dearly. For in banishing them as one, His Majesty has provided the sorcerers with a common purpose. The sorcerers have hidden themselves somewhere in the realm and even now work to bring down His Majesty's rule.

The Evil Book of Magic

Sire,

My Sorcerers eyes and ears have been very active searching out the activities of the Six Mad Sorcerers. We know some thing of their plans, but of late their mystic defenses have become much stronger. The plague of monsters that has nearly over-run the realm is but a by product of the hideous creatures they create to protect themselves.

What I have learned is that The Six labor as on to create a great magic tome. They continue to sipper of an Evil Book of Magic and of an other-dimensionall leader who binds the group together. The name Mantor is spoken when the group believes it is alone. The Six fear Mantor, and his power, but they see him as the means to gain their revenge upon you. I fear they are nearing completion of whatever vile project they attempt.

Given your political position as the leader of your people (and the renunciation of your sorcerers powers) and my creeping infirmity, neither of us is properly equipped to challenge the six Mad Sorcerers and their other-worldly leader. None of our own knights have been successful in finding, let alone circumventing, their monstrous power. I fear, your majesty, that without a hero of mystical proportions, your reign, and our realm are doomed. Heroes have come unto the land before, and we must pray that one comes to us again.

Monsters

Traveling Creatures

Sovan Priest - The Members of this ancient religious order are always willing to help out fellow travellers, for but a small contribution. These tall, robed figures are not well trained in the art of battle, but are as adept in dodging physical attacks as they are at dodging theological attacks. when provoked. Use large weapons

Gypsy Imp - Although it will act as if it's your friend, the Gypsy Imp's true character can be seen

Ocean Dwellers

Wave Slapper - The Wave Slapper is best disguised on a stormy day when the sea is turbulent. Long, light maneuverable blade is best to fight these creatures.

Mutant Carp - This fish looks like a deformed, overgrown carp. It has four long tentacles which protrude against this abomination.

Hull Bore - The Hull Bore is also

by looking at it. It is short, hoofed, devil-like creature who will sell you anything for the right price, but beware, the knife he sells you may be used to stab you in the back.

Beggar - One must feel pity for wandering destitute soul. Through their many travels, Beggars have gained a rich knowledge in the ways of Landor. It has been proven time and time again that helping the poor can have its just rewards.

Troll - The sight of the Troll is as horrid as its stench. It stands over 9' tall and has putrid greenish-colored skin. Trolls keen sense of smell as well as an ability to see in the dark. It is told that some trolls will interact with adventures, but will attack when provoked.

Mountain Creatures -

Brawn Warrior - The Brawn Warrior's primary love, next to making money is a good battle. Crazy with a lust for victory, these fighters will attack until killed.

-END-

known as the "Unicorn Sea Serpent". This creature punches holes in your vessel.

Spincer - Not much is known about this creature, no one has survived to tell.

Grassland Creatures -

Mavin, Snooper Slink, Slasher Boar, Antisaur, Grub Snufer, Vipod, Ramdart

Forest Creatures -

Swine Swallow, Boll Rot, Tangler, Hornet Cloud, Baboon

Swamp Dwellers -

Ball Slime, Carrion Creeper, Jelly Nymph, Giant Cockroach, Stink Worm

Hurler, Ice Urchin, Cloud Creeper, Spiker, Venom Ant

===== DOCUMENT questron.ii.cmd =====

Questron II
Command card
Typed by fast eddie of coast to coast

Game control:

A. Interacting with your computer

Questron ii can be played from the keyboard ,with a joystick Or with a mouse

1. Movement in the overhead view: in the overhead view you Can move up, down, right or left. With a joystick push in the Direction that you wish to go. With a mouse place the Pointer on the window in the direction you want to go and Click the left button. From the keyboard use the cursor to Move. The commodore 64 can use the "@" to move up, ":" to Move left, ";" to move right, and "/" to move down. The Apple ii+ can use the return key to move up, and the "/" to Move down.

2. Movement in the dungeons: in dungeons you can move Forward, turn right, turn left, or turn around. With the Joystick move left or right to turn, push forward to walk Forward and pull back to turn around. With a mouse place the Pointer to the left or right of the window to turn, to the Top of the window to go forward, and to the bottom of the Window to turn around. From the keyboard, you can use the Right and left cursor keys to turn, the up cursor keys to Move forward, and the down cursor key to turn around. The Commodore 64 can use the "@", ":", ";", and "/" key to move Forward and turn.

3. Giving commands: all current commands are listed on the Screen. To choose a command with a joystick hold the button Down until the commands are highlighted. Use the joystick to Position the cursor over the command you want and push the Button. With a mouse position the pointer over the command Name and click the left mouse button to choose a command. From the keyboard, press the first letter of the commands Name to choose the command.

4. Making other choices: throughout the game you'll be with Small self explanatory menus. If there is a highlighted Cursor use the joystick or up and down keys to move the Cursor to the command. Press the button or type turn/enter Or space to make a choice. With a mouse, move the pointer to The command and click the left mouse button to choose. When A menu is numbered, type the commands number.

B. Commands list

These commands are always listed on the screen when they are Available. Some commands may be unavailable or deactivated In some situations.

Arm - grab a weapon from your inventory. A weapon won't help you in combat until you are armed.

Board - mount transportation. You can also board transportation by walking into it.

Climb - move up and down in dungeons on ropes, ladders, and such.

Dismount - get off of your transportation. end game - quit playing or save your character to disk. Note: you can only end a game outside.

Exit - leave an area without having to walk out. Doesn't work in tombs, dungeons, or once the guards are trying to kill you.

Fight - attack creatures with your armed weapon.

Game speed - this affects how long messages are on the screen.

Inventory - view your inventory list. Objects you are wearing or armed are highlighted.

Load game - reload a saved game

Loot - grab or steal items from people, chests, etc.

Magic - use a magic spell. Certain spells only work in some areas.

Speak - converse with others nearby. In some cases it is better to speak than fight.

Use item - use an item from your inventory. Some items only work in the right place or time.

Wear - wear your armor. Armor doesn't provide protection until you wear it.

Xamine - examine the world around you for usefull information. For example, you use "examine" in the dungeons To search for and avoid traps.

C. Combat:

The wise player learns to pick and choose his battles. While you will have to fight to win the game, it is unwise to attack potential friends. There are times when cutting and running is better then standing and dying. Your success in combat depends on your attributes (strength, stamina, and Agility), the weapons you're armed with, the armor you're wearing, and the strengths and weaknesses of the creature you Are fighting. During battle you decide which direction to Attack (if necessary) and then you see if you how much Damage you do. You also see the monster you're fighting, how Often they hit and how much damage they do.

Your character

A. Attributes and status

Your characters status is listed on the screen in the Following values:

Hp or hit points: this represents how much damage you can Take before you are killed. If your hit point reaches zero, You die.

Food: this is the number of days of food you have.

Gold: this represents how much money you have to buy things With. You can also have money in the bank that is not shown Here. If you take an inventory of your characters possessions you Will also see your characters attributes and other status Information. The status values include:

Level: this name represents how far along you are in your Quest. You begin as a plebe.

Time: this measures how long since the beginning of the Quest. As it gets later your enemies get more powerful and The politics of landor begin to change.

The characters attributes represent how fit he is in a Number of areas. The attributes include:

Charisma: this helps you bargain for better prices on goods.

Strength: this helps determine your ability to land blows And to avoid the return blows of your opponents.

Intelligence: this helps determine how reliable your magic Spells are. Only a highly intelligent character can use Magic well.

B. Magic You can buy 4 different kinds of spells. You pay for each Use of a spell individually. The spells are:

Magic missile: this is a single target damage spell.

Fireball: this is a more powerful single target damage Spell.

Sonic whine: this is the spell that attacks all adjacent Enemies.

Time spells: this spell slows the enemies sense of time to "Freeze" them.

C. Your inventory

All of your equipment is divided into three categories: Weapons, armor, and items. Weapons add to the damage you do And occasionally have other uses. Use the "arm" command to Get a weapon from your inventory or change weapons. Use the "Fight" command to strike at an opponent. Armor reduces the Damage you'll take from opponents blows. Use the "wear" Command to get armor from your inventory or change armor. Items include every thing else you carry. The "use item" Command activates an item if the item is useful in your Current situation. When you begin, your choices of arms and Armor are very limited. As you become more powerful you will Have the chance to obtain better arms and armor. In general, The more expensive the item the better it is. You can also Accumulate many valuable items necessary to complete your Quest.

Landor

A. Creatures

Over60 different creatures inhabit landor. Each type of Creature looks different, reacts differently, and is best Attacked with certain weapons. Some should never be attacked At all ! By listening to rumors, reading the questron ii History booklet and through bloody experience you'll learn How to deal with each different type of creature.

B. Outdoors

Outdoor adventure is shown on a vast scrolling overhead Map. While outside you'll notice different types of terrain, As well as different symbols of towns, buildings, and other Places of importance. Be sure to check out any symbols on The map by moving onto them. This allows you to visit places And board transportation. You can also learn about the Terrain types by "examining" them as you walk through. Each Type of terrain has it's own characteristics and unique Monsters.

C. Towns, cathedrals, and castles:

While outdoors, any town, cathedral, or castle can be Entered by walking onto its symbol on the outdoor map. When You enter, the scale will expand and you'll be able to walk From room to room and building to building.

Towns offer a place to rest, gamble, buy goods, rob Stores and otherwise partake in the joys of civilization. Your tongue will be useful as your sword as you seek out Rumors, gossip, and other information of import.

Cathedrals are magical places controlled by holy ones. Nothing is obvious in a cathedral; there are both traps and Rewards. But you will ave to discover their secrets to Complete your glorious quest.

Castles are important centers of government in landor. Here you can find important people, information, and items To help you on your quest.

D. Tombs are secret labyrinths of corridors and rooms, filled With danger, treasure, and magic. You'll have to find the Tombs and brave their depths to gain information and power.

Dungeons are evil places, shown in three dimensional perspective. You will need to be very powerful to survive the rigors of the dungeons. The deeper one delves into the dungeon, the more powerful the monsters And traps become, but, the greater the rewards you'll find in chests, Vases, coffins, and other magical devices.

When you first enter a dungeon, take a moment to become familiar With the three

dimensional view. When you turn left or right you Don't actually move, you just change your facing. If you stand next To an object and turn you'll always keep the object in front of you as you "Circle" it.

A legendary scroll can help you navigate in the dungeons. The scroll Remembers every step you take to create a "map" as you stalk the Halls. The map disappears after you leave the dungeon.

6. Prints a summary of all adventure information.

 HARDWARE REQUIREMENTS:

An Apple][/][+]/[e with 48K or 64K of memory and a single disk drive are required. A dot matrix printer is required for to print the maps and information summaries.

Included in this file is a list of printers and interfaces supported by Quick-Draw Adventure Mapper. Appendix I shows how to configure Quick-Draw Adventure Mapper for other printers and interface cards.

 LOADING THE PROGRAM:

Place the diskette in drive 1 and turn the computer on. The first time it is loaded, Quick-Draw Adventure Mapper will automatically run the configuration program which will allow you to change several default settings and to specify your printer and interface.

From then on, when QDAM is booted, it will begin with your selections. If you wish to change them in the future, or if someone else configured your copy, hit <ESC> immediately after booting. This will run the configuration program.

 CONFIGURING THE SYSTEM:

During configuration, QDAM will ask you 7 questions, as follows:

- [1] Your printer's name.
- [2] Your printer interface's name.
- [3] The slot your printer's interface is in.
- [4] If your interface uses a second slot, the number it is in.
- [5] Map printing option.
- [6] Map entrance/exit display option.
- [7] Map graphics density.

For items [1] and [2], you select your printer and interface from the list of supported peripherals. If your printer and/or interface is not shown, then see Appendix I on how to customize QDAM for your printer and/or interface card. The 3rd item is the slot your printer interface is in (usually Slot 1). The fourth item is only required for certain interface cards, such as the Versa-card, which use 2 slots.

For the last 3, "Numbers", "Yes", and "Single" would be good choices until you are familiar enough with QDAM to decide you want anything changed. Their purposes are fully explained in section 7.

 MENUS:

QDAM accepts commands from the menu on the bottom line of the screen. Typing the first letter in the command's name is all that is required to specify that command. Many of the commands will bring up more detailed menus.

 Section 2

===== DOCUMENT quick.draw.1 =====

 < QUICK-DRAW ADVENTURE MAPPER >

Softdocs written by: ==> Sherlock Apple
 Program cracked by: ==> Sherlock Apple & Silicon Scorpion

 NOTICE OF COPYRIGHT LAWS:

"IF YOU BUY A LICENSE, YOU CAN LEGALLY MAKE A COPY OF QUICK-DRAW ADVENTURE MAPPER WITHOUT GUILT, SHAME, BEING CALLED A PIRATE, OR THE FEAR OF THE F.B.I. BREAKING DOWN YOUR DOOR AT 2 AM."

"A license is obtained by purchasing Quick-Draw Adventure Mapper or by paying \$14.95 (Visa/check/MC/MO) to:

TELLUS SYSTEMS INC.
 P.O. BOX 96588
 HOUSTON, TX. 77213
 [713] 455-2191

Please enclose your name and address and state that the money is for a Quick-Draw Adventure Mapper license."

PS: Other sysops are welcome to use this file on their boards providing they don't change anything.

 Section 1

 INTRODUCTION:

After a fun-filled day of adventuring, Quick-Draw Adventure Mapper accepts your hard earned data and makes a high-resolution map on your printer. This map is the starting point for your next outing. Your Quick-Draw map grows along with your knowledge of your adventure.

The Quick-Draw Adventure Mapper is a companion to any adventure game. It supports the following features:

- 1. Prints a high-res map showing all rooms and their connections.
- 2. Draws each room showing the room title, the room #, or, both.
- 3. Shows which room connections are "one-way".
- 4. Adds new rooms and information at any time.
- 5. Stores the mapping data for 4 adventures.

ROOM PLACEMENT:

QDAM uses a grid that is 19 rooms across by 13 rooms down for a total of 247 rooms per map. Rooms can be positioned anywhere on that map.

Infocom games, considered the most advanced have the following #'s of rooms in their 13 adventures:

| | | | | | |
|------|-----------|-----|------|------------|-----|
| [01] | Zork I | 110 | [02] | Zork][| 086 |
| [03] | Zork /// | 089 | [04] | Enchanter | 074 |
| [05] | Sorcerer | 084 | [06] | Starcross | 086 |
| [07] | Suspended | 063 | [08] | Planetfall | 105 |
| [09] | Deadline | 051 | [10] | Witness | 031 |
| [11] | Infidel | 077 | | | |

NOTE: This list does not include SeaStalker or Cutthroats. The numbers here may also be deceiving. The # here are the # of internal rooms in the programming, many of which, in some cases, can not be entered by the player.

As you can see by the above list, 247 rooms is plenty for almost all adventuring needs.

MOVING THE CURSOR:

The room selection cursor is positioned in the upper left corner when the program is first booted. The cursor can be moved anywhere on the upper portion of the screen. The table below shows the keys that move the cursor:

```

U I O
J * K
N M ,
    
```

The arrow keys may also be used on a //e.

ADD:

The ADD command places a room at the current cursor position. As soon as you press the "A" key, the screen should flip to the room information entry display. The ADD command automatically moves you to this new screen and menu since you will usually want to enter room information as soon as you add the room. For now, press the L key to LEAVE and go back to the previous menu.

There are 3 things you should now notice:

1. There is a colored box in the center of the screen, representing the room you just added.
2. The "SELECTED" area displays blanks instead of the flashing message: " * * * EMPTY * * * ". It is really displaying the title of that room, but since we haven't entered a title yet, there are only blanks there. The "ROOM" number shows "1".
3. The menu is now different. The ADD command is now gone, and in its place are DELETE, EDIT, and VIEW.

Since there is a room at the current cursor position, we can't add one. We can DELETE it, EDIT its information, or VIEW its information.

Move the room cursor again. As you move the cursor, the "SELECTED" indicator will change between the empty indicator and the room's title. The menu will change depending whether the current cursor position is on a room or not.

Room numbers are automatically assigned as the rooms are entered. The lowest available number is always used.

EXTRAS:

The XTRAS command calls up another menu containing special features that will be explained later.

VIEW:

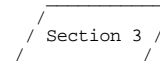
The VIEW command displays all of the information entered about the currently selected room.

EDIT:

The EDIT command displays the same information as the ADD command and allows you to change any or all of it.

LEAVE:

The ADD, EDIT, or VIEW commands all bring up new menus. All of these new menus have a LEAVE command, which returns you to the previous menu.



TEXT EDITING:

Most of the information entered into QDAM consists of text such as:

- Room titles
- Items found in rooms
- Pathways or connections between rooms
- Comments about a room
- File titles for saving your information

The text editing commands are explained below. In the following section, you will have many opportunities to practice them.

BASIC CONCEPTS:

Text editing is always performed within a rectangular area of the screen, whose position is dependent on the information being supplied. This area can consist of a portion of a single line or encompass several lines on the screen. When multiple lines are involved, a word

that is too long to fit in the remainder of the line is automatically moved down to the next line.

EDITING COMMANDS:

Only upper case characters can be accepted. Newly typed characters replace those that previously occupied their positions. Some special command characters are recognized:

RETURN:
-Signals the completion of all editing. The contents of the current editing area accepted as displayed.

ESC:
-Initiates a mode that allows the cursor to be moved within the current editing area. In this mode, the "I" key will move the cursor up one line (or the beginning of the current editing area), the "M" moves the cursor down one line (or to the end of the editing area) and the "J" and "K" keys move the cursor one space left or right, respectively. Any other key exits this mode.

Arrow keys:
-Moves the cursor one character in the direction of the arrow.

Control-D:
-Deletes the character at the current cursor position. All text to the right of the cursor is shifted one space to the left. If you delete all the characters in the text area, it will be treated as if you deleted the item. Apple 2e users can use the DELETE key and it will function the same as Control-D.

Control-I:
-Inserts characters at the current cursor position. All characters to the right of and including the cursor are shifted one character to the right. The new character is placed to the left of the cursor.

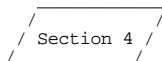
Control-R:
-Restarts the editing session with the editing session with the original text. This allows you to recover what you started with if you make extensive editing errors.

Control-N:
-Blanks the current editing error. If you want to replace everything in the editing area, it's easier to start with a clean screen.

Control-B:
-Moves the cursor to the first character in the area currently being edited.

Control-E:
-Moves the cursor to the last character in the area currently being edited.

If you are not familiar with entering control characters, it's really very easy. To type the CTRL-D command, hold the CTRL key down while pressing the "D" key.



ENTERING ROOM INFORMATION:

When you add or edit a room, you get the same display. For each room, you can enter:

- Title of the room
- Items found in room
- Comments
- Pathways to other rooms

The first three are covered in this section. The next section discusses pathways.

TITLE:

The TITLE command allows the 18 character room title to be modified. When a room is added, the title is initially blank. Practice using all of the text commands now.

After entering the title, press the "L" key to return to the highest level menu to verify that the title you entered is displayed as the selected room.

COMMENTS:

The COMMENTS command allows the comments area of the screen to be modified. Notice that the comments area is located in a multiple line text editing area. Enter some comments and observe how the words are placed in the area.

ITEMS:

Up to eight items per room can be entered. Each item name can be 11 characters long. The ITEMS command calls up one of three new menus:

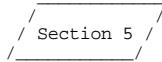
- If the items area is blank:
ADD LEAVE
- If there is at least one item, but less than eight:
ADD EDIT DELETE LEAVE
- If there are eight items:
EDIT DELETE LEAVE

The ADD command adds a new item to the end of the list. The arrow keys are used to position to a particular item. The DELETE command deletes the currently selected item. The EDIT command allows the currently selected item to be modified.

Practice adding, editing, and deleting items.

===== DOCUMENT quick.draw.2 =====

,m3 0



----- CONNECTING ROOMS: -----

The PATHWAYS command provides the mechanism to define the connections between the rooms in your adventure. Up to eight connections can be defined between rooms. The PATHWAYS command calls up one of the same three menus as the ITEMS command. The reasons for calling a particular menu and the basic function of the ADD, DELETE, and LEAVE commands are the same as the ITEMS command. The only real difference is the information to be recorded.

----- PATHWAYS: -----

When you add a pathway, the cursor will go to the left side of the screen under the word "PATHWAY". For each connection, a fourteen character pathway can be entered to define the direction that must be taken in order to move to the connecting room. Some typical examples are:

NORTH, SOUTHEAST, UP, FOLLOW PATH, GO DOOR, CLIMB TREE, LAUNCH BOAT

----- CONNECTING TO ANOTHER ROOM: -----

After you have edited your pathway and hit return, the cursor will move to the right side of the same line under the word "ROOM".

At this point, all you have to do is enter the room number of the room you want to connect it to. You have just made a room connection.

What did you say? You don't remember the room number? Read on.

----- SELECTING YOUR CONNECTION: -----

Instead of entering the room number, just press the "RETURN" key. The display will change to show the map grid. The room you are currently editing will be shown in a different color with the cursor around it.

Move the cursor, using the normal room cursor movement commands, to the room you wish to connect to. The "SELECTED" area will update to display the titles of the rooms as you move the cursor through them. Once your cursor is properly positioned, press the "RETURN" key to establish the connection between the rooms.

----- REVERSE PATHWAYS: -----

So far, you have established a single direction pathway from the room you're editing to the room you've selected. Since most connections run both ways, when a room is initially added, you are given the

opportunity to establish the other connection. This feature is not implemented for the edit command.

After you have defined the connection, you will return to the room editing display. The second line from the bottom will display the question:

REVERSE PATHWAY?

If you hit "RETURN", a single direction pathway will be established from the current room to the selected room. If you want to define a two way path later, position to the other room and define another one way path back to the room you are now editing. If, in response to the question, you type in a pathway, a two way path will be defined.

For example, you can enter a path from room 1 east to room 2. If you type "WEST" when asked for a reverse pathway, then a path exists from room 2 west to room 1. It should be emphasized that establishing a path with a reverse path, is exactly equivalent to establishing two one-way paths between rooms.

----- PATHWAYS TO NOWHERE: -----

If you do not know where a particular exit goes, you can enter a "?" as the room number. The room title will be shown as question marks and exit indicators will be printed on the map for each pathway to nowhere. You can enter the correct destination later, as you get further along on your adventure.

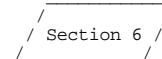
----- PATHWAY ABBREVIATIONS: -----

The more common pathway directions receive special handling. They can be entered as abbreviations but will be automatically expanded to their full form for presentation.

The pathway entries that are recognized are:

| Pathway | Abbreviation |
|-----------|--------------|
| NORTH | N |
| SOUTH | S |
| EAST | E |
| WEST | W |
| UP | U |
| DOWN | D |
| NORTHEAST | NE |
| NORTHWEST | NW |
| SOUTHEAST | SE |
| SOUTHWEST | SW |

Enter some of the abbreviations above as pathways to observe their automatic expansion into their full form.



----- USING YOUR DISK DRIVE: -----

The data you have entered can be stored and retrieved from a data disk. DO NOT USE YOUR PROGRAM DISK TO STORE YOUR ADVENTURES. The

Quick-Draw Adventure Mapper uses data disks that are the same disk format as DOS 3.3, but organized differently. This means that:

1. Any disk initialized with standard DOS 3.3 can be used as a data disk.
2. Any data previously on the disk will be lost when used with Quick-Draw Adventure Mapper.
3. There are no files on the disk that can be recognized by any file oriented utility. Therefore, a program like APPLE's FID will not operate on the data disks.
4. Any program (such as APPLE's COPYA) that copies the entire disk can be used to back-up your data disks.

When you select the XTRAS command from the highest level menu, you will be presented with the following options:

DISK PRINT MOVE BOOT NEW RAM LEAVE

Select DISK and the screen should display a new menu:

FILES SLOT/DRIVE INIT CATALOG LEAVE

The various menu commands are explained below.

SLOT/DRIVE:

Press the "S" key and you can change slot and drive numbers that all other commands will operate from. The default is set to the drive that you booted Quick-Draw Mapper from.

INIT:

If you don't have an initialized disk, this is the command for you. This command produces fully compatible DOS 3.3 disks. Until you save Quick-Draw Adventure Mapper files on it, the disk is the same as that produced by APPLE DOS's INIT command.

CATALOG:

A single Quick-Draw Adventure Mapper disk can hold four different data sets. This command will read the disk in the current slot and drive and display the titles of the four files. Missing files are displayed as blanks. The titles are displayed under the "FILE TITLE" heading on the screen.

FILES:

A disk catalog is performed and a new menu is called up with the following functions:

SAVE RESTORE PRUGE LEAVE

When you press the "S" key to begin the SAVE command, the disk's catalog will be displayed and a flashing indicator will be placed in the left most column of the title display area. You can use the arrow keys to position the indicator.

If the position you selected already has a file title, your current data will be stored in that position under the same name. If the position is blank, a cursor will appear next to the indicator and you will have to enter a file title. Make the title descriptive, since it will be used when the maps and information summaries are printed.

The RESTORE command lets you select a file to bring back into memory. If you pick an empty file, the current memory is preserved.

The PURGE command erases a file on the disk, so that you can use the space to save a different adventure under a new title.

/ / Section 7 / /

PRINTING MAPS AND SUMMARIES:

Selecting the PRINT command from the XTRAS menu will call up a new menu:

ALL MAP SUMMARY CHANGED OPTIONS LEAVE

Use these commands to print maps and summaries of your adventure:

ALL
Prints a map and summary of the current adventure. MAP Prints the map only.

SUMMARY
Prints the summary only.

CHANGED
Prints the summary only for the rooms that have been added or changed since the last boot, NEW command, or RESTORE command.

OPTIONS
Sets options that control the appearance of the printed map.

MAP OPTIONS:

Selecting the OPTIONS command from the PRINT menu calls up still another menu:

NUMS TITLES BOTH SHOW OMIT 1 2 LEAVE

These commands control the map printing options and can be set in the configuration program:

NUMS
Only the room numbers are printed

TITLES
Only the titles are printed

BOTH
Both the room numbers and the titles are printed

SHOW
The entry/exit path indicators, explained below, are shown on the map.

OMIT

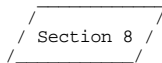
The entry/exit indicators are removed from the map

1
Prints the map in single density graphics

2
Prints the map in double density graphics (not available on all printers)

The entry/exit indicators let you see which paths enter and exit a room. A path leaving a room has a small line drawn perpendicular to it on the outside of the box representing the room. The line is drawn inside the box if the path enters the room. If a path enters and exits a room, BOTH lines are drawn.

You should print out maps using the various combinations to determine your own individual preference.



REARRANGING ROOMS:

From the XTRAS menu, the MOVE command will display the current adventure map on the screen and present one of the following menus:

PICKUP INSERT DELETE LEAVE

-or-

INSERT DELETE LEAVE

The first menu is presented when the cursor is positioned on an existing room. The second menu, without the PICKUP command is used when the cursor is positioned to an empty spot.

PICKUP:

The room located at the current cursor position changes color. Move the cursor to the new location for that room. When you press the "RETURN" key, the room at the old position will disappear, and reappear at the current location of the cursor. Obviously, you cannot move a room to a location that is currently occupied by another room.

INSERT AND DELETE:

These commands allow you to move many rooms at one time. Selecting one of them indicates whether you want to insert or delete space and brings up the following menu:

ROW COLUMN HORZ. VERTICAL LEAVE

These commands will move the existing rooms as explained below. None of the commands will allow you to shift rooms off of the map. You should practice the room moving commands until you are comfortable using them.

INSERT DETAILS:

ROW

Consider a square whose upper corner is the cursor and whose lower right corner is the lower right corner of the screen. The ROW command will move that square down one row. The ROW command will not work if the bottom row of the square contains any rooms.

COLUMN

Consider the same square. The column command will shift it one column to the right. It will not work if the right column of the square contains any rooms.

HORZ.

All rooms in the same row as the cursor that are at or to the right of the cursor position are shifted one column to the right. There cannot be a room in the rightmost position of cursor row.

VERTICAL

All rooms at or below the cursor position that are in the same column as the cursor are shifted down one row. There can not be a room at the bottom of the cursor row.

DELETE DETAILS:

ROW

Imagine a square whose upper left corner is the cursor and whose lower right corner is the lower right corner of the screen. The ROW command will move that square up one row. The ROW command will not work if the top row of the square contains any rooms.

COLUMN

Consider the same square as mentioned above. The COLUMN command will shift it one column to the left. It will not work if the left column of the square contains any rooms.

HORZ.

All rooms in the same row as the cursor that are at the right or to the right of the cursor are shifted one column to the left. There cannot be a room in the same position as the cursor.

VERTICAL

All rooms at or below the cursor that are in the same column as the cursor are shifted up one row. There cannot be a room in the same position as the cursor.

=====

DOCUMENT quicklaunch

=====

QuickLaunch by Steve Stephenson and Seven Hills Software

QuickLaunch was written by Steve Stephenson and is fully copyrighted by Seven Hills Software Corporation, 1991-1992. Seven Hills Software has allowed Apple to include QuickLaunch on the Apple IIGS System Software v.6.0 Golden Master CD to help show off some of the potential power of Finder extensions under System 6.0.

QuickLaunch allows users to add the names of their favorite applications to the "Extras" menu of the System 6.0 Finder. Those applications can then be launched simply by selecting them from the "Extras" menu!

More information on how to use QuickLaunch can be found by installing it (copy it into your boot disk's "System:System.Setup" folder and reboot) and then selecting "QuickLaunch List..." from the "Extras" menu in the Finder. QuickLaunch has a complete online help system built into it (nice touch, Steve!). Please take a few minutes to read the help given under the topic of "General".

Enjoy!

Seven Hills Software
4/92

=====

DOCUMENT quit.to.docs

=====

Quit-To
=====

Quit-To is a "program switcher" for the Apple IIgs. It is a Classic Desk Accessory which allows you to jump directly from any application (either ProDOS 8 or GS/OS) to any other application (ProDOS 8 or GS/OS) without going back to the Finder (or other launcher). That is, it lets you "quit to" another application, rather than quitting to the Finder and launching the other application from there. Naturally, if you do much switching between applications, this will save you a lot a time. Quit-To is the first and ONLY universal program switcher for the IIgs; Quit-To works with virtually ALL ProDOS 8 and GS/OS programs. Other IIgs program switchers only work from within GS/OS desktop applications.

Quit-To is is freeware. You are welcome to keep it, use it, and to distribute it freely to anyone. Don't expect much in the way of user support, however. No further updates to Quit-To are planned.

New Stuff
=====

For those familiar with earlier versions of Quit-To, here is a list of the features added since version 1.0:

- 1.1: Applesoft BASIC programs can now be selected for launching.
- 1.2: "Run-List" feature added. Memory allocation improved. Upper/lower case filenames supported. Letter keypress hops to next file beginning with that letter. OA-1/OA-9 hop to beginning/end of file list.
- 2.0: Works from within GS/OS applications as well as ProDOS 8. Run-List Sort option added. System 6 supported (but not required). Other technical changes.
- 2.01: Reports error if attempt is made to quit to an application in the Run-List and that application has been moved, renamed or deleted. New information in docs.
- 2.02: First-letter keypress file selection now cycles around to the start of the list. The number of volumes Quit-To can display is no longer limited to seven.

Using Quit-To
=====

As with all CDA's, Quit-To is installed by copying it to your SYSTEM/DESK.ACDS folder, and rebooting. Quit-To requires that you boot your system with GS/OS; you can't use the utility "P8CDA" to install Quit-To on a ProDOS-booted system. (Note to beginners: to access the CDAs installed in your system, press OpenApple, <control> and <esc> simultaneously.)

Quit-To gives you two different methods for selecting the program that will be launched when you quit from your current program. I'll refer to these as Selector mode and Run-List mode. When you use Quit-To for the first time, you will be in Selector mode. I'll explain this mode first, and Run-List mode later.

When you choose Quit-To from the CDA menu, you will see a title screen with a file-selection dialog box. This dialog box is used to select the application which you would like to go to when you quit from the program you are currently using. As the prompt "buttons" note, this dialog uses the standard key-commands for text based file selectors: The arrow keys move the highlight bar, <esc> closes the current folder, <return> opens a highlighted folder, <tab> allows you to select a different disk, and OpenApple-period cancels the selection, exiting you from Quit-To. Only SYS (ProDOS application), BAS (Applesoft BASIC programs), S16 (GS/OS application) and DIR (folder) files are shown in the file dialog's list. Press <return> with the application you want highlighted, and you will be returned to the IIgs' CDA menu. Exit from this menu to return to the program you were using, and go on about your business. Everything will appear to be the same.

However, when you quit from that application (exactly HOW you quit depends on the application, of course), Quit-To will do its thing. Instead of going back to your launcher, you will go directly to the application you selected in Quit-To. When you quit from THIS program, you will go back to your launcher as usual, unless you use Quit-To a second time to select yet another application.

Run-List Mode

=====

It's likely that you have a few favorite applications that you use most of the time. With Quit-To's Run-List feature, you can create and access a list of these favorite programs. Rather than navigating through disks and folders to locate the application you want to quit to, you can simply select that application's title from the Run-List.

While in Selector mode, you will see two prompts, one on each side of the screen, in addition to the file-dialog prompts described above. These two prompts are (where "OA" means the OpenApple, or Command key):

"Switch to Run-List: OA-R"
and
"Add file to Run-List: OA-A"

In order to access the Run-List, you must first put some files in it. Otherwise, when you press OpenApple-R to switch to Run-List mode, you will see the message "No Run-List found". Adding files to the Run-List is simple. While in Selector mode, just press OpenApple-A (rather than <return>) with an application file highlighted. If you then press OpenApple-R, Quit-To will switch to Run-List mode, and you will see the application you just added in the displayed list. Creating a Run-List will cause a new file named "QUIT.TO.LIST" to appear in your SYSTEM/DESK.ACDS folder.

In Run-List mode, there are two different prompts on either side of the screen:

"Switch to Selector: OA-S"
and
"Delete from Run-List: OA-D"

OpenApple-S, of course, returns you to Selector mode. OpenApple-D will remove the currently highlighted file from the Run-List. While in Run-List mode, a file is selected for quitting-to as you would expect: just highlight the file and press <return>.

As you add applications to the Run-List, you will probably want to change their order of appearance in the list. (Initially, they are listed in the order they were added.) For quickest access, you'll want your most-used applications to be near the top of the list. To sort the Run-List to your liking, just hold down the Option key and use the up/down arrow keys. The highlighted file will be moved up or down in the list, and the change will be permanent. This option is noted in Quit-To's screen with a prompt for "Sort:" followed by the SolidApple-UpArrow and SolidApple-DownArrow symbols. (For historical reasons, the Option key is commonly signified by the SolidApple symbol.)

Once you have the Run-List configured with your favorite applications, you will probably want to use this mode most of the time. Quit-To will continue to open with either Selector or Run-List mode active until you specifically select the other with OpenApple-S or OpenApple-R.

Miscellaneous

=====

In both Selector mode and Run-List mode, you can move the highlight bar through the list of files quickly by pressing OpenApple together with the UpArrow or DownArrow keys. If you press a letter key (without OpenApple), the highlight bar will hop down to the next file (or volume, if you are selecting volumes) that begins with that letter. Pressing OpenApple-1 will send you to the beginning of the list, and OpenApple-9 to the end.

After using Quit-To to select an application to be quitted to, you might change your mind and decide you want to quit back to your launcher after all. There is a simple solution. Just call up Quit-To again, and then press OpenApple-period. This will tell Quit-To not to interfere with your quit.

The current version of Quit-To allows you to select and quit to applications that are on ProDOS-formatted volumes only. Macintosh HFS volumes and AppleShare volumes are currently not supported. Also, Quit-To only supports prefixes up to 64 characters long.

ProDOS 8 quirks

=====

There are a couple of very minor quirks to the way Quit-To behaves when you use it from within a ProDOS 8 application. These are due to limitations of ProDOS 8 itself:

1) Quit-To supports disk-swapping, so you can be running a program that is on one disk in a drive, and select a program to quit to by swapping that program's disk into

the same drive. The only case in which this won't work is if you are running a ProDOS 8 program that has an open file on the disk you're swapping out. If this is the case, the new disk you swap in won't appear in Quit-To's "Volumes" list. This is due to the way ProDOS 8 handles open files. Most programs don't keep files open for any length of time, so this shouldn't be a problem.

2) Occasionally, you may call up Quit-To and see the message: "ProDOS is busy right now; press a key to exit, and try again in a moment." If this happens, it's typically because you are in a program that has a frequently-updated time display. Usually, you can "get through" to Quit-To by just trying again, but sometimes you may have to go to another part of the application you are using for Quit-To to work. For example, I've found that calling Quit-To while the main menu of the 8-bit ShrinkIt is on screen almost always produces a "ProDOS busy", but going to any of ShrinkIt's sub-menus fixes this.

Incompatibilities, etc.

=====

When an application has bugs, or behaves in some non-standard manner, this can sometimes cause problems for Quit-To. The following are some of the compatibility problems I've discovered or heard of since Quit-To's release:

Cool Cursor ("CCCP"), published by GS+ magazine, versions 1.0 and 1.01 cause system crashes on some systems when Quit-To is used to switch between applications. My tests indicate this is caused by a bug in Cool Cursor.

With some systems there is an intermittent problem when switching from AppleWorks 3.0 to Copy II Plus 9.0 or 9.1.

Because PublishIt 4 (and perhaps other versions) doesn't properly dispose of the memory it allocates, a system crash or other error may occur if you use Quit-To to switch from PublishIt 4 to AppleWorks 3.0.

I hope that Quit-To adds to the value and usefulness of your IIgs for years to come. If you have any problems or comments, please get in touch through one of these addresses:

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DOCUMENT rails.west
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Rails West! Simulation Game Short Rules

Docs Written by: The Kid
Edited by: Wile Coyote

Note: These are the "Short Rules" provided by Strategic Simulations. It is the bare bones necessary to play the game. To really understand the game and get some hints about strategy you will need the longer docs. These will be provided in a separate file.

(A color monitor is highly advisable.)

Number of Players: 1-8, up to 4 can be controlled by the computer

Length of Game: Long Scenario lasts 31 turns (1870-1900) Short Scenario lasts either 6 turns (1890-95) or 11 (1890-1900)

Object of Game: Accumulate cash, stocks, and bonds and control viable transcontinental railroads. A transcontinental runs between one or more of the western terminals (Seattle, Portland, San Francisco, LA, or Mojave) and one or more eastern terminal (St. L MISSING TEXT

The Map: There are 33 cities connected by 68 potential/actual rail lines. Potential lines are white. Other colors represent efficiency levels. Violet=low, Orange=medium, Green=high.

Phases of a Turn

1) Operations: Various economic indicators are calculated at this point. Interest on call loans is collected, bad call loans are called, some randomly selected call loans are called and companies are declared bankrupt as necessary. Action points are deter

2) Computer/Player Phase: With difficulty set at 1 or 2, the computer goes first. Difficulty set at 3, first move is randomly selected and on difficulty 4 the player(s) go first.

3) Computer Action Phase: Computer-run player moves displayed, hitting SPACE BAR will pause it (slight delay in reacting to it).

Player Action Phase

There are two menus (Player Action Menu and RR ACTION Menu, reached by selecting RR ACTION). Most actions cost 1 action point. Free actions are: Read Map, Read Account, RR Statistics, and Read Account (on RR ACTION menu). A bankrupt player or one with no

Player Actions

BUY/SELL SECURITIES: Made in blocks of 1000 shares or bonds. Any purchase or sale results in the shock price being recalculated, bond prices are not affected.

SELL STOCK: The public never buys stock at less than 3 and buys only as much as it already owns, a minimum of 1000-4000 shares.

BUY STOCK: A player must buy with cash. The public never offers all its stock, it offers fewer (Minimum: 1000 shares) higher priced shares and more lower priced shares.

SELL BONDS: The public won't buy bonds selling for less than 101.

APPLY FOR LOAN: The maximum loan equals the net worth in cash and securities minus previous loans.

START NEW RAILROAD: If less than 20 exist, players may start a new RR corporation, acquiring control and 100,000 shares of stock for a minimum payment of \$300,000. The new RR must charter a line during the turn or be eliminated.

READ ACCOUNT: Your cash balance, call loans, numbers of stocks and bonds.

CONTROL RAILROAD: Player must own at least 10% of the RR's shares and more than any other player trying to gain control.

RECALL RR LOAN: Player recalls all or part of any loan. To repay, the RR must have the cash and not owe interest on its bonds.

REPAY LOAN: Obvious
READ MAP: " "
RR STATISTICS:" "

RR ACTION: Can only be taken for a RR you control.

Railroad Actions

SELL/BUY STOCKS/BONDS: Same as for Player companies except: 1) A RR may buy/sell from player's company or the market, 2) the cash a RR gets goes to paying off call loans, and 3) RRs are not allowed to own securities from other RRs.

REPAY BANK LOAN: Repays call loans that result from building or from raising efficiency.

RESIGN CONTROL: Do so to save action points.

READ ACCOUNT: See how much cash the RR has, how much it owes in call loans, how many unissued stocks and bonds it has. Bankruptcy is shown in negative bank balances.

CHARTER LINE: A RR must charter (cost: \$300,000) a line segment before it can build on it. May only have one unfinished line at a time. The new line must connect to an existing one, if one exists. It must be completed within a time limit (with exceptions)

RAISE EFFICIENCY: The RR does not need cash but must not be bankrupt or owe bond interest to do this. The new color is drawn, several financial operations occur.

BUILD NEW LINES: RR must have an uncompleted chartered line and can only do this once per turn on any line. Do not need cash but must not be bankrupt or owe bond interest. Cost is based on economic level with a premium for more than 15 dots (and a maximum

CHANGE DIVIDEND: Set rate between 0 and 25.

PAY INTEREST: If the RR passed up paying its bond interest at some point, it may pay 1 year's back interest. May be performed more than once (to pay off older interest). Must have enough cash.

FLOAT SECURITIES: RR may float its own securities through an investment banker. The banker may offer free stock to encourage purchases. Banker's charge=10%. These bonds are not subject to the same market forces as stocks.

MERGE: One corporation joins with another. Requires 3 action points. Various conditions exist for mergers.

- End of Short Rules -

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DOCUMENT rdf.1985
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[RDF 1985]
=DOCS WRITTEN BY=
%%ALI BABA AND COMMANDER TOSH%%
RDF 1985. THE SECOND SCENARIO OF THE SUPERPOWERS SERIES.

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0.0 INTRODUCTION TO RDF 1985:

AS NATO AND WARSAW PACT TANKS BATTLED FOR CONTROL OF THE WEST GERMAN PLAIN, AN ELITE SOVIET PARA ASSALUT REGIMENT, FLYING AT NIGHT FROM AIRFIELDS IN SOVIET CENTRAL ASIA, SIEZED THE STRATEGIC SAUDI ARABIAN AIRFIELD AT DHAHRAN. SOON HUGE ANTONOV.22 TRANSPORT PLANES WERE LANDING AT HAHRAN, UNLOADING T.72 TANKS, BMP INFANTRY COMBAT VEHICLES, ARTILLERY, AND BM-21 "KATYUSHA" ROCKET LAUNCHERS. BY MORNING, A LARGE PART OF A MOTOR RIFLE DIVISION, VETERANS OF DESERT COMBAT IN AFGHANISTAN, WAS ON THE GROUND. BY THE END OF THE DAY, THE MOST IMPORTANT PERSIAN GULF OILFIELDS WERE IN THE SOVIET HANDS.

WITHIN HOURS, C-141 STARLIFTERS CARRYING THE PARATROOPS OF THE UNITED STATES RAPID DEPLOYMENT FORCE TOOK OFF FROM THEIR AIRFIELDS IN EGYPT. IN THE UNITED STATES, C-5 GALAXIES BEGAN TAKING ON CARGOES OF ARMORED PERSONNEL CARRIERS AND SELF-PROPELLED GUNS. IN THE INDIAN OCEAN, A U.S. NAVY TASK FORCE, CARRYING RDF ARMOR AND HELICOPTERS, SET A COURSE FOR THE PERSIAN GULF.

RDF 1985, THE SECOND OF WHEN SUPERPOWERS COLLIDE SCENARIOS, IS A BATTALION-LEVEL SIMULATION OF THE RESULTING BATTLE. THE RULES ARE ESSENTIALLY THE SAME AS THOSE IN GERMANY 1985. THIS BOOKLET DESCRIBES THE EXCEPTIONS AND THE SPECIAL CONDITIONS OF DESERT COMBAT THT ONLY APPLY TO RDF 1985.

1.0 PLAYING THE FIRST GAME:

*YOU WILL NOW BEGIN A SOLITAIRE GAME, IN WHICH YOU ARE THE AMERICAN COMMANDER, AND THE COMPUTER PLAYS THE SOVIET COMMANDER.

WHEN THE GAME OPTIONS DISPLAY APPERARS, HIT 3 TWICE TO REDUCE THE STRENGTH OF THE RUSSIAN FORCE AND TO EXPOSE ALL OF THE SOVIET UNITS TO VIEW. THE RUSSIAN UNITS ARE ALREADY IN PLACE.

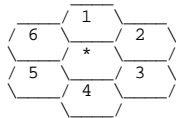
PRESS THE SPACEBAR, AND THE GAME WILL BEGIN WITH AN AMERICAN AIRDROP ONTO THE DESERT.

1.1 THE MAP

EACH HEXAGON OF THE 39 X 28 HEX MAP REPRESENTS 2.5 MILES. ON YOUR SCREEN, YOU WILL SEE ONE-TWELFTH OF THE TOTAL BATTLE FIELD. A NUMBER OR A LETTER WILL TELL WHICH SECTOR YOU ARE SEEING. AT THE BEGINNING OF THE GAME, ALL OILFIELDS, VILLAGES, TOWNS AND AIRFIELDS ARE RUSSIAN OWNED. IF AN AMERICAN UNIT MOVES INTO THEM, THEY WILL BE AMERICAN OWNED, AND THE SYMBOL WILL CHANGE. THEY CAN CHANGE OWNERSHIP ANY NUMBER OF TIMES DURING A GAME. FOR THEIR IMPORTANCE, SEE RDF VICTORY CONDITIONS (11.0).

1.2 MOVING THE CURSOR

TO MOVE THE BLINKING CURSOR AROUND THE MAP, TYPE THE COMMAND KEYS PICTURED IN THE DIAGRAM BELOW:



1.3 MOVING UNITS

PRESS ESCAPE TO MOVE THE CURSOR TO THE FIRST UNIT AND TO ENTER ITS MOVEMENT PHASE, AND THEN USE THE COMMAND KEYS TO MOVE THAT UNIT. WHEN YOU'VE USED UP THE MOVEMENT ALLOWENCE OF THAT UNIT, THE CURSOR WILL FIND THE NEXT MOVABLE UNIT. WHEN YOU HAVE MOVED ALL OF YOUR UNITS, THE CURSOR WILL BLINK. PRESS CONTROL AND E, AND THEN E TO END YOUR TURN.

1.4 THE SOVIET MOVE

THE COMPUTER WILL MOVE ALL OF THE SOVIET UNITS. DURING THE SOVIET MOVE, YOU CAN STOP THE COMPUTER BY TYPING ESCAPE. WHILE THE MOVE IS PAUSED, YOU CAN USE ANY OF THE SPECIAL KEYS (12.0). TO RESUME THE SOVIET MOVE, PRESS ANY KEY. WHEN THE SOVIET MOVE IS FINISHED, THE CURSOR WILL BEGIN TO BLINK, INDICATING THAT THE FIRST FOUR-HOUR TURN IS OVER. PRESS ESCAPE TO MOVE YOUR FIRST UNIT AGAIN.

2.0 MOVEMENT

2.1 THE MOVEMENT DISPLAY

THE RDF MOVEMENT DISPLAY SHOWS THE WORD SMOKE; IF IT IS HIGHLIGHTED, THE MOVING UNIT IS IN A SMOKE FILLED HEX. MN(MINE) AND NC(NUMCLEAR CONTAMINATION) ARE NOT SHOWN, SINCE THEY PLAY NO PART IN THIS SCENARIO.

2.2 AIR CAVALRY

AIR CAVALRY USES ONE MOVEMENT POINT (MP) PER HEX. IN ADDITION TO THIS, AIR CAVALRY UNITS WILL USE:

2 EXTRA MP'S TO ENTER A SMOKE-FILLED HEX

1 EXTRA MP FOR EACH SIGHTING ENEMY UNIT (SEU)

(2 IF THE AIR UNIT IS IN TRANS MODE)

1 EXTRA MP IF THE ENEMY HAS AIR SUPERIORITY, AND THE AIR CAVALRY IS IN THE TRANS MODE.

AIR CAVALRY UNITS CANNOT ENTER ENEMY-OWNED OILFIELD, VILLAGE, TOWN OR AIRFIELD HEXES.

2.3 UNITS IN TRANSPORT MODE *CAN ONLY TRAVEL THROUGH TOWN, VILLAGE AND AIRFIELD HEXES, OR ALONG THE ROADS.

*CANNOT ENTER ENEMY-OWNED OILFIELDS, TOWNS, VILLAGES AND AIRFIEDS.

2.4 BRIDGING

DUE TO AN EXCEPTIONAL LACK OF WATER IN SAUDI ARABIA'S RIVERS, NO BRIDGING IS NECESSARY IN THIS SCENARIO. ENGINEER UNITS HAVE NO SPECIAL FUNCTIONS.

2.5 TERRAIN

THE EFFECTS OF DIFFERENT TYPES OF TERRAIN UPON MOVEMENT ARE DETAILED IN THE TERRAIN EFFECTS TABLE IN THE APPENDIX.

3.0 MODES -----

3.1 SPECIAL MODE RULES ENGINEER UNITS ARE ALLOWED TO RE-ORGANIZE. NO UNIT CAN ENTER RIVER MODE.

4.0 THE ORDER PHASE -----

NAVAL UNITS CANNOT USE STATEGIC MOVEMENT. THEY CAN ONLY BE MOVED WITH THE MOVE MENT KEYS.

5.0 AIR POWER -----

5.1 THE AIR POWER DISPLAY HIT CTRL A AT ANY TIME TO SEE AN AIR POWER DISPLAY LIKE THIS:

```
=====
NATO:3:RUSSIAN:1: :ALC:KEYS (A)IR SUPERIORITY:SPARE.9:0 :0-9 TACTICAL
AIR SUPPORT :6 :
```

```
=====
IN THIS SAMPLE, THE HIGHLIGHTED SIDE, NATO, HAS THREE-TO-ONE AIR
SUPERIORITY DURING THIS TURN. THE NATO PLAYER MAY ALLOCATE UP TO 9
SPARE POINTS TOWARD AIR SUPERIORITY IN THE FUTURE TURNS BY TYPING ANY
NUMBER UP TO 9. THE NATO PLAYER MAY CALL IN UP TO 6 TACTICAL AIR
STRIKES DURING THIS TURN.
```

5.2 CALLING AIR STRIKES

IF ITS SIDE HAS AIR SUPERIORITY, AND THE AIR POWER DISPLAY SHOWS AVAILABLE TACTICAL AIR STRIKES, ANY UNIT CAN CALL FOR A SUPPORTING STRIKE BY:

```
*TYPING (O) FOR ITS ORDER PHASE
*TYPING (S) FOR SUPPORT FIRE
```

IF A PLAYER DOES NOT HAVE AIR SUPERIORITY, HE CANNOT CALL FOR TACTICAL AIR STRIKES DURING THAT TURN. IF THE U.S. PLAYER HAS AIR SUPERIORITY, HE WILL HAVE BETWEEN 2 AND 7 AVAILABLE AIR STRIKES. A RUSSIAN PLAYER WITH AIR SUPERIORITY WILL HAVE BETWEEN 0-5 STRIKES.

5.3 AIR SUPERIORITY

*THE U.S. PLAYER HAS AIR SUPERIORITY DURING THE FIRST 2 TURNS.

*THE RUSSIAN PLAYER STARTS THE SCENARIO WITH NO SPARE AIR POINTS, AND HE RECEIVES FEWER POINTS THAN THE U.S. PLAYER EACH TURN. IT WILL TAKE 5 OR 6 TURNS BEFORE HE HAS ENOUGH TO CHALLENGE THE U.S. PLAYER.

6.0 COMBAT -----

RUSSIAN UNITS ON COAST HEXES CAN ATTACK OR FIRE ON U.S. NAVAL UNITS, BUT THE NAVAL UNITS CANNOT FIRE BACK AT THEM.

6.1 ARTILLERY DAMAGE

PARA UNITS, LIKE BMP,TANK, AND APC UNITS, SUFFER GREATER DAMAGE FROM ARTILLERY IF THEY ARE IN TRANS, ATTACK OR REOR MODE.

6.2 RETREATING UNITS

NAVAL UNITS THAT ARE FORCED TO RETREAT AFTER COMBAT WILL SUFFER INCREASED LOSSES INSTEAD.

7.0 REORGANIZATION

----- IN ADDITION TO THE NORMAL RULES THE U.S PLAYER MAY USE A FRIENDLY AIRFIELD INSTEAD OF ITS HQ (WHICHEVER IS CLOSER) FOR RE-ORGANIZATION PURPOSES.

8.0 HIDDEN UNITS

PARA UNITS WILL BE EXPOSED DURING THE TURN THEY LAND, EVEN IF THE HIDDEN GAME OPTION HAS BEEN CHOSEN. THEY MAY BE HIDDEN IN LATER TURNS.

9.0 MINES AND NUCLEAR CONTAMINATION

MINES AND NUCLEAR CONTAMINATION PLAY NO PART IN THIS SCENARIO.

10.0 REINFORCEMENTS

BOTH SIDES ARE SCHEDULED TO RECIEVE REINFORCEMENTS DURING THE TURNS SHOWN ON THR RDF DATA CARD.

RUSSIAN REINFORCEMENTS ARRIVE AT THE HEXES SHOWN ON THE DATA CARD.

*PARA UNITS ARRIVE WITHIN 3 HEXES IF THE DROP ZONES SELECTED BY THE COMPUTER, OR BY THE NATO PLAYER, HAS USED THE DROP ZONE PLACEMENT OPTION.(13.3).

*PARA UNITS CANNOT LAND ON ENEMY-OWNED HEXES, OR ON THE WESTERN THIRD OF THE MAP (SECTORS 1,4,7 OR A).

*IF A DROP ZONE IS TOO CLOSE TO THE SEA OR THE EDGE OF THE MAP, PARA UNITS MAY BE UNABLE TO LAND; THE ERROR SIGNAL WILL SOUND. *THE PARA DROPS ON TURN 3 AND TURN 4 WILL BE DELAYED ONE TURN IF THE RUSSIANS HAVE AIR SUPERIORITY.

U.S. REINFORCEMENTS ARRIVING BY AIRPLANE (TURNS 7,8 AND 9) WILL LAND ON AVAILABLE FRIENDLY AIRFIELDS. NO MORE THAN TWO UNITS WILL ARRIVE AT ANY FIELD (ONE UNIT AT NIGHT). FRIENDLY UNITS ON THESE AIRFIELDS WILL HINDER THE LANDING OF REINFORCEMENTS. RUSSIAN AIR SUPERIORITY WILL DELAY ALL AIR-LANDING REINFORCEMENTS FOR ONE TURN.

10.1 NAVAL UNITS

A U.S. TASK FORCE, CARRYING REINFORCEMENTS FOR THE RDF, ARRIVES IN THE PERSIAN GULF DURING TURNS 12, 13 AND 14.

*NAVAL UNITS ARE MOVED THE SAME WAY AS CONVENTIONAL UNITS, WITH THE DIRECTION KEYS.

*AT SEA, NAVAL UNITS CANNOT ENGAGE IN COMBAT, CHANGE MODE, USE THE ORDER PHASE OR SUPPLY SUPPORTING FIRE.

*NAVAL UNITS ARE ASSUMED TO BE IN TRANS MODE. THEIR MOVEMENT IS REDUCED IF THE RUSSIANS HAVE AIR SUPERIORITY, AND BY THE PRESENCE OF SIGHTING ENEMY UNITS.

*RUSSIAN UNITS ON COAST HEXES CAN FIRE ON OR ATTACK U.S. NAVAL UNITS, BUT CANNOT BE ATTACKED IN RETURN.

10.2 LANDING NAVAL UNITS TO LAND, A NAVAL UNIT MUST END ITS MOVEMENT PHASE ADJACENT TO THE COAST WHERE IT INTENDS TO LAND. ANY UNIT WHICH MOVES AT SEA CANNOT LAND UNTIL THE NEXT MOVE. AT THE BEGINNING OF THE NEXT MOVE, THE UNIT WILL BE ABLE TO MOVE ASHORE.

*NAVAL UNITS CANNOT LAND ON ENEMY OCCUPIED HEXES OR ENEMY-OWNED TOWN OR VILLAGE HEXES.

10.3 NAVAL UNITS ON SHORE

ONCE ASHORE, NAVAL UNITS CONVERT INTO CONVENTIONAL UNITS, WITH A REDUCED MOVEMENT ALLOWANCE FOR THE FIRST TURN. UPON LANDING UNITS CHANGE AUTOMATICALLY TO NORM MODE.(ARTILLERY CHANGES TO FIRE).

11.0 VICTORY CONDITIONS

THE GAME WILL END AFTER 21,22, OR 23 TURNS, AT THE DISCRETION OF THE COMPUTER. THE COMPUTER WILL THEN COMPARE EACH PLAYER'S POINT TOTAL AND WILL DECLARE A WINNER. POINTS ARE AWARDED AS FOLLOWS:

1 POINT FOR EACH ENEMY UNIT ELIMINATED (ENEMY UNITS WHICH EXIT THE BOARD DO NOT COUNT)

1 POINT FOR EACH OILFIELD HEX OWNED

2 POINTS FOR EACH TOWN OR VILLAGE OWNED A PLAYER WITH 10 OR MORE POINTS THAN HIS OPPONENT HAS WON A DECISIVE VICTORY.

12.0 SPECIAL KEYS

THE SPECIAL KEYS CAN BE UNSED DURING YOUR OWN TURN WHEN THE CURSOR IS FLASHING, OR, BY PRESSING ESCAPE DURING THE COMPUTERS MOVE.

*IF THE HIDDEN OPTION WAS CHOSEN WHEN YOU SET UP THE GAME, YOU CANNOT USE THE D (HIGHLIGHT DIVISION) OR THE P (STRATEGIC MAP) KEYS DURING THE COMPUTER'S MOVE.

13.0 GAME OPTIONS

13.1 SAVING THE GAME

A GAME MAY BE SAVED AT ANY TIME ON A SECOND DISK BY HITTING CONTROL B AND FOLLOWING INSTRUCTIONS. RDF GAMES MAY BE SAVED ON THE SAME DISK AS GERMANY 1985 OR OTHER SCENARIOS.

13.2 RESTARTING A GAME

TO RESTART A GAME SAVED ON ANOTHER DISK, HIT THE NUMBER OF THAT GAME OPTION AND FOLLOW INSTRUCTIONS. THE NAMES OF GAMES AVAILABLE FOR PLAY WILL BE SHOWN NORMALLY. HIGHLIGHTED NAMES SHOW GAMES THAT BELONG TO OTHER SCENARIOS, WHICH CANNOT BE PLAYED WITH THE RDF DISK.

13.3 DROP ZONE SELECTION OPTION TO SELECT THE DROP ZONES FOR THE U.S. PARA UNITS, HIT 9 WHEN THE OPTION DISPLAY IS SHOWN, SO THAT PLACEMENT IS HIGHLIGHTED. AS THE COMPUTER DIRECTS, MOVE THE CURSOR TO EACH DESIRED DROP ZONE AND PRESS RETURN.

*PARA UNITS WILL LAND WITHIN 3 HEXES OF TH SELECTED DROP ZONES. *DROP ZONES CANNOT BE LOCATED IN THE WESTERN THIRD OF THE MAP (SECTORS 1,4,7, OR A)

14.0 STRATEGY AND TACTICS

THE KEY TO WINNING RDF IS TAKING AND HOLDING OILFIELDS, AND EVEN MORE IMPORTANT, AIRFIELDS. THE SOVIET PLAYER HAS THE ADVANTAGE OF NUMBERS. THE U.S. PLAYER HAS THE ADVANTAGE OF SUPERIOR AIR SUPPORT, ESPECIALLY ON THE FIRST DAY, AND THE SUPERIOR TRAINING AND EQUIPMENT OF THE PARA UNITS.

WHEN PLAYING AGAINST THE COMPUTER, REMEMBER THAT THE COMPUTER SIDE ALWAYS HAS ENHANCED AIRPOWER AND GREATER ABILITY TO REORGANIZE, TO

COMPENSATE FOR ITS LACK OF FLEXIBILITY.

IT IS ADVISABLE TO AVOID A BATTLE OF ATTRITION OR HURRIED, UNCOORDINATED OFFENSIVES, AND TO CONCENTRATE ON SHARP, WELL-SUPPORTED ATTACKS TO ELIMINATE ENEMY UNITS.

IN EFFECT, WHEN YOU PLAY AGAINST THE COMPUTER, YOU ARE PLAYING AGAINST A WELL-EQUIPPED AND WELL-TRAINED ENEMY, WITH LITTLE IMAGINATION AND A TENDENCY TO GO STRICTLY BY THE BOOK, A TYPE OF SOLDIER PLENTIFUL IN BOTH THE U.S. AND RED ARMY.

APPENDIX:

TERRAIN EFFECTS TABLE

| TERRAIN | MPS | SIGHTING DISTANCE | COMBAT BONUS |
|----------|-----|-------------------|--------------|
| L.ROUGH | 4 | 3 | 2 |
| ROUGH | 4 | 2 | 3 |
| OASIS | 4 | 2 | 2 |
| SABKHAH | 4 | 3 | 1 |
| VILLAGE | 3 | 3 | 2 |
| TOWN | 4 | 2 | 3 |
| OILFIELD | 3 | 3 | 1 |
| DESERT | 3 | 3 | 1 |
| SEA | 1 | 5 | 1 |

TYPE VS. TYPE BATTLE

| US PARA VS. | TANK | BMP | ARTLY | KATSH | ENG |
|-------------|------|-----|-------|-------|-----|
| | 2 | 2 | 4 | 4 | 1 |

| RUSSIAN VS. | U.S. PARA |
|-------------|-----------|
| TANK | -3 |
| BMP | -2 |
| ARTLY | -10 |
| KATSH | -10 |
| ENG | -2 |

| | | | |
|----------|-----------------|--------------|-------------|
| TURN 7 | NAVAL 2(1) TANK | R5 1 TANK | TURN 11 |
| R1 | 1 AIRVC | (1)KATSH | R4 3 TANK |
| AIRFIELD | 4(1) APC | 1 ENGIN | 1 BMP |
| | 1 ENGIN | TURN 7 | R5 (1) TANK |
| TURN 8 | TURN 14 | R2 1 TANK | 1 BMP |
| AIRFIELD | 3 APC | 2(1) BMP | R3 1 BMP |
| | 1(1) APC | | 1 KATSH |
| | 1 HQ | | 1 HQ |
| | | TURN 12 | |
| | | R4 1 TANK | |
| | | 1 BMP | |
| | | (1) ARTLY | |
| | | R5 1(1) TANK | |

REINFORCEMENTS WHICH ONLY ARRIVE WHEN SIDE IS GIVEN REINFORCED DIVISIONS

REINFORCEMENT SCHEDULE:

| USA | | USSR | |
|--------------------|------------------|-------------|-------------|
| AT START | TURN 9 | AT START | TURN 8 |
| AIR DROP#1 3INF | AIRFIELD 4(1)APC | 2(1)TANK | R3(1) TANK |
| AIR DROP#2 3INF | 1 SPG | 3(1)BMP | 3 BMP |
| | R1 | 1 ARTLY | 1(1)ARTLY |
| TURN 2 | 1 AIRVC | 1 KATSH | 1 HQ |
| AIR DROP#3 2(1)INF | | 1 HQ | R5 1 TANK |
| 1 ENGIN | TURN 12 | | 1 ENGIN |
| 1 HQ | NAVAL 3(1) TANK | | 1 HQ |
| | 3 APC | TURN 3 | TURN 9 |
| TURN 3 | 1 ENGIN | R5 2(1)TANK | R2 1(1) BMP |
| AIR DROP#4 2(1)INF | 1 SPG | 2 BMP | 1 ARTLY |
| | 1 HQ | 1 ARTLY | 1 KATSH |
| TURN 4 | | 1 ENGIN | TURN 14 |
| AIR DROP#5 2(1)INF | TURN 13 | R3 1 TANK | R2 1(1) BMP |
| | | 1 BMP | 1 ARTLY |
| | | TURN 4 | R3 2 TANK |
| | | R4 1(1)TANK | 1(1) BMP |

===== DOCUMENT red.october =====

HUNT FOR RED OCTOBER

A Soft-Sect production

Documentation originally by:

The Dirtbag

Mission Documents
(Orders)
~~~~~

COURSE: Proceed W by NW, 2-9-0 degrees.

ULTIMATE  
DESTINATION: Cuba

ROUTE: Usual evasive track through Reykjanes Ridge. Head west past the north cape of United State's imperialist puppet state, Norway. Proceed to usual southwest massing point (same point used for North American nuclear attack simulations) and turn towards open Atlantic. Maneuver per standard procedures.

SEA TRIALS: You are to push RED OCTOBER to her limits. Every element of RO's design must be tested and evaluated, especially the Caterpillar Drive.

STRATEGY: To thoroughly evaluate the RO and the Caterpillar Drive, you must elude all naval vessels from all nations (friend and foe alike). This evasion must be treated with utmost seriousness by the entire crew.

Naturally, United States and NATO naval patrols will try and trace your every move. The Soviet navy will also engage in a major exercise to find and follow the Red October.

COMMUNICATION: This is a clandestine mission. Strict communication silence must be maintained to avoid being tracked by United States or Soviet sensors.

BACKGROUND: Some improvisation in navigation may be necessary in order to avoid detection. You are hereby officially notified that such improvisation is permissible for this mission.

Upon crossing the Atlantic, you will skirt down the North American seaboard from Virginia, south to Cuba. If you are successful, you will be the first Soviet sub to arrive at the secret sub base which is under construction near Cuba's Santa Cruz del Sur in the Golfo de Guacanayabo. A submarine replenishment vessel will rendezvous with you there. The exact rendezvous coordinates are in the boat's computer (priority access-key sequence).

A week of rest and relaxation awaits you on the most beautiful beaches of Cuba. Shore leave will not take place, however, if your trek to Cuba is discovered. We presume this discovery will not occur. When the shore leave is complete, follow the same Sea Trials and Strategy on your return trip.

CLOSING: Every time a Soviet vessel puts to sea, it is protecting the sovereignty of our beloved socialist homeland. This is the most important naval technological test we have ever undertaken. The Caterpillar Drive should allow us to move through the world's waters with complete stealth - avoiding the aggressive sensor devices deployed by the West. We will at last have naval superiority!

And to the Red October's crew: do your duty. There are no small jobs on the RO; the responsibility for the success of this mission lies with every man, from the highest officer to the lowest seaman. Follow orders, be diligent, and make the homeland proud of you.

END ORDERS

Admiral Yuri Ilych Padarin

YIP/tjc

Background Information

As commander of the nuclear-powered sub, Red October (RO), you're in charge of one of the most powerful weapons on earth - difficult to detect, swift to strike.

You've been entrusted to test the latest in Soviet naval technology: a revolutionary "Caterpillar" Drive that will make the RO practically undetectable. Unfortunately for Mother Russia, they've trusted the wrong man. You plan to defect to the US and hand over the Reds' new technology.

You've handpicked your officers, men who will risk their lives for your plan. The enlisted men suspect nothing and this must not change. Your mission orders (faked, of course) will help keep your crew in the dark.

The defection starts in the Reykjanes Ridge (affectionately renamed "Gorshkov's Railroad" after Admiral Gorshkov). Along the Ridge are Russian surface vessels and subs, not to mention US attack subs, and a complete underwater listening network, all with the sole purpose of preventing boats like the Red October from slipping through to the open special event (message, riddle, etc.). The OMother commands available should be selected through the keyboard equivalents Nlisted on the preceding pages, or by selecting the commands from the actual menus.»\$Keyboard Control»9 Movement Meaning  
Arrow FiringMK I <- A + S3 M W J + K ->  
Left + "Right <- A + S3 M Down  
Z» or alternate keypad movement:° 8political asylum. They hope you're  
telling the truth; but, since you're the enemy, they'll also be on guard. In  
other words, they'll be ready to help you defect OR to blow you out of the  
water.

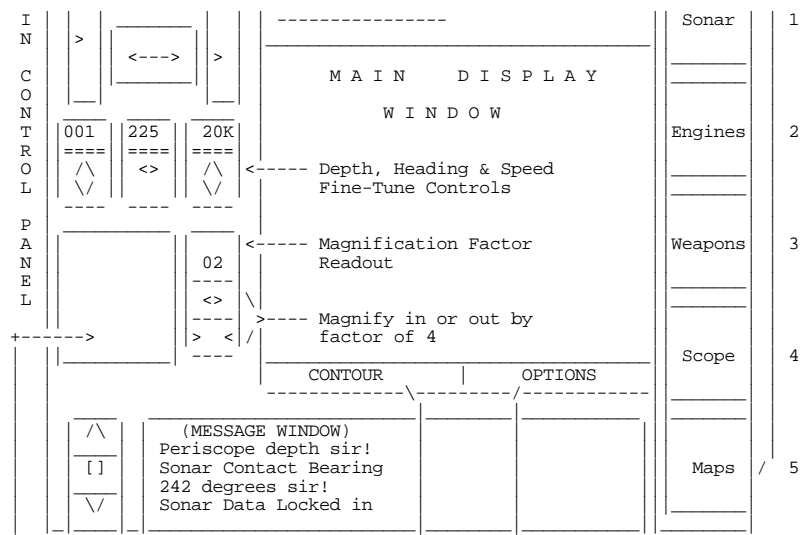
The defection plan is cunning. Your engineering officer fakes a leak in the nuclear reactor. Radiation! The boat must be abandoned! A "convenient" American vessel is on hand to rescue your crew. The RO will be scuttled and the world will believe that the pride of the Soviet fleet has been destroyed instead of falling into capitalist hands. But it won't be true. Through nautical slight-of-hand, the US Navy will sink an old sub in place of the RO and steal away with the Soviet boat.

Playing The Game

You may use the cursor keys, a mouse, or a joystick for gameplay. When the game loads, hit a cursor key to use the cursor keys; click the mouse button to use the mouse; or press the firebutton to use the joystick. To use a different gameplay option (eg, the mouse instead of the joystick), reload the game, then make your selection.

If you're using the keyboard, the arrow keys direct the RO and number keys 1-5 select the options shown to the right of the Main Display Window (sonar, engines, etc.). If you're using the mouse, click the mouse button to accept commands. If you're using a joystick, press the firebutton to accept commands.

			Time & Date	Battery Indicator
M	Depth	Speed	00:41 06 DEC	==|_|_|_|_|
A	Heading			|_|_|_|_|



This Window always shows the Terrain Map, Hydrophone Display, or Torpedo Depth & Heading Windows, depending on what was last selected from the options on right (1-5).

Red October Options:  
 Save 1 Save 2 Save 3  
 Load 1 Load 2 Load 3  
 Recognition Charts  
 Exit to ProDOS (Quit)  
 Back to Game

Press Contour once to call up the Contour Display in the Main Display Window. Click it again to see the Sonar Display.

1 navigational functions.

Speed Indicator - When you want to change speed quickly, click on the area of this gauge corresponding to the speed level you want. Click upper end to slow you down and the lower end to speed up. Each marker on the gauge indicates 5 knots.

2 Speed Readout - This shows your current Speed in knots. If you set the Speed at 0 knots, you're also giving the order for total silence (used when trying to avoid detection). Use the fine-tune arrows to increase speed in multiples of 1 knot.

3 Compass - Click on a Compass heading to change directions quickly.

Heading Readout - This shows the exact compass Heading. The direction the sub's bow is pointing at any given time is the heading (the direction it needs to point to to reach a target is called a Bearing). Use the fine-tune arrows to change heading in multiples of 11 degrees.

4 Depth Gauge - When you want to change depth quickly, click on the area of this gauge that corresponds to the depth you want. Click on the top end to surface and the bottom end to dive; each marker on the gauge indicates approximately 60-70 meters.

5 Depth Readout - Use the fine-tune arrows to adjust depth in multiples of 10 meters. It's important to keep your Depth above the safe pressure level of 400 meters and to be sure that the Depth is appropriate for the sea bed terrain.

Clock/Calendar - This shows you the time of day and the date. You can accelerate the game (about twice as fast) by holding down the solid-apple key. Be cautious since it's dangerous to speed up the clock in areas where navigation is complex; you run the risk of grounding and sinking the Red October.

CONTOUR DISPLAY CONTROL - Click on this to turn the Contour Map ON or OFF in the Main Display Window.

SONAR DISPLAY CONTROL - Click on this to turn the Sonar Map ON or OFF in the Main Display Window.

ICONS

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SONAR

Click on this icon to call up the sonar function icons. Submarines operate with a continuous "passive" sonar that gives approximate details of targets and their identity or bearing. This data requires verification by visual sighting or by the use of "active" sonar to gain an accurate fix.

Display - Click on this icon to get an accurate Contour Map of the sea bed. In this Map, white shows the peaks of rock formations; the darkest blue indicates the sea bed; the in-between shades of color show the slopes of the terrain. The darker the shading, the deeper the sea.

Contour/Sonar - Click on either of these controls to turn the Contour Map ON and Off. When the Contour Map is OFF, only the Sonar Map is visible.

The Sonar Map shows all sonar contacts. Capital letters indicate other vessels. Each contact is keyed and details of the contact are shown in the Sonar Information Window (Message Window):

| | Bear | Dep | Range | Heading | Speed |
|----|------|-----|-------|---------|-------|
| A: | *278 | 0 | 4.6 | 199 | 8.8 |
| B: | 307 | 0 | 4.6 | 276 | 14.0 |

MAIN DISPLAY WINDOW - This area is where all Maps, Periscope Views, Ship Recognition Charts, and Battery Power are displayed.

Battery Power is always visible as a readout next to the battery icon above the Main Display Window. When the readout is completely green, you're fully charged. When it's completely red, you need to surface and recharge the batteries.

MESSAGE WINDOW - Text information appears in the Message Window. This includes crew responses to orders, plus other information, including Sonar contacts, Electronic Surveillance Monitor message interceptions, damage control reports, etc.

Messages can be scrolled up and down by clicking on the up and down arrows at the left of the window.

The Message Window also doubles as the Sonar Information and Fire Control System Window when you click on the box between the up and down arrows.

Information is a sub commander's lifeline. The data displayed in this window is vital for the success of your mission.

MAIN CONTROL PANEL - This panel allows instant control over the major

Info on a ship represented by the letter A shows up in the Sonar Information Window next to the letter A. Click on the box between the up and down arrows at the left of the Message Window to get the Sonar Information Window (click on the box again to return to the regular Message Window).

The Bearing shows the direction from Red October to the sonar contact; the Range is the distance in nautical miles. Depth is shown if the contact vessel is another submarine. The sonar contact's approximate Heading (the direction it's going) and the Speed in knots are also given.

This information is updated sonar. It may be necessary to verify the data with visual sightings (use the periscope).

When there's a large number of sonar contacts on-screen, the Sonar Information data can be scrolled up and down by clicking on the up and down arrows at the left of the Window.

Active - Click the icon for an Active Sonar signal. (The word "Ping" will appear in the message window to let you know that active sonar is enabled). This gives an accurate sonar picture for assessing targets.

Warning: Active Sonar tells the ships on the receiving end of your signal that a potentially hostile sub is near (and may give those ships a fix on your Bearing!).

Terrain - Click on this icon to get a small window that shows you a cross-section of the sea bed. This Terrain Map is valuable in that it can help you to avoid unpleasant collisions with the ocean floor. Keep in mind, when viewing the Map, that you are seeing it as though you were outside the Red October. Using the mini-icons to the right of the Terrain Map will allow you to magnify the view.

Note: If you hit the ocean floor, you will incur damage to your sub. On the fifth collision with the ocean floor, you will be sunk.

Hydrophonics - Click on this icon to see the Hydrophonics Windows. Hydrophonics work best when the sub is stopped. It won't work well if you are using the Propeller Drive, since you'll keep picking up your own engine noises. Click on a target ship's data (A, B, etc.) in the Sonar Window to get a picture of it's sonar signal in the Hydrophonics Window. Use the up and down arrows to match the target ship's signal with one from your library signals.

Exit - Click here to return to the previous level of icons.

ENGINES

Click on this icon to select the Red October's propulsion method.

Nuclear - Nuclear power gives you the fastest speeds. However, after game day 12, the nuclear power plant is shut down (this is part of the defection plan).

Diesel - Diesel power is noisier than nuclear; but, after you lose the nuclear power plant, diesel is all you have.

Caterpillar Drive - The Caterpillar Drive uses impellers rather than propellers. The sub sucks water in through the bow and the impellers eject it from the stern, thereby moving the boat very quietly, but also very slowly.

Propeller Drive - Propellers drive the boat faster than the Caterpillar Drive does. When the propellers turn at high speed, they develop an area of low pressure behind the trailing edge of the blade. This low pressure area collapses, water rushes forward against the blade, and lots of noise results (you're leaving a trail for hunters).

Exit - Click here to return to the previous level of icons.

WEAPONS

Click on the Weapons icon to call up the options for doing battle. Torpedoes are the only weapons the Red October has at her disposal. Use the Sonar Information Window or the Attack Scope to select targets.

Torpedoes - This icon shows the status of RO's four torpedo tubes; 1 and 2 are forward tubes, 3 and 4 are aft.

The first number shows which tube is selected; the second number tells how many torpedoes are in that tube. Click on the icon to change tubes.

Manual Override - The Manual Override bypasses automatic control of torpedo launching and lets you set the heading and elevation of each torpedo. Don't set the angle too steep, or the target might spot your torpedo soon enough to take evasive action.

To change the torpedo's Heading, click on the arrows on either side of the gauge; the readout beneath shows the exact Heading. Click on the up and down arrows to change the torpedo tube's elevation; the readout beneath shows the current angle.

Fire - Click here to fire torpedoes. You can launch one torpedo at a time from each tube.

Note: This is noisy and can give away your position.

Lay Flak - This lets you lay electronic decoys to deflect and confuse incoming enemy fire. Of course, laying flak also creates noise that can give away your position.

There is enough ammunition in your flak stores for eight uses of this decoy.

Exit - Click here to return to the previous level of icons.

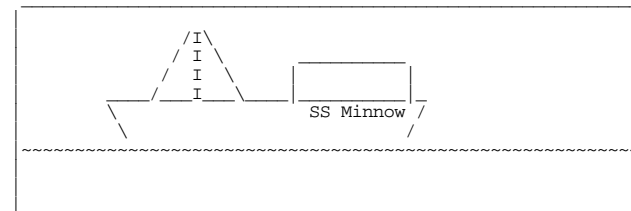
SCOPE

Click on this icon to activate the periscope options. You can only use the periscope when at the proper depth (no more than 24 meters).

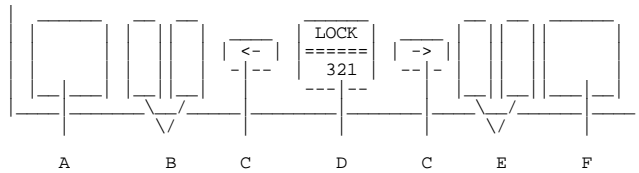
Note: Using the periscope makes it easier for Red October to be detected by other ships.

Search - Click on this to get a periscope view of the horizon. Click on the left and right arrows in the Control Panel to rotate the Scope for a better view of your surroundings.

With the periscope up, you get a Control Panel beneath the Main Display:



Okay, so Dark Prophet has no worries...



- | | |
|--|--|
| A - Noise made by Red October | D - Periscope Heading |
| B - Power left in the sub's batteries | E - Air levels in the compressor |
| C - Arrows for rotating the Scope
Left or Right | F - Incoming signals
(Check Message Window) |

Lock - Button for locking onto target ships.

Attack - Click on the Attack Scope icon to see the Attack Sights in the Main Display.

To use the Control Panel to lock onto a target vessel, you must first have the target in your sights (it doesn't have to be in the Sonar Information Window). If more than one ship is in your sights, you'll lock onto the one closest to you.

Click on the LOCK button and the target ship's co-ordinates are fed to the Fire Control System (check the Sonar Information Window for this data). Select the Torpedoes and the current Torpedo tube will have these co-ordinates.

Note: You lock onto co-ordinates, not ships! If you want to be sure to hit the ship, you'll have to fire while it's still in the co-ordinates where you first sighted it.

Night - Click here to use the latest image intensification technology for visual references at night.

If your Scope is up and the entire screen is white, this means it's daytime and your night enhancement is turned on!

E.S.M. - The Electronic Surveillance Monitor (E.S.M.) allows interception of any messages being transmitted between ships. It updates you on fleet positions on the Atlantic Map and may also give useful info about enemy intentions during the hunt or rendezvous.

Exit - Click here to return to the previous level of icons.

MAPS

Click on this icon to toggle between the Atlantic Map (a view of the entire game area) and the Contour Map.

This won't turn on the Contour Map if you've turned it off from the Main Control Panel using the CONTOUR/SONAR button.

OVERALL STRATEGY & TACTICS

While stealth is vital, failure to make headway early will result in major troubles. Fortunately, RO has an advantage over it's rivals. The Caterpillar Drive provides silent, virtually undetectable movement. The drawback? Using the Caterpillar Drive reduces the RO's speed by two-thirds.

Extended use of the diesel back-up engines increases the need to surface and recharge the batteries. This increases the risk of discovery. Another risk

is being attacked, an event which is quite likely.

And don't forget not to raise the suspicions of the crew. To journey too far from the course outlined in the mission "orders" will cause concerned questions from your navigation officer and may result in your being relieved of command (mutiny!).

NAVIGATION

Figuring out how to get from Iceland to the Eastern Seaboard of the United States is your navigational challenge. Do you head directly south, or do you go north, first, to throw your pursuers off track? It's up to you.

The North Atlantic Map shows approximate positions of all fleets in relation to the RO.

The Contour Map helps you negotiate the complex valleys of the Reykjanes Ridge, the main route for Soviet Ballistic Missile subs heading for the open Atlantic. This Ridge is where Red and US attack subs constantly lurk.

You can superimpose the Sonar Map over the Contour Map for a more complete picture of who's in the area.

Using these three Maps together, you can plan the safest route to your objective.

EVASION

Both the U.S. and the Soviet navies have sophisticated sensing devices. There is a way to avoid these (or at least confuse them): sail through obstacles which block the devices' sensors: rocks, ranges, and reefs.

Note: The RO's hull is extremely sensitive, so be careful not to run into anything! After five collisions with the ocean floor the RO is sunk!

Despite the RO's new hull design and the anechoic (noise-absorbing) tiles, it is not immune from sonar (even with the Caterpillar Drive on). Ships and aircraft carry sophisticated beacons that can find the most silent sub. And these vessels, planes, and choppers are also armed with the means of destroying whatever their sonar finds.

Hint: Because of the limitations of passive sonar, it's possible a sub could track RO without your realizing it. How do you check for silent tails? The "Crazy Ivan" is the best method. The Crazy Ivan is a 360 degree turn which lets your passive sonar pick up on practically anything within sonar range.

UNDER ATTACK

Typical Anti-Submarine Warfare (ASW) engagements have several stages.

First, the hunter seeks his quarry. It's likely that the search will be confined to passive sensors, aided by satellite or sea bed sensors. Once contact is made, your sub's classification is determined. The acoustic signature of the target (e.g., sub type, defense systems, etc.) is compared with those in the hunter's data banks. The hunter then moves into an attack position (within about six miles - roughly half a torpedo's range).

If the attack is a success, you're sunk. If not, you can run for it, play "possum", or return fire.

USUAL ATTACK WEAPONS

One of the oldest anti-sub weapons is the torpedo. Aircraft, surface ships, and other subs carry these. The RO (or any other nuclear sub) can outrun torpedoes if there's enough time to react. Some torpedoes don't give much warning, however. These torpedoes are delivered to the target via rocket-launchers. After parachuting into the sea, these "fish" quickly home in on their targets.

You can use electronic decoys to fool torpedoes. These simulate prop and general sub noise and are towed about 400 yards behind. Hopefully, the torpedo will hit the decoy instead of you.

A riskier proposition is to head for the torpedo! This only works if your within 1000 meters of the launching vessel. A fish doesn't have time to arm itself within that distance. Thus, if you ram it, it won't explode.

Another traditional anti-submarine weapon is the depth-charge. They're very accurate! If you find yourself under depth charge attack, take evasive action immediately (leave!).

Ship-launched missiles are another threat, though they're not as accurate as torpedoes and depth charges (unless, of course, you're on the surface; in which case you're a sitting duck). The best defense against a missile attack is to dive deeper.

There is also danger from mines. The hydrophonics officer keeps you posted of mine fields.

The threat from the air can be the most dangerous since aircraft are hard for subs to detect or defend against. Jets, helicopters, and prop planes carry plenty of search AND destroy equipment.

ON THE OFFENSIVE

RO's defenses are limited to four torpedo tubes. Her torpedo range is 10-12 nautical miles, though chances of a hit are best at about six miles. While acoustic torpedoes can be targeted via sonar bearings from the Fire Control Computer, you can also carry out traditional periscope-view assaults. If torpedoes are set for manual override, you'll have to guesstimate the target vessel's course in relation to the trajectory of the torpedo.

Hint: Try a "noisy sprint" at a target, followed by a silent drift. This may sneak the RO into a good strike position.

Note: If you attack a US ship, naturally, they'll sink you! If you fire on the Soviets or they fire on you while you're in range of US vessels, the US may join the Reds in a seek-and-destroy mission against you, thinking you're a renegade ship with the potential for instigating a nuclear war.

END OF THE GAME

Whether the Red October is destroyed or you succeed in your mission, you'll get a news report on your computer screen that lets you know exactly what happened.

Be sure to call...

Ethereal Dimension Exclusive - Soft-Sect homebase - 9600/104mg. - 301-529-6418
 Magnetic Page - Soft-Sect subsidiary - 9600/80mg. - 312-966-0708

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DOCUMENT rescue.fractlus

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Rescue on Fractalus

Flight Training

Manual

Issued by Black Cat
 Distributed by Sam Houston

Galactic Command has sent out hundreds of probe craft in serch of life in the universe. These probes have gone to every corner of the galaxy. Some have found barren worlds, others have found advanced civilizations. Some never returned...Being one of the hot shot fliers in your squadron you were selected to help carry out the search for the lost pilots of the probes. The exclesior craft (your ship) are the best equiped search ships around. Let's take a look at the controls of the ship you will soon fly...

On your console keyboard you have these keys to use. L==>Execute landing sequence S==>Main systems off/on A==>Airlock open/close B==>Ignite orbital booster rockets Ctrl-S==>Sound system on/off Ctrl-R-Abort your mission Esc key==>Pauses the mission Left & right arrow keys==>Throttle Left arrow key==>Select level (before the mission begins)

On your control column (joystick) you have these controls to use. Stick==>Flight direction Button 0==>Fire photon cannons Button 1==>Start/stop landing sequence and power up systems for flight.

Your instrument panel dispalys a great deal of information in a small amount of space. Let's examine it in further detail.

There are 3 quadrants to it. Quadrant 1 displays your throttle position, it is a very good indication of speed because your ship responds well to the engines. It also gives you a warning when the ship gets too close to the ground. The second quadrant (center) displays positional status and general performance. You have an artificial horizon indicator labled "AH" to show the ship's attitude when you are flying "blind" like at night or when the ground is not visible. There are two red bars at the top of the quadrant to indicate the distance to mountains. the larger the bars the farther the obstruction. They are incuded due to limited sideways visibility. Next you have your altitude guage which is labled "A". The purple bar shows your ships altitude from the ground. The orange bar indicates distance to large mountains directly in your flight path. Use it to avoid slamming into a steep mountain. In the center you have a screen, this screen shows when a target is centered on the sunights and when you are heading toward a pilot's ship. Use this screen to determine what that point of light is in the distance. Is it a friend or foe ? Now, to the right of that screen is another bar graph, this important indicator is labled "E", the bar indicates your energy level. It starts flashing red when you run low on fuel, pay attention to it! Below the screen you have a set of lights. Those lights tell the condition of the ship's systems, they are not too important for immediate attention. The last thing in the center quadrant is the long range radar scope. It picks up the emergency beacons from stranded ships. It plots the friendly ships relative to you, with you being at the bottom of the scope. Its range is about 9 units. That is near the visual limit. It will not pick up enemy installations due to clever jamming techniques. The last quadrant is on the right. This section gives you mission data. There are three indicator lights at the top. One tells when your ship has made contact with the ground. The second light flashes on when your base is near enough for docking. And the

'C' you will see directly below the radar your fuel line. Check this occasionally because your fuel diminishes quickly. Remember that if you run out of anything you can always replenish your supply.

Price List

| Item | Prices | Maximum No. on screen | Can be destroyed by: | Can Destroy: |
|--------------------|-------------------------|-----------------------|---|-------------------------------|
| Armored Vehicle | 3 small bags | Seven | Men, Tanks, Electricians, Bombs, Bullets | Heli-copters |
| Demolition van | 2 small bags | Five | Men, Tanks, Electricians, Bombs, Bullets | Enemy Base |
| Heli-copter | 5 large bags | One | Everything | Everything but Base & Turrets |
| Men & Electricians | 1 large and 1 small bag | Thirty Five | Tanks, bombs, Men, Bullets, Bombs, Tanks, Bullets | Armored Vehicles, Vans, Men |
| Tanks | 1 large bag | Five | Tanks, Bombs, Bullets | Everything but Base |
| Gun Turrets | ----- | ----- | Tanks | Heli-copters |
| Tactical Stations | ----- | ----- | Bullets, Bombs | Heli-copters |

Purchasing Items:

To buy an item, any item, just press the letter you wish at any time. Obviously as you buy more items you lose more money. You should always keep track of how much money you have.

Description of items:

Armored Vehicles-

These have one guided missile on them and use it as soon as the enemy helicopter comes within range. Although the missile doesn't always hit the enemy you stand a good chance. The problem with these is that they can only be used once each.

Demolition Vans-

You need to get one of these to the enemy's base to win. Make sure that you have plenty of tanks around it because they can be destroyed by anything.

Electricians-

They are exactly like men, but if you let them walk to one of your turrets, they will repair it as long as they are not attacked while they are doing it.

Men-

Men are deployed in groups of five and then can be picked up by

landing near them and letting them walk into your helicopter. Then by hitting the space bar while in the air you make them parachute out. (Note: You may only carry five men at a time and when you release them some may not open their parachute).

Tactical Stations-

These stations lie on six different parts of the screen. The first three are yours and the others are the enemy's. These act like exterior defenses in such that if the enemy's helicopter crashes into one of your stations it explodes. The same thing happens if you crash into his. To take over a station drop off one of your men and he will enter the station. To simply destroy it shoot the balloon-like object a couple of times or simply blow up the building with plenty of bullets or bombs.

Tanks-

Probably the most effective item that you have but you can only have five on the screen at once.

Turrets-

There are four of these on the screen two belonging to you and the other two to him. You must destroy these before your helicopter can get past. Tanks are the only things that can destroy these so send them out first.

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DOCUMENT ringside.seat

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((((((((((((((((((((((((((((((((
)
) RINGSIDE SEAT SOFT-DOX (APPLE VRS) )
)
) WRITTEN BY )
)
) THE PENGUIN )
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STARTING A GAME

WHEN YOU BOOT THE RINGSIDE SEAT DISK YOU WILL BE GIVEN THE FOLLOWING OPTIONS:

(P) PLAY A GAME (E) ENTER/REVISE/LIST FIGHTER DATA (I) INITIALIZE A DISK FOR SAVING FIGHTERS

SELECTING OPTION P WILL FIRST PROMPT YOU FOR THE MODE OF PLAY. YOU MAY HAVE THE COMPUTER MANAGE EITHER, NEITHER OR BOTH BOXERS. APPLE OWNER MAY CHOOSE EITHER THE KEYBOARD OR PADDLE INPUTS. IF YOU HAVE SELECTED ANY OTHER ITEM THAN DEMO MODE THE COMPUTER WILL NEXT ASK YOU TO ENTER THE NAME-DIVISION OF THE TWO CONTESTANTS (THE NAME AND DIVISION FOR EACH FIGHTER CAN BE FOUND BY USING OPTION E). THE DIVISION IS A TWO-LETTER CODE REPRESENTING THE WEIGHT CLASS OF THE FIGHTER. BE SURE TO SEPARATE THE NAME AND DIVISION OF EACH FIGHTER WITH A DASH (-).

AS AN EXAMPLE YOU MIGHT ENTER LOUIS-HW. AFTER YOU HAVE SELECTED THE TWO FIGHTERS YOU WILL BE ASKED TO ENTER THE NUMBER OF ROUNDS YOU WISH FOR THE CURRENT FIGHT. ENTER A NUMBER BETWEEN 3 AND 15 INCLUSIVE. SHOULD EITHER FIGHTER HAVE THE ABILITY TO FIGHT AS EITHER A BOXER OR SLUGGER, YOU WILL BE PROMPTED FOR THE STYLE YOU WISH THE FIGHTER TO USE DURING THIS FIGHT (ONCE A STYLE IS SELECTED IT CANNOT BE ALTERED DURING THE FIGHT). YOU WILL THEN BE ASKED IF YOU PREFER TO HAVE THE CUMULATIVE JUDGES' SCORES DISPLAYED WHILE THE FIGHT IS IN PROGRESS (EITHER WAY THE JUDGES' ROUND BY ROUND SCORES WILL BE GIVEN UPON THE CONCLUSION OF THE FIGHT).

PLAYING THE GAME

IN THE GAME, BOTH MANAGERS SELECT THEIR FIGHTER'S STRATEGY EACH ROUND. ONCE A STRATEGY FOR A ROUND IS SELECTED, THAT STRATEGY IS EMPLOYED FOR THE ENTIRE ROUND WITH ONE EXCEPTION:

A FIGHTER MAY OPT TO COVER UP DURING A ROUND IN ORDER TO AVOID BEING KNOCKED OUT (FOLLOWING A DEVASTATING PUNCH OR A KNOCKDOWN, THE FIGHTER BEING HIT MAY NOT COVER UP UNTIL THE AGGRESSOR'S "FOLLOWING UP" SEQUENCE IS COMPLETED). IF YOU WISH TO COVER UP, AND PADDLE CONTROL HAS BEEN REQUESTED (APPLE ONLY), PUSH THE BUTTON UNTIL THE COVER UP STRATEGY IS DISPLAYED. IF THE KEYBOARD IS BEING USED, PRESSING THE "Z" FOR FIGHTER #1 OR THE "/" FOR FIGHTER #2 WILL CAUSE THE FIGHTER TO COVER UP.

ONCE BOTH MANAGERS HAVE SELECTED THE STRATEGY FOR THEIR FIGHTER, THE ROUND BELL WILL RING AND THE TWO FIGHTERS WILL APPROACH RING CENTER.

THE DISPLAY

DISPLAYED ON THE SCREEN WHILE THE FIGHT IS IN PROGRESS ARE THE

FIGHTERS' NAMES, THE ROUND CLOCK, THE STRATEGY OF EACH FIGHTER, THE ROUND NUMBER, THE CUMULATIVE JUDGES' SCORES IF SELECTED, THE PERCENTAGE OF STAMINA REMAINING, AND A REPRESENTATION OF THE BOXING RING. THE TOP OF THE SCREEN IS USED TO ANNOUNCE THE BEGINNING OF EACH ROUND, AND ALSO TO DESCRIBE ANY RING MOVEMENT OF THE FIGHTERS. THE BOTTOM HALF IS USED FOR COLOR COMMENTARY AND A DESCRIPTION OF THE BLOW-BY-BLOW ACTION TAKING PLACE IN THE RING.

THE SCORING SECTION, BASED ON THE "10 POINT MUST" SCORING SYSTEM, SHOWS THE CUMULATIVE ROUND-BY-ROUND SCORES BY JUDGE 1 (J1), JUDGE 2 (J2), AND JUDGE 3 (J3). THE CUT, INJURY AND CONDITION SECTION SHOWS ANY CUTS, INJURIES OR OTHER CONDITIONS SUSTAINED BY THE FIGHTERS DURING THE FIGHT. THE BOXING RING DISPLAY PROVIDES A VISUAL INDICATION OF THE POSITION OF THE FIGHTERS THROUGHOUT THE FIGHT.

DISPLAYED ABOVE EACH FIGHTER'S NAME BEFORE THE BOUT BEGINS ARE TWO NUMBERS (e.g. 2/1). THE FIRST NUMBER INDICATES HIS ABILITY VS A BOXER AND THE SECOND NUMBER INDICATES HIS ABILITY VS A SLUGGER.

THE STRATEGY SELECTION INPUTS FOR EACH FIGHTER WILL APPEAR AT THE BOTTOM OF THE SCREEN AT THE BEGINNING OF EACH ROUND. IMMEDIATELY FOLLOWING EACH STRATEGY IS A NUMBER REPRESENTING HOW WELL A FIGHTER EMPLOYS THE PARTICULAR STRATEGY (THIS NUMBER MAY BE REDUCED AS STAMINA IS USED UP, AND A FIGHTER BEGINS TO TIRE). SELECTING A STRATEGY BY PADDLE IS DONE BY TURNING THE PADDLE KNOB UNTIL THE DESIRED STRATEGY IS DISPLAYED. PUSHING THE PADDLE BUTTON LOCKS IN THE CHOICE, AND THAT IS THE STRATEGY USED DURING THAT ROUND. SELECTING A STRATEGY BY KEYBOARD IS DONE BY TYPING THE NUMBER ASSOCIATED WITH THE DESIRED STRATEGY:

- 1 - FLAT FOOTED
- 2 - COVER UP
- 3 - CHARGE IN
- 4 - STICK & MOVE
- 5 - STAY AWAY
- 6 - GO FOR KO
- 7 - PROTECT CUTS

PRESSING THE [RETURN] KEY WILL LOCK IN THE CHOICE AS THE DESIRED STRATEGY FOR THE UPCOMING ROUND.

STRATEGY ACTIONS

THE FOLLOWING IS A DESCRIPTION OF EACH OF THE SEVEN STRATEGIES AVAILABLE TO EACH FIGHTER EACH ROUND.

- 1 - FIGHT FLAT FOOTED

FIGHT FLAT FOOTED ALLOWS A FIGHTER TO REST DURING A ROUND. HIS ABILITY TO CONTROL THE FIGHT, HIS AGGRESSIVENESS, AND HIS DEFENSE ALL SUFFER AND HE BECOMES A MUCH EASIER TARGET WHILE USING THIS STRATEGY.

- 2 - COVER UP

COVER UP IS USUALLY USED AFTER SUSTAINING CONSIDERABLE PUNISHMENT. THIS IS THE ONLY STRATEGY WHICH MAY BE CHANGED DURING THE ROUND (SEE PLAYING THE GAME). COVER UP CONSIDERABLY REDUCES THE FIGHTER'S ABILITY TO LAND A PUNCH AND TO CONTROL THE ACTION. IT CAN ALSO CAUSE THE OPPONENT'S PUNCHES TO BE PARTIALLY BLOCKED. USE THIS STRATEGY IF YOU FEAR A KNOCKOUT IS IMMINENT IN THE ROUND, OR IF YOU WANT THE OPPONENT TO PUNCH HIMSELF OUT.

SOME OF HIS ABILITY TO USE HIS STRATEGIES. EMPLOYING A STRATEGY WHEN THAT STRATEGY RATING IS LESS THAN 2 MAY BE MORE OF A HINDERANCE THAN A HELP.

SOLITAIRE PLAY

IF YOU ARE IN NEED OF AN OPPOSING MANAGER AND NO ONE IS AVAILABLE, ANGELO, THE COMPUTER BOXING MANAGER WILL BE GLAD TO COACH THE OTHER FIGHTER. SIMPLY SELECT THE APPROPRIATE OPTION ON THE "COMPUTER CONTROL MENU" AND THE COMPUTER WILL SET THE STRATEGIES FOR THE FIGHTER(S) YOU TOLD IT TO MANAGE.

STATUS AND CONDITION

IT IS POSSIBLE FOR A FIGHTER TO BE CUT OR SUFFER EXCESSIVE PUNISHMENT IN A ROUND. SHOULD ONE OF THE ABOVE OCCUR, IT WILL BE DISPLAYED IN THE SECTION DIRECTLY BELOW THE NAME OF THE FIGHTER SUSTAINING THE CUT OR PUNISHMENT. THE ACTUAL DISPLAY OF CUT STATUS VARIES ON EACH COMPUTER AS FOLLOWS:

- 1) A CUT IS SAID TO BE BLEEDING WHEN IT IS BORDERED IN RED.
- 2) A CUT IS SAID TO BE EXTRA DEEP OR WORSENERD WHEN IT IS DISPLAYED IN INVERSE.
- 3) A CUT IS SAID TO BE CLOSED WHEN IT IS IN NORMAL TYPE (NOT BORDERED).

ENTERING AND REVISING FIGHTER DATA

OPTION E -
ON THE STARTUP MENU PROVIDES THE OPTIONS OF:

C: CHANGING EXISTING FIGHTERS' DATA.

A: ADDING NEW FIGHTERS

R: RETURNING TO THE MAIN MENU

L: LISTING THE FIGHTERS ON DISK

O: OMITTING EXISTING FIGHTERS

OPTION C
ALLOWS YOU TO REVISE THE ENTRIES FOR AN EXISTING FIGHTER. THIS FEATURE PERMITS THE CORRECTION OF ERRONEOUS ENTRIES, OR THE MODIFICATION OF ACTUAL FIGHTER STATISTICS TO EXPLORE "WHAT IF?" POSSIBILITIES. FIGHTERS ON THE GAME DISK CANNOT BE CHANGED; HOWEVER, YOU MAY ADD THEM TO YOUR DISK AS NEW FIGHTERS AND ALTER THEIR PARAMETERS.

OPTION A
PROVIDES THE ABILITY TO ENTER AND SAVE FIGHTER DATA FOR ANYONE IMAGINABLE - FROM THE GREATEST FIGHTERS OF THE PAST AND PRESENT, TO YOU AND ALL OF YOUR FRIENDS.

OPTION R
WILL RETURN YOU TO THE MAIN MENU.

OPTION L
ALLOWS YOU TO LIST ALL OF THE FIGHTERS, OR JUST THOSE IN A PARTICULAR WEIGHT CLASS. IT ALSO ALLOWS YOU TO REVIEW THE PARAMETERS FOR ANY FIGHTER ON THE LIST. THIS IS DONE BY ENTERING THE NUMBER NEXT TO THE FIGHTER'S NAME.

OPTION O

3 - CHARGE IN

CHARGE IN IS USUALLY USED IN AN ATTEMPT TO INFLICT UNUSUAL PUNISHMENT, AND SCORE POINTS QUICKLY. THE DEFENSE OF A FIGHTER USING THIS STRATEGY IS REDUCED, AND THEREFORE MAY MAKE HIM EASIER TO HIT. ONCE CONTROL OF THE ROUND IS GAINED, HOWEVER, IT IS MORE EASILY MAINTAINED. USE THIS STRATEGY EARLY IN A FIGHT TO WEAR THE OPPONENT DOWN. IT IS ALSO SOMETIMES USED IN LATE ROUNDS IN ORDER TO CATCH UP AND WIN A CLOSE DECISION. A FIGHTER MAY NOT USE THIS STRATEGY IF HE HAS NO STAMINA REMAINING. THIS STRATEGY MAY NOT BE USED MORE THAN FOUR ROUNDS IN SUCCESSION. ONCE A DIFFERENT STRATEGY HAS BEEN USED FOR AN ENTIRE ROUND, YOU MAY AGAIN USE "CHARGE IN" FOUR MORE TIMES IN A ROW. NOTE THAT USING "COVER UP" WHILE A ROUND IS IN PROGRESS DOES NOT SATISFY THE CONDITION THAT ALLOWS THE USE OF "CHARGE IN" FOUR MORE TIMES.

4 - STICK & MOVE

STICK & MOVE IS USED WHEN TRYING TO MAINTAIN RING GENERALSHIP, WHILE AT THE SAME TIME AVOIDING THE OPPONENT'S POWER AND REDUCING HIS CHANCE TO SCORE. THIS ADDED DEFENSE IS ATTAINED AT THE EXPENSE OF PUNCHING POWER. USE THIS STRATEGY EARLY IN A FIGHT TO AVOID THE OPPONENT'S POWER WHILE HE IS WELL RESTED, OR AFTER A ROUND IN WHICH YOU SUFFERED MODERATE PUNISHMENT. THIS WILL ALLOW YOU TO RECOUP SOME STRENGTH WHILE NOT LOSING MUCH CONTROL. A FIGHTER MAY NOT USE THIS STRATEGY IF HE HAS NO STAMINA REMAINING. THIS STRATEGY MAY NOT BE USED MORE THAN FOUR TIMES IN SUCCESSION (REFER TO "CHARGE IN" FOR RESTRICTIONS REGARDING THIS RULE).

5 - STAY AWAY

STAY AWAY USUALLY IS USED WHEN ULTIMATE DEFENSE OR COUNTER-PUNCHING IS DESIRED. THIS STRATEGY CAUSES THE FIGHTER'S PUNCHES TO LAND WITH MUCH LESS STING, BUT IT ALSO REDUCES THE CHANCE OF BEING KNOCKED DOWN. USE THIS STRATEGY AFTER A PUNISHING ROUND NOT QUITE BAD ENOUGH TO DICTATE COVERING UP. ALSO USE THIS STRATEGY IN LATE ROUNDS WHEN YOU ARE WAY AHEAD IN POINTS.

6 - GO FOR THE KNOCKOUT

GOING FOR THE KNOCKOUT IS USED IN AN EFFORT TO GET THE FIGHT OVER EARLY, OR TO PUT AWAY THE OPPONENT AFTER A GOOD OFFENSIVE ROUND, OR LATE IN THE FIGHT WHEN NO HOPE IS LEFT FOR A DECISION. THIS STRATEGY, WHEN USED EARLY, GIVES THE FIGHTER A MUCH GREATER CHANCE TO SCORE. WHEN USED LATE IN A FIGHT, THE FIGHTER'S CHANCE FOR A KNOCKDOWN IS SOMEWHAT IMPROVED, WHILE AGAIN INCREASING THE OPPONENT'S CHANCE TO LAND A PUNCH, AND TO SCORE A KNOCKDOWN OF HIS OWN. USE THIS STRATEGY EARLY, IF THE FIGHTER HAS A GOOD KNOCKOUT PUNCH RATING, AND LATE TO TRY TO SALVAGE VICTORY FROM AN OTHERWISE SURE LOSS.

7 - PROTECT CUTS

PROTECT CUTS IS USED WHEN TRYING TO PROTECT CUTS WHICH COULD BE BAD ENOUGH TO STOP A FIGHT (YOU WILL HAVE TO USE YOUR JUDGEMENT ON WHEN YOU THINK THEY ARE VERY BAD). THIS STRATEGY CAN ALSO BE USED TO TRY AND PREVENT CUTS FROM GETTING ANY WORSE. THIS STRATEGY CAUSES HEAD BLOWS TO BE BLOCKED MORE EASILY, BUT AT THE SAME TIME OPENS UP THE FIGHTER FOR MORE SHOTS TO THE BODY. YOU WILL ALSO LOSE SOME ABILITY TO CONTROL THE ACTION IN THE ROUND.

NOTES ON STRATEGIES

REMEMBER THAT AS STAMINA DECREASES, SO DOES THE ABILITY TO UTILIZE STRATEGIES. SOME STRATEGIES ARE NOT USABLE IF A FIGHTER BECOMES TOO TIRED. IF THE FIGHTER CAN MANAGE TO REST DURING A ROUND, HE MAY BE ABLE TO REGAIN SOME STAMINA. IF HE REGAINS ENOUGH, HE MAY ALSO REGAIN

WILL ALLOW YOU TO REMOVE A FIGHTER FROM YOUR DISK IF YOU NO LONGER WISH TO KEEP THE FIGHTER'S PARAMETERS.

WHEN ENTERING DATA FOR A NEW FIGHTER YOU WILL BE PROMPTED FOR EACH ENTRY REQUIRED. THIS DATA CONSISTS OF THE FOLLOWING:

NAME

A FIGHTER'S NAME REFERS TO HIS LAST NAME. THIS CANNOT EXCEED 10 CHARACTERS.

OVERALL RATING THIS ENTRY INDICATES THE FIGHTER'S OVERALL ABILITY ON A SCALE OF 1 TO 10, 10 BEING THE BEST (7 = AVERAGE).

DIVISION

THIS IS THE DIVISION THE FIGHTER FIGHTS IN. THIS IS USED AS THE DIVISION WHEN ENTERING FIGHTERS FOR A FIGHT.

VALID DIVISIONS ARE:

BW - BANTAMWEIGHT

FW - FEATHERWEIGHT

JL - JUNIOR LIGHTWEIGHT

LW - LIGHTWEIGHT

WW - WELTERWEIGHT

MW - MIDDLEWEIGHT

LH - LIGHT HEAVYWEIGHT

HW - HEAVYWEIGHT

FIGHTER STYLE - THIS ENTRY INDICATES WHAT STYLE A FIGHTER USES. VALID STYLES ARE B FOR BOXER, S FOR SLUGGER, B/S FOR BOXER OR SLUGGER. A BOXER IS NORMALLY AT SUCH THINGS AS STICKING & MOVING AND DEFENSE, WHEREAS A SLUGGER IS USUALLY STRONGER AND BETTER AT CHARGING IN.

ABILITY VS BOXER - THIS ENTRY REFLECTS HOW WELL THE FIGHTER EMPLOYS HIS PARTICULAR ABILITIES VS A BOXER STYLE FIGHTER ON A SCALE OF -3 TO +3: +3 BEING THE BEST, -3 BEING THE WORST, AND 0 SHOWING NO DISTINCT ADVANTAGE OR DISADVANTAGE.

ABILITY VS SLUGGER - THIS ENTRY WORKS THE SAME AS ABILITY VS BOXER EXCEPT IT APPLIES TO A SLUGGER STYLE FIGHTER.

ABILITY TO FOLLOW UP - THIS ENTRY REFLECTS HOW WELL A FIGHTER FOLLOWS UP, AND ATTEMPTS TO PUT HIS OPPONENT AWAY AFTER HURTING HIM. IT IS BASED ON A SCALE OF 1 TO 11, 11 BEING THE BEST (7 = AVERAGE).

ABILITY TO CUT HIS OPPONENT - THIS ENTRY IS AN INDICATION OF HOW MUCH A FIGHTER CUTS HIS OPPONENT ON A SCALE OF 1 TO 10, 10 BEING THE MOST (4 = AVERAGE).

ABILITY TO CHARGE IN - THIS ENTRY INDICATES HOW EFFECTIVE A FIGHTER IS AT USING HIS CHARGE IN STRATEGY. IT IS BASED ON A SCALE OF 1 TO 5, 5 BEING THE BEST (3 = AVERAGE).

ABILITY TO STICK & MOVE - THIS ENTRY WORKS EXACTLY LIKE ABILITY TO CHARGE IN EXCEPT IT APPLIES TO STICK & MOVE.

ABILITY TO COVER UP - THIS ENTRY WORKS LIKE THE ABOVE EXCEPT IT APPLIES TO COVER UP.

ABILITY TO STAY AWAY - THIS ENTRY WORKS LIKE THE ABOVE EXCEPT IT APPLIES TO STAY AWAY.

ABILITY TO GO FOR THE KNOCKOUT - THIS ENTRY WORKS LIKE THE ABOVE EXCEPT IT APPLIES TO GO FOR THE KO.

ABILITY TO PROTECT CUTS - THIS ENTRY WORKS LIKE THE ABOVE EXCEPT IT APPLIES TO PROTECT CUTS.

ABILITY TO TAKE A PUNCH - THIS ENTRY INDICATES HOW WELL A FIGHTER STANDS UP UNDER A DEVASTATING PUNCH OR A BARRAGE OF LIGHTER PUNCHES ON A SCALE OF 1 TO 5, 1 BEING THE BEST (3 = AVERAGE).

ABILITY TO TAKE A PUNCH WHEN ALREADY HURT - THIS ENTRY INDICATES HOW WELL A FIGHTER STANDS UP TO A DEVASTATING PUNCH OR A BARRAGE OF PUNCHES IF HE HAS ALREADY BEEN HIT, ON A SCALE OF 0 TO 5, 0 BEING THE BEST (2 = AVERAGE). THIS NUMBER IS INDEPENDENT OF ABILITY TO TAKE A PUNCH.

ABILITY TO AVOID BEING KNOCKED OUT - THIS ENTRY IS REFLECTIVE OF HOW EASILY THE FIGHTER IS KO'D ON A SCALE OF 1 TO 10, 1 BEING THE HARDEST TO KO (4 = AVERAGE).

ABILITY WHEN TRAPPED - THIS ENTRY INDICATES HOW A FIGHTER IS AFFECTED WHEN HE IS TRAPPED AGAINST THE ROPES OR IN A CORNER. IT ALSO REFLECTS HIS ABILITY TO WORK HIMSELF FREE FROM ONE OF THESE SITUATIONS. IT IS BASED ON A RANGE OF 10 TO 34. THE FIRST DIGIT INDICATES HOW GOOD HE IS AT GETTING FREE: 3 BEING VERY GOOD, 2 BEING FAIR, AND 1 BEING POOR. THE SECOND DIGIT REFLECTS HIS ABILITY WHILE TRAPPED: 0 BEING EXCELLENT, 1 BEING GOOD, 2 BEING AVERAGE, 3 BEING POOR, AND 4 BEING VERY POOR.

ABILITY TO ABSORB PUNISHMENT - THIS ENTRY INDICATES HOW MUCH PUNISHMENT A FIGHTER CAN TAKE OVER AN EXTENDED PERIOD OF TIME, BASED ON A SCALE OF 1 TO 5, 1 BEING THE BEST (3 = AVERAGE).

ABILITY TO NOT GET CUT - THIS ENTRY REFLECTS HOW EASILY A FIGHTER IS CUT BASED ON A SCALE OF 1 TO 10, 10 BEING CUT THE MOST (4 = AVERAGE).

STRENGTH RATING - THIS ENTRY INDICATES HOW STRONG THE FIGHTER IS, AND HOW HARD HE THROWS PUNCHES BASED ON A SCALE OF 1 TO 12, 12 BEING THE STRONGEST (7 = AVERAGE).

QUICKNESS RATING - THIS ENTRY IS AN INDICATION OF THE FIGHTER'S FOOTSPED, DEFENSE ABILITY, AND COORDINATION BASED ON A SCALE OF -9 TO +9, -9 BEING THE QUICKEST (0 = AVERAGE).

STAMINA RATING - THIS ENTRY INDICATES HOW LONG A FIGHTER CAN GO BEFORE TIRING OUT. AS HIS STAMINA IS DEPLETED, HIS ABILITY TO UTILIZE HIS STRATEGIES BEGINS TO DETERIORATE. STAMINA IS BASED ON A SCALE OF 1 TO 125, 125 BEING A FIGHTER WITH TREMENDOUS STAYING POWER (97 = AVERAGE).

AGGRESSIVENESS RATING - THIS ENTRY REFLECTS HOW TENACIOUS A FIGHTER IS ON A SCALE OF 1 TO 11, 11 BEING THE MOST TENACIOUS (7 = AVERAGE). THE HIGHER THIS NUMBER, THE BETTER CHANCE A FIGHTER HAS OF TRAPPING HIS OPPONENT. THIS ENTRY WILL CHANGE THROUGHOUT THE FIGHT DEPENDING ON THE STRATEGIES CHOSEN AND MOMENTUM.

PERCENTAGE OF TIME PUNCHES LAND - 40 TO 45 IS AVERAGE, WITH 75 BEING THE MAXIMUM ALLOWED ENTRY.

PERCENTAGE OF TIME PUNCHES MISS - 25 TO 35 IS AVERAGE, WITH 87 BEING THE MAXIMUM ALLOWED FOR THE TOTAL OF PUNCHES LANDED AND PUNCHES MISSED.

PERCENTAGE OF TIME FIGHTER CLINCHES OPPONENT - 10 IS AVERAGE, WITH 94 BEING THE MAXIMUM ALLOWED FOR THE TOTAL OF PUNCHES LANDED PLUS PUNCHES MISSED PLUS CLINCHES.

PERCENTAGE OF TIME FIGHTER EMPLOYS RING MOVEMENT - 10 IS AVERAGE.

THE ABOVE FOUR CATEGORIES PERTAIN TO THE PERCENTAGE OF TIME THAT A FIGHTER DOES EACH ACTION. THE TOTAL OF THE FOUR PERCENTAGES MUST ADD UP TO 100.

PERCENTAGE OF TIME FIGHTER LANDS A PARTICULAR PUNCH (5 CATEGORIES) - THERE ARE FIVE TYPES OF PUNCHES WHICH A FIGHTER MAY LAND: JAB, HOOK, CROSS, COMBINATION, AND UPPERCUT. THE PERCENTAGE OF TIME A FIGHTER LANDS EACH TYPE OF PUNCH MUST BE ENTERED, AND THE TOTAL FOR ALL FIVE PUNCHES MUST EQUAL 100.

PERCENTAGE OF TIME PUNCHES LAND WITH EXTRA STING - THIS IS THE PERCENTAGE OF PUNCHES A FIGHTER THROWS THAT LAND WITH EXTRA EFFECT (50 = AVERAGE).

EFFECTS OF MANAGERS' DECISIONS

A FUNDAMENTAL CONSIDERATION IN THE DESIGN OF RINGSIDE SEAT WAS TO PERMIT EACH FIGHTER'S MANAGER TO BECOME INVOLVED AS MUCH AS POSSIBLE IN DETERMINING THE OUTCOME OF THE GAME THROUGH THE DECISIONS HE MAKES. THE EQUATIONS USED TO COMPUTE THE OUTCOME PROBABILITIES OF ALMOST EVERY ACTION MAKE EXTENSIVE USE OF THE VARIOUS STRATEGIES WHICH ARE UNDER THE MANAGER'S CONTROL.

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ROBOTWAR

Welcome to the battlefield of the future! It is the year 2002. Wars still rage, but finally, they have been officially declared hazardous to human health. Now, the only warriors are robots - built in secret and programmed to fight each other to the death!

Your country has just developed the most efficient battle robot to date. It should be unbeatable - but part of its micro-computer "brain" is still blank. Only when a strategy is programmed into its memory will the robot be able to fight.

The task set before you is to program a robot that no other robot can destroy.

RobotWar is a fascinating and highly competitive game where robots battle each other to the death! RobotWar is not a game using manual dexterity, instead the robots are controlled by pre-programmed strategies and highly spectator interest.

As well as providing hours of entertainment, RobotWar is designed to teach and sharpen the skills of creative computer programming. Whether you are a beginner or an accomplished programmer, RobotWar will prove to be fun and challenging.

Robot war players design and write robot programs. The program is written with the help of a text-editor, and then translated by an assembler into robot-understandable instructions. The program can then be tested on a simulated robot to make sure it is working properly. Once the player is assured that the program is running as planned, it is installed in a battle robot and sent out to do battle with the other robots.

From the main menu, several options are selectable. These options are described below:

Option 1
This will access the Battle branch where the player can setup and execute one robot battle. See "robots and robot battles".

Option 2
This will access the robotwar assembler and testing branch where the programs are translated and checked for errors, or tested on a simulated robot. See "the assembler" and "the test bench".

Option 3
This will access the text-editor where an existing program can be edited or a new program can be written. See "writing and editing source code".

Option 4
This is a simple control that turns the battle sounds on or off. Pressing the 4 key will change the position of the sound switch.

Option 5
This will access the disk storage branch where a disk can be initialized for storing robot code. See "storing robots on auxiliary disks".

Option 6
This will cause the computer to exit from the robotwar program to applesoft basic.

Option 7
This will access the match scheduling branch where the player can

schedule and execute a series of battles. See "robots and robot battles".

Option 8

This will allow the player to run a previously scheduled or interrupted match (a series of battles). If you resume a previously interrupted match it will begin with the battle after the one which was interrupted.

Note: If no option is selected from the main menu, the program will automatically select option 8. Robots and Robot Battles Locomotion

Each robot is moved by tracks mounted on a 1.5 meter square chassis. The two independent motors, driving the tracks, enable the robot to move vertically (north/south) and horizontally (east/west).

Power Supply

The power supply will take the severest damage from the enemy shells. It is built into the central body of the robot, along with damage sensors. These sensors monitor the damage to the power supply and when 100% damage is attained, the robot will explode.

Radar

On top of the robot is a radar unit that emits a beam in any desired directions. This beam reflects from walls and other robots and returns to the robot. The beam is accurately timed, enabling the robot to find it's position and to spot enemy robots.

Guns and Ammunition

Your robot is equipped with one gun that swivels through 360 degrees and is automatically loaded. It uses time-fused shells that can be set to explode at any specified distance. The gun also has a cooling period between each shot to keep it from overheating.

The Brain

Inside the robot is a micro-computer "brain" that executes the instructions exactly as they have been programmed. The brain has several parts: an accumulator where a robot performs all arithmetic operations, a program storage area where the instructions are stored in memory, and registers where numbers are stored. The brain links to input sensors monitoring damage and position as well as to the drive motors, radar, and gun. While the robot is on the battlefield the brain is in complete control!

The battlefield

Robot battles take place on a square battlefield inside four strong walls. Each wall is 260 meters long and strong enough that a robot cannot crash or shoot through it. As many as five robots can fight at once, but only one will emerge as the winner.

There is an observations station, directly above the battlefield, enclosed in blast-proof glass to protect you and the other observers.

Damage

Robots are eliminated from battle by incurring over 100% damage. When a shell hits a robot or explodes nearby, the robot is damaged. The extent of that damage depends on the proximity of the shell to the robot. A shell exploding directly on top of a robot can do 30% damage.

A robot can also be damaged through collisions with walls or other robots. The extend of damage would depend on the angle of collision. A head-on collision between two robots can do 25% damage to both robots.

The Scoring System

Each robot has a score associated with it. As each battle is fought the robots earn points which are added to it's cumulative score. Every time a robot's program is changed, it's score is reset to 0.

Robots earn points in the following manner. during a battle, every time a robot is destroyed, 1 point is earned by all of the survivors. Thus in a five-robot battle, the first to be destroyed receives 0 points. For outlasting that first robot, all other robots on the battlefield earn 1 point. For outlasting 4 other robots, the winner of a 5-robot battle earns 4 points!

Controlling Robots

A robot computer contains 34 registers. The 34 registers are divided into three categories:

1. Memory registers which are used to contain numbers for latter recall.
2. Input/Output (I/O) registers which are used to monitor and control specific robot functions.
3. The Index/Data pair of registers which are used to access the other registers by their numbers instead of their names.

1. Memory Registers

There are 24 memory registers used to store numbers. The memory registers are named A through W and Z. (X and Y are not included - they are input registers as described below).

2. Input/Output Registers

There are nine I/O registers that allow the computer to control the robot's actions. Each controls or monitors a specific robot function as described below:

a) The X register:

The X register is used to monitor the horizontal position of the robot. It always contains the current horizontal position of the robot on the battlefield, as a number from 0 to 256. 0 is at the extreme left of the battlefield and 256 is at the extreme right.

b) The Y register:

The y register is used to monitor the vertical position of the robot. 0 is at the top of the battlefield and 256 is at the bottom.

c) The AIM Register:

The AIM register is used to monitor and control the angle at which the gun is aimed. when a number from 0 to 359 is stored in the Aim register, the robot's gun will turn to that angle. 0 aims the gun due north, 90 aims it due east, etc. The AIM register always contains the current angular position of the gun.

d) The RADAR register:

The RADAR register is used to control the radar unit on top of the robot and monitor the results of the radar beam. Storing a number from 0 to 359 in the RADAR register, sends a beam out in that direction.

e) The SHOT register:

The SHOT register is used to fire the robot's gun and monitor the state of readiness of the gun. Storing a new number in the SHOT register: Sets the timer on the shell so that it will travel that number of meters before exploding, and then fires it. After a shot is fired the SHOT register will contain the state of the gun's cooling process. When the SHOT register contains a zero the gun is ready to be fired again.

f) The DAMAGE register:

The DAMAGE register is used to monitor the amount of damage detected by the damage sensors. the DAMAGE register starts at 100 at the beginning of each battle and decreases towards 0 as damage is incurred. When the register reaches 0, the robot is completely destroyed and will disappear from the battlefield. The DAMAGE register always contains the current extend of damage.

g) the SPEEDX register:

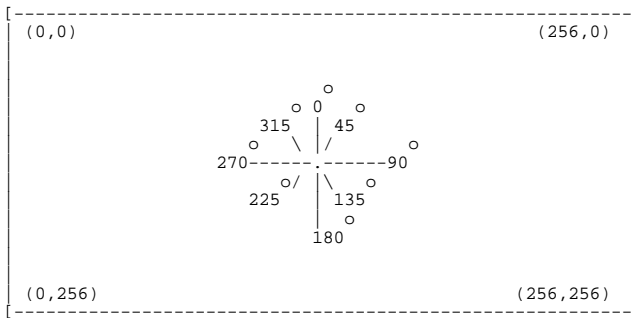
This register is used to control and monitor the horizontal speed of the robot. The number stored in the SPEEDX register can range from -255 to 255 and controls the direction and speed of the robot. A negative number moves the robot to the left at that many decimeters/second, and a positive number moves the robot to the right at that many decimeters/second. If a zero is stored in this register the robot will stop moving in the horizontal direction. The SPEEDX register always contains the horizontal speed of the robot.

h) The SPEEDY register:

Acts the same as the SPEEDX register, only in the vertical direction. A positive number is in a downward direction and a negative number is in an upward direction.

i) The Random register:

This register is used to control the random number generator. Storing a number in the RANDOM register sets the limit for the generator. Then, each time the RANDOM register is accessed, it will contain a different integer (whole number) between 0 and th random number limit which was previously set.



3. The index/Data Registers

The robot registers are usually referenced by their names. The Index/Data pair allows registers to be accessed by number instead of name.

Storing a number from 0 to 34 in the INDEX register causes the corresponding register to be used whenever the DATA register is referenced.

For example, assume the INDEX register contains 27. When the DATA register is referenced in an instruction, register #27 (AIM) will be substituted for DATA.

| Number | Name | Type |
|--------|--------|--------------------------|
| 1-23 | A-W | Storage |
| 24 | X | Current X position |
| 25 | Y | Current Y position |
| 26 | Z | Storage |
| 27 | AIM | Aims gun |
| 28 | SHOT | fires the gun |
| 29 | RADAR | pulses the radar |
| 30 | DAMAGE | monitors damage |
| 31 | SPEEDX | control horizontal speed |
| 32 | SPEEDY | control vertical speed |
| 33 | RANDOM | random number generator |
| 34 | INDEX | Index other registers |

=====

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The Language of Robots

The Source Code

Robot programs are written in source code and then translated by the assembler into robot-understandable object code. Source code is composed of comments, labels, and instructions.

1. Comments:

Comments are used for documenting the source code. Comments can appear anywhere in the program as long as they are preceded by a semi-colon.

] A TO B ;This stores a in b

This is an example of a comment on the same line as an instruction.

2. Labels:

A label is a reference point used to identify sections within a program. Labels are used in instructions to change the order of execution of the program.

A label is composed of a group of 2 or more alpha-numeric characters immediately following a RETURN symbol (]). A label must start with an alpha character (A to Z) and must be less than 32 characters long. A label can not be the same as any of the register names or command words.

3. Instructions

Instructions are used to control the robot's micro-computer brain. Instructions may contain register names, command words and numbers (-1024 to +1024)

Command words: a) 'TO' stores a value in a register

b) 'IF' compares two values and alters program flow. use these conditions:

= equal

not equal

< less than

> greater than

c) 'GOTO' jumps to a label in the prog.

d) 'GOSUB' calls a subroutine

e) 'ENDSUB' returns from a subroutine

f) math operators

+ adds two values

- subtracts two values

* multiplies two values

/ divides two values

Restrictions:

a) no parentheses allowed

b) use only integer numbers between +1024 and -1024

c) you must use a condition sign when using an 'IF'

d) you may store negative NUMBERS in a register, but you can't store negative REGISTERS in a register.

e) all math operations are done from left to right

The TO command

The TO command is used to store a value in a register.

] 240 TO A

This example line of source code causes the computer to load the accumulator with a value of 240 and the store it in the A register.

] B TO A

This example causes the computer to load the accumulator with the contents of the B register and then store it in the A register.

] 0 TO SPEEDX TO SPEEDY

This example causes the computer to load the accumulator with 0 and store it first in the SPEEDX and register and then in the SPEEDY register. This could be used to stop a robot's movement.

NOTE: Negative numbers can be stored as in the following example:

] -240 TO SPEEDX

But, you CANNOT store the negative of a register in that manner. For example:

] -B TO A

Will NOT store the negative of B in A. To store a negative of a register subtract the register from zero. For example:

] 0 -B TO A

Arithmetic commands (+ - * /)

Arithmetic operations can be performed on a value stored in the accumulator. Whenever the program encounters one of the arithmetic signs it performs the calculation using the contents of the accumulator and the value that follows. It then stores the results of the calculation in the accumulator.

] 240 + 100 TO A

This example loads 240 into the accumulator, adds 100 to it, and stores the result (340) in the A register.

The IF command

The IF command is used to compare a value with the contents of a register. It can test to see if a register is less than (<), greater than (>), equal to (=), or not equal to (#) a value. If the comparison is true the computer executes the next TO, GOTO, GOSUB or ENDSUB command. If the comparison is false the computer skips the next TO, GOTO, GOSUB or ENDSUB commands.

The GOTO command

A GOTO command causes the program to change it's sequence of execution by going to a designated label and continuing its execution from there. A GOTO instruction must always be followed by a label.

The GOSUB command

Another way to change the execution sequence is to use a GOSUB command. A GOSUB instruction is similar to a GOTO command. GOSUB must always be

followed by a label. GOSUB will cause the program to go to the designated label and continue the execution until it reaches an ENDSUB. When it encounters the ENDSUB, the program will then return to the next instruction after the GOSUB.

Caution:

Some illegal statements will be translated by the assembler, but then will do odd things when executed.

Programming a Robot

In order to make a robot perform, you must construct a program using the RobotWar language and your own strategy. This chapter gives examples of how instructions can be constructed, using registers, numbers, and commands, and how those instructions can be labeled and sequenced to create program routines.

Movement

Moving about the battlefield is an action a robot performs. To start a robot moving, store a value in the speedx or speedy register.

```
] 20 to speedx
] 250 to speedy
```

would start the robot moving down and to the right. However, the robot would continue to move in those directions, and would eventually hit a wall. Therefore, you must stop it at some point, by storing a zero in the speedx and speedy registers.

```
] 0 to speedx
```

A robot can only accelerate or brake at 40 decimeters/second. Even though 120 is entered into speedx register, it takes 3 seconds of acceleration to obtain that speed. Conversely, if your robot is travelling at 120 decimeters/sec it takes 3 seconds to stop the robot, after storing 0 in the speedx register.

A movement routine can be established, by incorporating the starting and stopping procedures into a test loop.

```
] 256 TO SPEEDX
]MOVER1
] IF X > 230 GOTO STOP
]STOP
] 0 TO SPEEDX
```

Moves the robot to the right until it's X position is tested to be greater than 230 and then it stops.

Monitoring Damage

Monitoring damage is vital to a robot's survival. When a robot detects a hit, it usually moves to avoid being repeatedly hit by the enemy. By using the DAMAGE register, a damage detection routine can be established. This routine is usually nested inside another routine's loop so that the robot can be checking for damage while it is performing some other action.

```
] DAMAGE TO D
```

Saves current damage in register D.

```
]DAM1
] IF DAMAGE # D GOTO MOVE
```

When any damage is incurred, the DAMAGE register will change, but register D will not. Therefore, any difference between the two registers will indicate that the robot has been hit. In this example any difference will cause the program to go to the label MOVE.

Scanning

Another important action a robot performs is scanning. When a robot scans it is using its radar beams to detect the location of other robots and walls. To emit a radar beam, store a number, between 0 and 359 in the RADAR register.

```
] 90 TO RADAR
```

Will send a radar beam in the 90-degree direction, and when the beam returns, its value will be stored in the RADAR register. A routine to determine if the robot has spotted another robot is:

```
]LOOK
] AIM + 5 TO AIM
] AIM TO RADAR
] IF RADAR < 0 GOTO SHOOT
] GOTO LOOK
```

When the program executes this routine, it first encounters the label LOOK and goes on to the next instruction. This instruction (AIM + 5 TO AIM) increments the angle in which the gun is aimed, five degrees. The next instruction (AIM TO RADAR) aligns the angle of the radar to the angle of the gun, emits a radar beam in that direction, and then stores the results of that beam in the RADAR register.

The next instruction (IF RADAR < 0 GOTO SHOOT) analyzes the results of the radar's findings. If the RADAR register contains a positive number, there are no robots in that direction and the comparison will be false. Since the comparison is false, the next command will be ignored and the program will go on to the next command (GOTO LOOK). This command will cause the program to go to the label LOOK. This completes the loop and the scan routine will continue until a robot is found.

If the RADAR register contains a negative number, After the beam returns, the comparison (IF RADAR < 0) will be true. Therefore, the next command (GOTO SHOOT) will be executed. In this case the program sequence would branch to the instruction following the label SHOOT.

Shooting

It is usual procedure to execute a shooting routine when an enemy is spotted.

```
]SHOOT
] 0 - RADAR TO SHOT
] GOTO LOOK
```

Is an example of a simple shoot routine. Since a robot has been spotted by radar, a negative number is presently stored in the RADAR register. The enemy robot is that number (ignoring the negative sign) of meters away. In order to obtain a positive number of the distance, the program

subtracts RADAR from 0. This new positive number is then stored in the SHOT register. Storing the number in the SHOT register causes the gun to fire a shell that has been set to explode at that distance, in the direction indicated by the contents of the AIM register.

Random Number Generation

The RANDOM register is used to generate random numbers. A few examples of random number routines are:

```
] 100 TO RANDOM
] RANDOM TO A
```

This routine stores 100 in the RANDOM register, which sets the limit for the generator. The generator then returns a random number from 0 to 99 and stores it in the RANDOM register. That value is then stored in A by the TO command. From then on each time the contents of the RANDOM register is stored in a register, the generator will return a different number. The limit of the generator will only change when a new value is stored in the RANDOM register by using the TO command.

```
] B + 1 - A TO RANDOM
] RANDOM + A TO C
```

This routine stores a random number between A and B into the C register.

A Sample robot in source code

```
;SAMPLE ROBOT 'RANDOM'
] 250 TO RANDOM           ;INITIALIZE RANDOM -- 250
MAXIMUM
]
]START
] DAMAGE TO D             ;SAVE CURRENT DAMAGE
]
]SCAN
] IF DAMAGE # D GOTO MOVE ;TEST -- MOVE IF HURT
] AIM+17 TO AIM           ;CHANGE AIM IF OK
]
]SPOT
] AIM TO RADAR            ;LINE RADAR WITH LAUNCHER
] IF RADAR>0 GOTO SCAN    ;CONTINUE SCAN IF NO ROBOT
] 0-RADAR TO SHOT         ;CONVERT RADAR READING TO
]DISTANCE AND FIRE
] GOTO SPOT               ;CHECK IF ROBOT STILL THERE
]
]MOVE
] RANDOM TO H
] RANDOM TO V             ;PICK RANDOM PLACE TO GO
]
]MOVEX
] H-X*100 TO SPEEDX       ;TRAVEL TO NEW X POSITION
] IF H-X>10 GOTO MOVEX    ;TEST X POSITION
] IF H-X<-10 GOTO MOVEX   ;TEST X POSITION
] 0 TO SPEEDX             ;STOP HORIZONTAL MOVEMENT
]
]MOVEY
] V-Y*100 TO SPEEDY       ;TRAVEL TO NEW Y POSITION
] IF V-Y>10 GOTO MOVEY    ;TEST Y POSITION
] IF V-Y<-10 GOTO MOVEY   ;TEST Y POSITION
] 0 TO SPEEDY            ;STOP VERTICAL MOVEMENT
] GOTO START              ;START SCANNING AGAIN
]
```

Writing and Editing Source Code

Robot programs are entered into the computer using a text editor.

The text editor may be entered by selecting option 3 from the Main Menu, or by selecting option 6 from the Assembler menu.

Text-Editor Procedure

When you first enter the text editor, you will see a blank screen with some numbers at the bottom and a flashing square at the top. The numbers at the bottom show the length of the text, and the file name under which it is stored. The flashing square is called the cursor, and is the computer equivalent of a pen for writing characters. As you use the text-editor you will be operating in two modes; the add mode and the cursor mode. The add mode is used to delete text at the cursor, move the cursor around in the text, adjust the position of the text on the screen, load source code files from the catalog, and save source code files to the catalog.

The blank screen indicates that the current text-editor file is empty. At this point there are two available options. One option is to begin writing a new source code, and the other option is to edit a robot that has already been stored.

Ctrl-A to enter the add mode. The letter "A" will appear in the lower RIGHT corner of the screen. You can now create a new source code file.

Esc Esc exits you from the add mode.

Ctrl-S to save the file on the disk. The word "SAVE" will appear on the left side of the screen. To save the new robot program you just created you must give it a name. The name can be no longer than 7 characters and must not be the same as any other robot on the disk.

Ctrl-L loads a file from the disk. The word "LOAD" will appear on the left side of the screen.

Cursor Mode

You are now ready to perform the second available option when the text-editor has been loaded, which is editing the source code file. When editing source code you will use the cursor mode to delete text at the cursor, move the cursor around in the text, adjust the position of the text on the screen, load source code files, and save source code files. These functions are described below:

1. Cursor Movement

The cursor can be moved to any location in the file by using the five keys on the right side of the keyboard.

A) The RETURN key moves the cursor up one line

B) The left and right arrow keys.

C) The slash (/) key moves the cursor down one line.

To move the cursor all the way in any direction on the screen, press the Esc key and then the direction key.

Once you have positioned the cursor where you want it, there are several options. Either exit to the add mode, and write some text or stay in the cursor mode and use a cursor function.

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2. Moving Text

There are also methods of moving the text itself, when in the cursor mode. The direction, in which the text moves, is set by pressing the '+' key (a forward direction) or the '-' key (a backward direction) prior to pressing the L, P, or A keys.

- A) The L key will move the text up or down one line.
- B) The P key will move the text up or down one full page.
- C) The A key will set the text in continuous scrolling motion.

You can move to the beginning or end of the text by pressing the Esc key first and then the '-' key or the '+' key respectively.

3. Deleting Text

This function deletes text from the screen and the memory if the Apple, but not from the disk. There are three methods of deleting text:

- A) Ctrl-D Any character may be deleted by positioning the cursor over the character and pressing Ctrl-D.
- B) Ctrl-G Any line, or portion of a line, may be deleted by positioning the cursor over a character and pressing Ctrl-G. This will delete the character and the rest of the line that follows it.
- C) Esc Ctrl-Z All of the text, presently in the text-editor may be deleted by pressing Esc and then Ctrl-Z. You will have to confirm the command by pressing the # key. This protects against accidental erasures.

4. Block Operations

This function allows you to mark a portion of the current source code, and then manipulate that block to another place in the file. You must designate the beginning and the end of a block by placing block markers at those two points. To insert a block marker immediately after the cursor, press Ctrl-V to mark the beginning and end of th block, and it will be represented on the screen by a flashing ')' sign. Only one block can exist in a file at any one time and any attempt to insert a block mark when a block has already been defined will result in the error message "BLOCK ALREADY MARKED".

When a block is marked, press Esc V and the block options will be displayed on the bottom of the screen. They are Copy, Delete, and Unmark.

To copy a block, move the cursor to the location in the file where you want to insert the copy of the block and press C. This is a non-destructive copy.

To delete a block. Pressing D will remove the block and the block markers from memory.

To unmark the block press U. You may also remove markers with normal delete commands. Remember, these changes only exits in the memory and not on the disk.

5. Find Operations

Fo find all occurrences of a word or phrase in a file, use the find

command. Press Ctrl-F and you will be prompted with the "FIND:>" message. At this point, type in the word or phrase you wish to locate and press return.

The first occurrence of the word or phrase will be displayed in the center of the screen. To find all subsequent occurrences press Ctrl-F and Return.

You need not enter the word each time, the search will always begin at the current cursor location and search in the direction that the indicator in the lower left corner of the screen shows.

6. Printing Source Code Files

To print the source code on a printer, press Ctrl-P. The screen will prompt you to type in the printer slot number. Once this has been done, and the RETURN key has been pressed, the text will print out.

7. Adding Text

Position the cursor to where you want to begin adding text and enter the add mode by pressing Ctrl-A. To return from add mode to cursor mode, press Esc twice.

8. Loading files

To load a file into memory which was previously saved on disk press Ctrl-L. The loading operation works similar to loading any other file.

9. Saving Files

To save a file on disk, press Ctrl-S. Use the space bar to select the file name from disk, or type one in. Press RETURN when done.

10. Entering the Assembler

To save the current robot program and enter the assembler, press Ctrl-R. This will save the text as it appears in the memory on the disk, and then exit the text-editor to the assembler. Before a robot can be assembled, it must have been given a name by being saved to disk.

The Assembler

The Assembler translates source code programs into robot-understandable object code. It also checks for errors in the source code and displays a message if one is found.

The assembler can be entered from the Main Menu by selecting option 2, or from the editor by pressing Ctrl-R. If the assembler is entered from the editor, a robot source program is loaded and ready to assemble.

It is possible to assemble a robot from source code on the disk, or load an assembled robot from disk to test. There is also an option to print the assembled robot on the printer.

Assembly Errors

There are eight errors that the RobotWar assembler can detect. When the assembler detects an error it will display a message such as:

```
NO DATA FIELD IN LINE 27
```

```
10 + TO C
```

```
^
```

The error message indicates the type of error, the program line number and the position in the line (^) where it occurred. Following are the

possible error messages:

1. NO DATA FIELD - There is no register or number after a command.
2. UNKNOWN ITEM - You have tried to use a register or a label that is not defined.
3. LARGE NUMBER - You have tried to store a number greater than 1,024, or less than -1,024 into a register.
4. PROGRAM TOO LONG - Program is too big for the allotted program storage area. Programs have a maximum length of 256 object code instructions.
5. FATAL JUNK - You have included something that the computer cannot understand, like an illegal statement.
6. STORE IN NUMBER - You have tried to store a value in a number instead of a register.
7. RESERVED LABEL - You have tried to use a register name as a label.
8. NO PROGRAM CODE - There are no instructions in the program. Object Code Exercise

The following pages list the object code's commands and registers and the translation of the sample robot's source code. Using the list and the two codes for the sample robot, compare and identify the source code and it's object code translation. It will be very useful to understand the object code when learning to use the test bench in the next chapter.

List of Object Code Instructions

Instruction Action

| | |
|--------|--|
| , | Load accumulator with next data item |
| IF | Load accumulator with next data item |
| + | Add next data item to accumulator |
| - | Subtract next data item from accumulator |
| * | Multiply accumulator by next data item |
| / | divide accumulator by next data item |
| = | Skips the next command unless the accumulator is equal to next data item |
| > | Skips the next command unless the accumulator is greater than the next data item |
| < | Skips the next command unless the accumulator is less than next data item |
| # | Skips the next command if the accumulator is equal to next data item |
| TO | Store accumulator in next data item |
| GOTO | Branch to the address given |
| GOSUB | GOSUB to the address given |
| ENDSUB | Return from a subroutine |

Assembly of Robot Sample

Code Building


```

=====
SCAN
0      ,      AIM
1      +      5
2      TO     AIM
3      ,      AIM
4      TO     RADAR
LOOP
5      IF     RADAR
6      <     0
7      GOSUB  FIRE
8      GOTO   SCAN
FIRE
9      ,      0
10     -     RADAR
11     TO     SHOT
12     ENDSUB

Code  Statistics
===  =====
140  Letters
13   Instructions
3    Labels
2    References

```

The Test Bench

The test bench is a micro-computer simulator of a robot. With the test bench, you can monitor a robot's performance without actually putting it on the battlefield. This simulator will prove an important device, as you learn to debug robots, because it allows you to monitor the object code and the contents of the registers.

Load a robot into the test bench by selecting option 2 from the assembler menu or from the main menu.

Operating the Test Bench

As the test bench runs the program, each instruction (in object code) will appear on the left side of the screen as it is executed. On the right side of the screen are displayed the robot's position and register contents. Also shown are the instruction number being executed (program counter) and the accumulator.

Controlling the Test Bench

The test bench can be interrupted by pressing the space bar. Press the space bar again to execute one more instruction. This can be useful when analyzing a program to see if it is acting as you had planned. Pressing RETURN will start the test bench running again. To change the speed of the test bench, press a number from 0 to 9.

Simulating Radar

Pressing the R key will cause the radar display to light up and the RADAR register will display a negative number to simulate an enemy robot in view. This will allow your program to go into it's "enemy spotted" routine.

Simulating Damage

Each time the G key is pressed, a random amount, up to 10% will be subtracted from the DAMAGE register. This allows th program the opportunity to use it's damage detection routine. The DAMAGE register will also indicate damage if the simulated robot crashes into a wall. The test bench will automatically stop when the DAMAGE register reaches 0.

Tracing Registers

The trace is used to check the contents of registers not normally displayed on the test bench. Press the T key to access the tracer. The test bench will stop, and the following question will be displayed: "NAME REGISTER TO TRACE?" Enter the name of the register you want to trace and press RETURN. The test bench will continue, with the contents of the traced register displayed on the line above "X POSITION".

The Esc key will exit from the test bench.

Storing Robots

There is a limited amount of space on the RobotWar disk to store robot files. However, robot files can be transferred to and from auxiliary storage disks.

Auxiliary storage disks are used only to store robot files. Robot files on auxiliary disks must be transferred back to the RobotWar program disk before they can be tested, assembled, edited, or battled.

There is a utility in the menu to initialize a data disk. Only disks initialized by RobotWar can be used as data disks.

To save or load a robot to or from a data disk simply remove the RobotWar disk after entering the robot name and before pressing return. After the file is loaded, swap the disks back again before continuing with the program.

To delete a robot from a disk, exit to basic, and delete the file with the DOS 3.3 command DELETE filename and press RETURN. When done, enter PR#6 to re-start RobotWar.

Summary of Editor Keys Cursor Mode:

Moving keys

```

+      Set forward direction
-      Set backward direction

Esc +  Move to end of text

Esc -  Move to beginning of text

A      Sets text in continuous scrolling motion

RETURN Move cursor up one line
Esc RETURN Move cursor to top of page

/      Move cursor one line down

Esc /  Move cursor to bottom of page

<-     Move one space left

->     Move one space right

Esc -> Move cursor to right end of line

Esc <- Move cursor to left margin

P      Move up or down one full page

L      Move text up or down one line

```

Text deleting keys

Apple II Computer Info

Ctrl-D Delete the character at the cursor

Ctrl-G Delete the line at the cursor

Esc Ctrl-Z Delete the whole file

File handling keys

Ctrl-L Clear memory and load a source file

Ctrl-S Save text as a source file

Ctrl-R Save current file and enters assembler

Control keys

Esc Ctrl-Q Exits to main menu

Ctrl-F Executes FIND operation

Ctrl-P Prints file in memory

Ctrl-V Places block marker at cursor

Esc-V Displays block options

C-Copy block

D-Delete block

U-Remove block markers

Add Mode

Text adding keys

Ctrl-A Start adding text

Esc Esc Stop adding text

<- Backspace, erases as it goes

-> Moves text to the right

RETURN Acts as a carriage return

From the Assembler

Space Bar Stop the assembler or move it one step
RETURN Start the assembler operating again

0-9 Adjust the speed at which the assembler is scrolling

From the Test Bench

RETURN Start the assembler operating again

0-9 Adjust the speed at which the assembler is scrolling

R Simulate Radar

G Simulate a shell hit

T Trace a Register

Esc Exit the test bench

the DOS 3.3 command DELETE filename and press RETURN. When done, enter PR#6 to re-start RobotWar.

Summary of Editor Keys

Cursor Mode:

Moving keys

+ Set forward direction

- Set backward direct

-END-

=====

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=====

.nf

.na

RUSSIA

The great war in the east 1941-1945

A Strata-Cracker release

Dox Typed By:

Disk Muncher

1. INTRODUCTION

.fi

Russia is a simulation of the greatest military struggle in the history of mankind. Almost 50 million fighting men participated in the four-year conflict and more than 20 million of them were casualties.

You may take the role of supreme commander for either the Axis or Soviet forces or you may choose to accept a subordinate role and command a single theatre of operations. Or again, you may choose to combine the roles and command a number of positions. The choice is yours. Your computer will control those forces not assigned to human hands.

2. WHATS IT ALL ABOUT?

Before asking you to go through the introductory tutorials, we recommend you read the next two chapters.

The German war effort in Russia was directed by the OKH (Oberkommando des Heeres) which, as the war progressed, and his distrust of generals grew, increasingly came to mean Hitler himself. Its Soviet counterpart was STAVKA (formally Stavka Glavnovo Komandovaniya or Headquarters High Command), which was always run by Stalin, who trusted no one.

OKH and Stavka form the strategic level of play in Russia. The decisions made at this level include allocation of reserves and reinforcements and issuing directives to the subordinate Army Groups and Theatres. The strategic turn occurs once per month.

Of course, neither Hitler or Stalin were able to restrict themselves to the lofty plane of strategic command, and interfered constantly in operational matters. You will be able to do likewise.

Operational command in Russia is represented in weekly turns and consists of decisions made at three levels of military hierarchy.

Directly controlled by the OKH are three Army Groups, known for most of the war as Army Group North, Army Group Centre and Army Group South. Each Army Group can command 1 to 6 Armees and each Armees can command from 1 to 6 Korps. The armies under each Army Group are written in the German Armees, to avoid confusion with Russian formations of a different level. Thus a partial chain of command for the Germans might run as follows: Army Group North - 4th Panzer Armees - 41st Panzer Korps. For the Germans, the Korps is the unit represented on the map and doing all the fighting.

For the Russians, the commands immediately below Stavka are called Theatres A,B and C. Each theatre commands from 1 to 6 Fronts and each Front commands 1 to 6 Armies. You will notice that for the Russians the unit of combat and maneuver is the Army, which is equivalent to the German Korps, while the German Armees is equivalent to the Russian Front. For the Russians, a partial chain of command might run as follows:

Theatre A - Leningrad Front - 23rd Army.

While the Korps/Army is the basic formation for organizing and moving troops, each Korps is actually composed of a number of divisions. These divisions never appear on the map and are always either included in a Korps/Army formation or held in a HQ reserve. There are three basic types of divisions: Infantry , Motorised and Armoured.

In the campaign game the player can choose to play OKH/Stavka and/or any or all of the Army Group/Theatre commands. Playing an Army Group/Theatre involves directing all of its subordinate formations.

In a scenario, there is no strategic command (I.E. No OKH/Stavka) and only one Army Group/Theatre per side.

There are three scenarios included in the game. They cover the initial drive of Army Group North to capture Leningrad in the summer of 1941, the Axis attempt to capture Stalingrad and the subsequent Soviet counter-attack in 1942 and the climactic armour clash, and its aftermath, at Kursk in 1943. The Leningrad scenerio, being the smallest, is used as an introductory tutorial to make you familiar with operational decision making.

The campaign game covers the entire conflict from June 1941 until May 1945 or until a conclusion is reached whether it be in 1943 or 1947! The opening months of the campaign game are used as an introductory tutorial to give you some experience with the strategic decisions you will have to make in the course of the war.

Futhermore, the powerful Game Design Kit we have developed will allow you to customize any of the set scenarios or the campaign game. You may even create entirely new scenerios of campaign games, beginning them from any time between 1939 and 1945.

SPECIAL NOTE:

Russia actually involves four levels of military hierarchy. For the Germans they are OKH/Army Group/Armees/Korps. For the Russians, they are Stavka/Theatre/Front/Army. In order to avoid confusion we will use the German terms throughout these rules. Unless otherwise stated, a rule which describes a German formation will be applicable to the corresponding Soviet force. For example, the statement that two corps can not occupy the same hex at the end of movement should also be read as meaning that two Armies may not do so either.

3. HOW A SCENARIO PLAYS

This chapter should be read before starting the scenerio tutorial.

A scenario (not a campaign game) of Russia goes something like this.

Choose the scenario you wish to play. Experienced players may wish to vary an existing scenario or to create an entirely new one.

Choose a handicap level for the game. Handicap levels in Russia act as a multiplier on the points accumulated by either player. They do not affect the artificial intelligence or the combat performance of the protagonists.

Choose whether the game will be played between two humans, one human (either Axis or Soviet player) or no humans.

Each scenario lasts for a number of turns; up to 31. Each turn represents about one week of real time so that the maximum scenario length is 8 months.

The military forces at your command are Korps size units for the Axis and Army size units for the Soviet. These are your basic formations for organizing and moving troops. Each Korps or Army, depending on the type,

will contain several infantry, motorized and/or armoured divisions.

In a scenario there will be only one Army Group and Theatre involved.

Each Korps/Army will contain a variable number of divisions, based on availability, the type of Korps and its current order. A divisional reserve is maintained at each Armee/Front as well as a variable number of ground support assets (artillery, anti-tank etc.) and air support assets. These assets are apportioned out of each turn to those Korps/Armies in need of them. A further reserve of divisions and assets are maintained at Army/Group/Theatre level. Finally, a replacement pool is available to both sides to rebuild depleted divisions in the field provided they meet the eligibility criteria. Korps (Armies) are defined by type (E.G. SS Panzer, GDS Tank, Siberian, etc.) and these ratings, together with their current order, largely determine their exact divisional composition.

The battlefield on which you fight is a field of hexagons divided into blocks of 9x9 hexes. The campaign map is composed of twelve of these blocks. A scenario map will use some of these. The ground scale is approximately 40 miles per hex. Different types of terrain are represented by different terrain icons. Railways and cities are shown and victory points are awarded for control of the latter.

It is your job as Army Group/Theatre commander to use this time, these forces and these conditions to capture and hold as many cities as you can, to destroy as many of the enemy formations as you can get your hands on and, of course, to prevent your opponent from doing this to you. The player who has scored the most number of points by the end of the scenario is the winner.

Your interface with the game is a structured set of menus which become very easy to use. These menus give you the power to maneuver and deploy your formations, to send them into battle and to refit and reorganize them when necessary. Each Armee, (Front) has its doctrine specified however, and individual Korps (Armies) may be given orders relating to their tactical situation. Ground and air assets are allocated to Korps (Armies) in contact with the enemy.

Only one Korps/Army can occupy a single hex at the end of a turn. This does not prevent them from moving through each other when executing your orders.

Railways play an important part in supplying troops and the rail nets in the game are differentiated into Axis and Soviet gauges (I.E. Narrow and Wide gauge).

You have only limited control over the positioning of individual Korps/Armies. The orders given to Armees/Fronts will determine the response of their component Korps/Armies.

You can examine a variety of reports, including area weather conditions, which will provide the information to base your decisions on.

All orders are issued before any action takes place. Combat between opposing forces is resolved and described by a short report. Other orders are then executed.

This manual contains a short briefing for each scenario which will give you some idea of what must be accomplished in order to win.

On average you can expect a scenario of four months length to take 60 minutes to finish in solitaire mode; a little longer if your opponent is human.

Victory Points (VP's) are accumulated weekly in a scenario.

A scenario is won by the side with the greatest number of VP's on the final turn. Note that an automatic victory is awarded in a scenario when

the city containing the enemy's Army Group HQ (Theatre) is captured.

4. PLAYING YOUR FIRST SCENARIO

As a warm up to your adventure in Russia, we invite you to spend the next forty minutes reliving the first frantic months of the German drive to capture the vital Baltic Port of Leningrad. You will take the role of General Von Leeb and command Army Group North in its dash to reach Leningrad before the combination of Soviet reinforcements and bad weather can stall your offensive. You have only twelve weeks (turns) to get the job done! You can't afford to waste a moment!

STARTING UP

Start up your computer. Menu A (Start-Up menu) appears to the right of the title page. As is the case with every menu in the game, you use the arrow keys to locate your choice from the menu, and then type [RET] to select it.

If you select the wrong menu, don't worry. Type [ESC] to go back to the previous menu.

SELECTING THE LENINGRAD SCENARIO

Before we can start play, we have to select the Leningrad scenario, tell the computer to control the Russian forces and decide whether we wish to use a handicap.

Use either arrow key to locate the <GAME> line and type [RET] to go to menu B (Location Select).

Use an arrow key to locate the <SCENARIO> line and type [RET] to go to menu C (Scenario Menu). Apple owners will have to turn the disk to the scenario side.

Use an arrow key and locate the <LENINGRAD> line and press [RET] to go to Menu E (Edit Utility). The scenario briefing screen is displayed to the left of the menu window.

Use an arrow key to locate the <EDIT> line and type [RET] to go to menu F (Handicap Utility). We must now decide whether to use a handicap. Lets give ourselves all the help we can get. The handicaps below the <NO EFFECT> line benefit the Soviet Player; those above benefit the Axis Player.

Use the arrow keys to select the <MAJOR> Axis line and type [RET] to go to Menu G (Player Select). You must assign human or computer control to each player in the game. The panel above the menu window displays the name of the command position. You will be asked to assign control for <AG NORTH>. This is you, so use the arrow keys to locate the <HUMAN> line and type [RET]. You will now be asked to assign control for Theatre A (The Soviet Command). Use the arrow keys to locate the <COMPUTER> line and press [RET].

Once all the command positions have been assigned, the cursor is thrown into the briefing screen and you have the opportunity to change the commanders names. Do this if you wish, otherwise type [RET] until you get back to Menu E (Edit Utility).

Use an arrow key to locate the <START> line and type [RET] to go to menu H (Game Master). Apple owners will have to turn the disk back to the master side.

That's the preliminaries over with. We're just about ready to play.

REVIEWING YOUR FORCES

The date and a current turn briefing appear above the menu window. It is week 4 of June, 1941. This is the first of the twelve weeks for which the

game will run. Below the menu window is a small weather summary map. Each of the twelve map sections is clear. It's the middle of summer. There is a chance that the more northerly map sectors will have some mud remaining from the previous winter. The map area displayed is the Riga Sector. The Riga Sector is the second from the left of the top row.

The <SOVIET> and <RUN 5> lines in the menu have been overprinted with a solid bar to show that you can not access them. The solid bar will disappear from the <RUN 5> line after the <AXIS> line has been accessed. This is to guard against accidentally selecting <RUN5> before issuing your orders. The <SOVIET> line will always be overprinted in this game (due to the fact it is a solo game) the computer does not want you to see what it is doing.

Locate the <AXIS> line and type [RET] to bring up menu 2 (Operations Master). This map is updated by the addition of the axis gauge rail net (I.E. Narrow gauge). Date, turn number and current victory point total are displayed below the menu window.

HISTORICAL NOTE: In case you are wondering why the Axis rail net extends into Russia, here is the explanation. In 1939, in conjunction with the Axis-Soviet dismemberment of Poland, the Soviet Union annexed the Baltic States of Latvia, Lithuania and Estonia as well as a large hunk of eastern Rumania. The rail systems of these countries were, by and large, compatible with Europe rather than Russia. By the time of the Axis invasion, only a small part of these rail nets had been converted to the wider Soviet gauge. Once Axis forces capture these narrow gauge rail hexes, they can be used immediately for transportation.

Before issuing any orders to our men, we will review our forces and the environment in which they will have to fight.

The four Axis units in the bottom left hand corner of the map are ours. They are opposed by three units from the Soviet Baltic Front immediately to the right.

Select the <REPORTS> line from menu 2 and type [RET] to bring up menu 4 (General Reports). This is just a branch menu. Select the <STATUS> line to bring up menu 5 (Unit Status).

The map has been replaced with a full screen display showing the condition of every unit under your command. There are two pages to this report. Type [RET] to bring up the second page. The length of the report is determined by the size of your force.

Look at the first page. The top line identifies Army Group North, displays the date and the number of pages in this report.

There are 4 Armies attached to AG North; 4 Pz, 18th, 16th and 9th Armies. Note that Army was historically part of AG Centre. For the purposes of this scenario, however, it has been detached to AG North.

Four Korps are attached to 4Pz Army; 10 (Inf), 39 (Pz), 56 (Pz), and 41 (Pz). Only 41 Pz begins the game deployed on the map. The other three arrive as reinforcements at specified times. Type [ESC] to exit this report.

Don't worry about memorizing all the information on this screen. As you become familiar with the game, you'll get more and more use from it.

Return to Menu 4 and select Menu 6 (Map Walk). This menu contains a variety of information which we can have a brief look at. At the moment the cursor will be flashing on the map. You may use the arrow keys, the 1 - 6 keys or the I,J,K,M keys to move the cursor over the map. The map will scroll when you reach the edge. You may type (0) to centre the screen on the cursor. This works on any screen where the cursor is flashing.

Position the cursor over the Axis armour unit at the bottom of the screen. An arrow flashes alternately with the unit symbol to indicate the targeted

enemy unit. A unit must be adjacent to an enemy unit to be targeted. The right hand column of the screen displays the identity and condition of the friendly unit.

Position the cursor over an enemy unit. You are told the units Front and Army designation and its level of activity in the previous week.

Position the cursor over the city of Riga. Now move the cursor to Pskov. Pskov is the trigger city for an off-board region. That region is named and the bonus VP's awarded for its capture are displayed above the city data. It's not necessary to worry about the details now; read chapter 8 when you have finished the tutorial for a complete description of the Map Walk routines.

Type [RET] to move on to the menu window.

To turn on a display, use the arrow keys to select which piece of information you wish to examine. Type [RET] again and the cursor will return to the map and the screen will display the information requested.

To turn off a display, type [RET] to move the cursor to the menu window, select the display you wish to turn off and type [RET].

While more than one display can be on at any time, very often information from one display will be concealed by another display. For this reason we recommend you examine one display at a time; at least for your first few games.

The <CITIES> options work slightly differently. They allow you to examine any city on the map. Select <NAME> and a box containing a square cursor will appear above the menu window. Type in the name of the city you wish to go to. As soon as you have entered enough characters for the computer to recognize the city, the screen will center on it and information concerning its status will appear to the right of the screen. Type [RET] to go back to the menu window. Select <CYCLE> and the cursor will return to the nearest city on the map. Use the arrow keys to examine each city in turn. Type [ESC] to exit the cycle routine.

Type [ESC] to exit the menu. All displays will automatically be turned off.

<CONTROL> allows you to examine which side controls each hex on the map.

<CLEAR MAP> allows you to examine the terrain uncluttered by units. For example, to examine cities occupied by units, you must first switch on the <CLEAR MAP> routine before positioning the cursor over the chosen city.

<RAIL NET> superimposes a full display of all rail lines, regardless of gauge or control.

<COMMUNS> superimposes the communication value of each hex. Basically, communications affect the performance of your logistic net. Have a look at the communications map on the reverse of the terrain map. What this means is that it is much harder to supply your forces in the wilderness.

<WEATHER> superimposes an icon representing the current sector weather in each hex.

All of these reports and displays are fully explained in chapter 8 (The Game Menus Described).

Have a look through them for a few minutes, then type [ESC] until you get back to Menu 2 (Operations Master).

THE WEATHER AND ARMY GROUP SUMMARY

The next item in the menu is the weather report. Return to Menu 2 and select <WEATHER>. There are five separate displays on this screen. Below the menu window is an active map display. Map sectors in play are identified by a

square, others by a plus sign (+). The square containing your Army Group HQ is solid, other squares are hollow.

Four separate displays have replaced the sector map. The top two displays repeat the turn and weather details described earlier. The bottom left display describes Army Group North, its HQ location, the total VP value of all cities on the map and the number of these currently controlled. The bottom right display is a breakdown of the military forces attached to Army Group North. Only those Korps and Armees in play are recorded; reinforcements are not. KIA's are casualties currently absorbed by AG North.

An Air Support Point (ASP) is approximately equivalent to an Axis Geschwader (30-40 aircraft) or two Soviet Air Regiments (40-50 aircraft).

A Ground Support Point (GSP) is approximately equivalent to a regiment-sized artillery, anti-tank or equivalent HQ asset.

Divisions are your basic fighting units and come in three types; armour, motorized and infantry. Further specialization of types is handled by the Korps type to which the division is assigned; for example, the inf divisions in a Soviet Cavalry Army are considered cavalry divisions and are treated as such for all game purposes. Historically, a division could contain from 9000 to 16000 men at full strength; much less when depleted. Soviet tank and mechanized corps are treated as division-sized units.

Replacements are regiment-sized bodies of men, organized in the same categories as your divisions. They are never present on the map. They provide on the spot reinforcement for divisions depleted by battle or attrition. While you have no direct mechanism to assign them, their availability for use is determined by the logistic and administrative condition of the units that need them. You can never have too many replacements.

For comparison, three replacements are the manpower equivalent of one full strength division. Casualties (KIAs) are taken in regiment sized steps.

THE REINFORCEMENT SCHEDULE

Go back to menu 2 and select Menu 7 (Reinforcement Schedule).

Each line shows the reinforcements to be expected on a specific turn. Arrival dates for reinforcements are every fortnight. Reinforcements will arrive at the Army Group North HQ (i.e. as reserves) and be distributed from there as necessary. The combat value of each division type and the size of the replacement pools are displayed above the schedule.

Note that reinforcing Korps and Armees are handled differently. They arrive on their assigned hexes in the particular week specified in the creation routines. Sooner or later we hope you will get around to having a look at the design features of the game; this distinction will then become obvious.

And now we can start operations against the pesky Russians in earnest.

CHOOSING ARMY DOCTRINE

Select Menu 8 (Army Group Operations). Friendly units have their general symbol replaced with their specific symbol.

Above the menu window, we see that the AG North is at moderate activity. It wont be after weve given our orders. Below the menu window, we are told the AG HQ is at Konigsburg, where it will stay for the duration of the scenario. (Army Group and Theatre HQs can only be moved in campaigns) Supply and Admin are at 7 each (the maximum) , all GSPs have been allocated to Armee HQs, 16 ASPs are present and three infantry divisions are being held in reserve. There is a sma;; chance tht these numbers will be slightly different from game to game. The mechanisms handling unit organization within an Army Group are explained in more detail in Chapter 10 (Game

Mechanics and Tactics).

We will set the doctrine and objectives for each Armee in our command. Locate the <DOCTRINE> line and type [RET] to select Menu 9 (Select Armee). The 16 Armee display appears on the right of the screen and only those Korps belonging to the 16 Armees are represented by their specific symbol. 16 Armee has 1 Korps attached (a second Korps will arrive on the next turn), normal doctrine, its HQ is in Tilsit, a line of supply is open to the AG HQ, supply and admin are 7,3 GSPs are available, 16 ASPs may be drawn upon and two infantry divisions are in reserve.

Note that since Axis ASPs are allocated from the Army Group HQ rather than an Armee HQ, every Armee can call upon the Army Group pool of ASPs.

Use the arrow keys to cycle through the three Armees attached to AG North. The 9 Armee will appear on turn four. Dont worry about the orders displayed for Armees and Korps; they are default values and well soon sort them out.

Locate the 4 Pz Armee and type [RET] to go to Menu 10 (Select Doctrine). In order to advance upon an enemy held objective, an Armee must have Main Effort doctrine. Select <MN EFFORT>. The cursor has been thrown into the map and we have been asked to select an objective. I prefer to send the tanks to Dvinsk initially and leave Riga to be captured by the Infantry Armees. Use the arrow keys to select Dvinsk and type [RET]. You have been thrown back to Menu 9 (Select Armee). The doctrine for 4 Pz Armee now reads <MN EFFORT> and its objective is Dvinsk.

Use the arrow keys to locate 18 Armee, tpye [RET] and set it to <MN EFFORT> with Riga as its objective. Put 16 Armee on <MN EFFORT> with Vilna as its objective. Type [ESC] to go back to menu 8. The Army Group activity is now high.

CHOOSING KORPS ORDERS

Locate the <ORDERS> line and type [RET] to select Menu 13 (Select Korps). The arrow keys will cycle you through every Korps. The top four lines of text repeat the Armee doctrine; all other information refers to the Korps currently identified by the cursor. Locate the 41 Pz Korps. You are told the Korps designation, its type, its last order (a default value in this case) its status (experience, fatigue and losses) a LOS is open to the 4 Pz Armee HQ, supply and admin are 7, GSPs and ASPs are not allocated as yet and the Korps contains two armoured and one motorized division.

The cursor alternates between the specific Korps symbol and a directional arrow showing the Korps' intended target. The computer determines which enemy unit each Korps will target upon; the factors which influence its decision are listed in Chapter 10 (Game Mechanics and Tactics).

The 41 Pz Korps will have either the enemy unit north or north-east of itself as its target. Type [RET] to bring up Menu 16 (Allocate Ground and Air Support). Were going to attack. Allocate all the GSPs and one-third of the ASPs. Once this is done, Menu 17 (Contact Orders) will appear. Select <ASSAULT>. You will be returned to Menu 13 and the updated Korps display will confirm the orders you have just issued. A description on the type and condition of the target appears in the top panel of information. Wherever possible, confine your attacks to vulnerable targets.

Give the 17 Korps half of the 18 Armees GSPs, half of the remaining ASPs and an <ASSAULT> order. Give the 28 Korps the other half of the 18 Armees GSPs, all the remaining ASPs and an <ASSAULT> order. Finally, give the 1 Korps an <ADVANCE> order. Korps not adjacent to enemy units cannot use GSPs or ASPs and there isno mechanism for you to give them any.

Thats everything you need to do to complete the turn. The invasion surprise flag is in effect so that you can confidently expect to hand out a thorough thrashing to the enemy arrayed against you.

Go back to Menu H (Game Master) and select <RUN 5>. Each battle is

identified and described by a report. Press the <SPACE BAR> to examine the outcome of the next battle. Once all battles have been resolved, the computer will execute the movement orders of each unit.

Its a little hard to predict where each unit will end up; even which units will still be around. Fight as hard as you can for Riga; the sooner you control it the better. Once you have reached an objective, the Armees doctrine will change to normal. You will not be allowed to go to main effort again until the sum of the Armees supply and admin is at least eight, nor is it a good idea to do so unless the objective is undefended. For an enemy city to be a legitimate objective, it must be within 7 hexes of the Armees HQ. This distance is reduced to 4 to 5 hexes in mud and snow weather respectively. Armees with normal orders can transfer their HQs to friendly controlled cities within 7 hexes. Armees may only go on rest in supplied cities.

Play through the rest of the scenario and dont worry if certain orders are denied you at times or if things happen you dont understand. What you are attempting to do is capture Pskov as quickly as possible. An attack on Leningrad itself is impractical from any oter jump-off point. When you finish the scenario read through chapters 8 and 10 and then have another go at the scenario.

You may also like to play a scenario a third time taking command of the Russian forces.

Please dont start playing the campaign until you have played all the scenarios; the wait will be worthwhile and youll enjoy it all the more.

End of Part I of Part I

=====
DOCUMENT russki.duck
=====

RUSSKI DUCK

TO PLAY:

1) RUSSKI DUCK

DURING GAME, TYPING 'CTRL C' WILL DISPLAY THE GAME CONTROLS AND YOU CAN MODIFY THEM AS YOU PLEASE

OBJECT:

FIND THE DUCK WITH THE PLANS! FIND THE CIA BADGE AND PUT IT IN THE LASER ROOM. YOU MAY NOW PASS THROUGH THE LASER. PUT THE DUCK BEHIND IT. 'USE' THE DUCK, THE USE THE MX MISSILE PLANS. YOU WIN!!

=====
DOCUMENT rx
=====

Documentation for Apple.Rx

This program requires an Apple IIGs or an enhanced //e or //c WITH a 65802 or 65816 microprocessor. A 65802 chip can be bought for around \$20 and can easily be inserted in place of the 65C02 in the latter two machines.

This program is "virus medicine". It will read your system files (and any other types you specify) and create a data file that contains information on these files. At any time, you can run it in check mode and it will report any of these files that have been altered. For obvious reasons, I am not going to detail exactly what sort of data the program saves, but suffice it to say that it is virtually impossible to change any of these files without detection by this program and it would also be very difficult to either alter this program or the data file it creates without detection.

The program makes an effort to protect itself and its data file from modification. It encrypts itself and resaves itself whenever it is used to write a new data file. However, despite these safeguards, the safest way to use it is to keep this program and its data file on a separate dedicated 3.5" disk, which you use only for running this program.

THE PROGRAM NAME

If you do not keep this program on a separate dedicated disk then you should change its name, so that a viral program specifically looking for this program cannot easily find it and modify it.

THE DATA FILE

The name of the data file defaults to RX.FILE. This name is kept in the STARTUP position of the program. If not kept on a dedicated disk, then its name too should be changed using BLOCK.WARDEN from ProSel. Unless you give it a full pathname, it will be kept on the same disk as the program.

THE VOLUME NAME

The program must be told what volume to check. This defaults to /HARD1, but this can be changed via the Change defaults function in the program.

FILES CHECKED

The program has two means of deciding which files to check. (Ordinarily, pure data files need not be checked, only programs.) The first way it decides whether to check a file is by a list of file types it keeps. It will check all files whose file type is in this list. The list presently contains only SYS (type \$FF) and S16 (type \$B3) types. You should add the NDA, CDA and TOL types (\$B8, B9 and BA) and the tool setup type \$B6. There is an option in the program for modifying this list. For example, you could add type \$06 for BIN files, or type \$FC for BAS files. Since many BIN files are data files, however, it is probably best to use the second option for them.

The second way it decides is by a list of "special files". This list presently contains the file PROSEL. Again, there is an option in the program for adding to and deleting from this list. Note that if you have a file name in this list and the file cannot be found, then a program error will be reported and the program will abort. In such a case, you must remove that file name from the list.

It is suggested that you either add the type \$F1 to cover the CD.EXT file, or add that file to the name list.

Apple II Computer Info

Whenever you add a program file to your system, you should run Apple.Rx in check mode to make sure things are now ok, and then rerun it in Create mode to revise the data file to include the new program file.

You should run this program in check mode at frequent intervals, perhaps every day, to quickly determine if a problem exists before it has a chance to spread further. In particular it is a good idea to run a check before backing up a hard disk.

PASSWORD

To protect itself somewhat, the program requires a password when you enter it. The initial password is APPLEAPPLEAPPLE (passwords are not case sensitive) and one of the first things you should do is to change it with the built in facility to do that. A password must be at least 12 characters long, and when it is changed the program will encrypt most of itself and resave itself to disk. After that point you MUST remember your password. Recreation of the password from the encrypted file is virtually impossible unless you have the facilities of the CIA. It is in the nature of the encryption that even knowing the encryption algorithm, and having both encrypted and decrypted files at one's disposal will not, without gargantuan effort, yield the password that was used to drive the encryption. You can change the password any time you want, but you must know the old password to access the program in order to make that change.

Some functions, including changing the password, are disabled and payment of the shareware fee will bring enabling instructions.

WHAT THE PROGRAM CANNOT DO

The program only checks that files have not been changed (by a virus or whatever). It cannot prevent damage by a program that does not change other files; for example, a program that just starts erasing a disk at a certain date. Only well kept backups can protect from that. Even backups cannot protect against a virus that invades other programs, however, and that is the purpose of this utility.

DISEASE PREVENTION

Nothing can be 100% protection against viruses. You should practice diligence and prevention. Do not ever download (and use) a program from a pirate board. (I can imagine and understand a software publisher uploading an infected program onto such boards, in sheer retribution.) Never use, in a susceptible environment (such as a hard disk), any program downloaded by or otherwise received from someone you do not know or in whom you do not have confidence.

COPYRIGHT

This program is copyrighted 1988 by Glen Bredon. It is expressly forbidden to give this program to anyone else or to upload it to any bulletin board. If the program was not uploaded by me to a major service then you should not use it. These restrictions are to make it more difficult for a look-alike contaminated program to be distributed.

The program is SHAREWARE for \$20. When you pay your fee, you should indicate where you got the program, so I can warn you if it is not legitimate. (Of course, this notice is unlikely to appear in a non-legitimate copy.)

Just clip and mail:

To: Glen E. Bredon
521 State Road
Princeton, NJ 08540

Re: Apple.Rx version 1.0
Software viral protection program

Glen:

____ Enclosed is my check for \$20 in payment for Apple.Rx. I obtained

the program from: Compuserve

(or)

____ Enclosed is my check for \$25, for which please send me the Apple.Rx program on a 5.25" disk. I understand that you will not distribute the program in this manner during the months of June, July and August.

I understand that the payment entitles me to receive instructions on how to enable the disabled functions, and to receive a warning if my source for the program is not legitimate, and that I may download any future updates from the same source with no further payment, or obtain a revision from you for a P&H fee of \$5. I further understand that it is not possible to have 100% sure protection against software viruses and that no such implied warrantee is given. I agree to abide by the copyright and to not distribute any copies of the program to other people or services.

From: _____

=====
DOCUMENT sammy.lightfoot
=====

[][][][][][][][][][][][][][][][]
[] SAMMY LIGHTFOOT []
[] BY: MR.KRAC-MAN []
[][][][][][][][][][][][][][][][]

COMPLETE SAMMY DOCS!

SAMMY'S HAIR BOUNCES ALONG

=====
DOCUMENT sap.v0.5
=====

SAP Beta Version 0.5

written by

Kenrick Mock

Updated 7/26/91 - See Update file for new changes

Requirements

- 1. IIGS with at least 1.25 megs of memory
2. A paint program capable of saving \$CO pictures
3. A text editor
4. A hard drive is STRONGLY recommended
5. A accelerator is recommended
6. A audio/video digitizer may be desirable

Table of Contents

- 1. What is SAP?
2. SAP Overview
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5. Major Limitations
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What is SAP?

SAP is an animation program. If you have ever used Take-1 (c) Baudville, or Art & Film Director (c) Epyx, then you are already familiar with this program. To put it simply, SAP lets you create movies and put together animations on your GS. This program was somewhat modelled after Take-1, so if you have used this program you shouldn't have much problem adapting to SAP.

Originally, I envisioned SAP as an acronym for "Simple Animation Program." However, once you look at the program, you will see that this is quite a misnomer! The program sports my patented user-hostile interface, and it may take a while to get used to. But please stick with it! Once you master the myriad of commands, it all becomes very simple. In any case, if you feel that "Simple" doesn't apply to this program, feel free to substitute your favorite "S" word in its place (e.g. Stupid, Slick, Sweet, Slow, Silly, etc).

This program is distributed as "Show-Ware". This means that you are free to distribute or copy the program as you wish. However, if you create any nifty animations, then I'd like you to show it to me! This is all I ask. Of course, if you want to send any money or something for some strange reason, I won't turn you away! My address and contact number is listed at the end of this file.

SAP Overview

Installation:

I strongly recommend a hard drive. Currently, SAP only recognizes certain directories. If you don't have a hard drive, you'll be stuck with working on the floppy that SAP comes on, and there isn't much extra disk space. Consequently, if you do own a hard drive then first create a subdirectory on your hard disk called "SAP" and then copy all the files and directories from the SAP disk to the SAP directory.

Your hard drive directory should look something like:

```
*/SAP/SAP.DATA
/MOVIES
/SCENES
/ACTORS
/PICTURES
/SOUNDS
```

and the files PROJECTOR, SCENEEDIT, and ACTOREEDIT should be in the */SAP directory. There will be various files in the other directories.

If you have unpacked directly to a hard disk, then all is fine. If you unpacked onto a floppy, just copy everything to the hard drive.

Terminology:

BACKGROUND: A \$C0 Apple Preferred picture. This picture comprises the background scenery for your animation.

PICTURE: A \$C0 Apple Preferred picture. This is the same as "Background," but the term "Picture" is used to refer to a picture containing shots of actors (see below) rather than background scenery for animation.

ACTOR: An actor is any object which will be animated on the screen. This includes pictures of people, text, or anything else. Currently, all actors are bit mapped graphics. An actor is comprised of SHOTS, described below.

SHOT: A shot is one "still shot" of an actor. For example, if you have an actor which is a talking face, this actor may be composed of three shots. The first might be the face with the lips closed, the second is the face with the lips partly open, and the third the face with the lips fully open. When displayed in succession, it will appear that the face is "talking."

SOUND: A standard digitized sound file.

FRAME: A frame is a just like a frame in a regular movie. It is a snapshot in time containing shots of actors overlaid on a background. A collection of frames makes up a SCENE.

SCENE: A scene is a complete animation all on a single background. It is composed of frames containing shots of actors and sounds.

MOVIE: A bunch of scenes played back-to-back to create a movie.

Brief description of the programs:

ACTOREEDIT - Use to load up \$C0 pictures and "cut" out the shots of the actor.
 SCENEEDIT - This program is where most of the work comes in. You put together your animation/scenes with this program.
 PROJECTOR - Simply plays back movies, which are just a bunch of scenes.

Description of Directories:

SAP recognizes only certain directories. Files must be copied into the

right directory for SAP to work correctly.

```
*/SAP.DATA - Contains data files for SAP to work correctly.
*/SOUNDS - Any sounds you want to play must be copied to this
           directory. Standard sounds, no ACE or anything.
*/PICTURES - All $C0 pictures go here. This includes background
           pictures as well as pictures you will use to cut out
           actors from.
*/SCENES - All scenes will be saved in this directory.
*/ACTORS - All actors will be saved in this directory.
*/MOVIES - Save your movie files in this directory.
*/SOUNDSMITH - Save your soundsmith songs and wave files in this directory.
```

The following outlines the general process you follow to create a movie.

1. Envision in your mind what you want the scene to look like. THIS IS VERY IMPORTANT! You must know exactly how your scene will fit together before you create it. This is because SAP works well when you create your scene going forward, but if you have to jump around and do a lot of editing, then SAP becomes EXTREMELY difficult to work with. In the future I plan to implement cut and paste features which will make things much easier.
2. Create shots of your actors and background picture with your favorite paint program. I did not include a paint program with SAP since there are already so many good paint programs on the market, such as Dream Graphix (stick to 16 color palette though).

Make sure that the background color in your actor picture is color 0. This is normally black. Color 0 will always be "transparent," that is, any color in the background picture will "show through" color 0 in an actor.
3. Using the ACTOREEDIT program, chop out your actors from the \$C0 picture and save them on the disk in actor format.
4. Using the SCENEEDIT program, put together your actors and sounds onto a background picture. This takes the most work. Save your scene.
5. Repeat steps 1-4 to create more scenes.
6. Using a text editor, create a file with the name of the scenes you wish to play in your movie in the order that you want the scenes to appear. Make the last line "0" to make the movie end, or make it "1" to make the movie loop. Save this file in the MOVIES directory. If you name the movie file "AUTORUN" then this movie will automatically run when the PROJECTOR program is launched.
7. Use the PROJECTOR program to play back your movie.

=====

SAP Tutorial

=====

This tutorial will walk you through the creation of some simple scenes. It should give you a good idea of how to create your own movies. I advise you to print out this section and follow along with the program as you read.

First, let's make a ball bounce on the screen.

To get an idea of what is going on, the best place to start is not with the SAP programs, but with your paint program. So if you own a hard drive, then after you copy all the SAP files to the hard disk, launch your favorite paint program.

1. Create Your Actors

Normally, you will have to create your own actors in the paint program.

However, I have already saved some for you on the disk. Open up the picture called "TUTORIAL.PIC" in the */SAP/PICTURES directory.

You should see two circles with the centers colored black, and several figures of a running man. Each figure will become what I call a "shot" of an "actor." What normally happens is that you create your actors with your paint program, and then you will cut out the actor from the picture for use in SAP. Later we will make the man run across the screen by showing consecutive shots of the actor, one after the other, and it will look like he is running.

After you've checked out the picture, take a look at the palette. Notice that there are TWO blacks! Why is this? Well, the first (color #0, the black on the far left of the palette) is TRANSPARENT in SAP. That is, any background colors will "show through" color #0 in any actor. All other colors will be copied directly to the screen. This means that the other black, which is not color #0, won't have the background show through.

The red circle is filled in with color #0 in the center. When this is animated on the screen, it will look like it has a "hole" in the middle.

The blue circle is filled in with a different color black (not #0) in the center. When this is animated on the screen, it won't have a hole but instead a center colored black.

If this is unclear, it will make more sense when we animate the circles on the screen.

You should make sure that the background color of the picture you are going to cut the actors from is color #0. If it is not then you may get funny looking rectangular shapes in your animations.

2. Cut Out Your Actors

Now, exit your paint program and launch the file ACTOREEDIT. After it has finished loading you should see a mousetext screen with several numbered options.

Choose option 1), Load Picture, by pressing "1". Another screen will show the directory of file names in the SAP/PICTURES directory. Use the arrow keys to select the file named "TUTORIAL.PIC" and press return.

The picture will load and be displayed on the screen. Click the mouse or press any key to make the picture go away and you will be returned to the main menu.

At the bottom of the screen should be displayed "shot : 0 (empty)". This means that shot 0 is empty; you have no current shots.

Choose option 3), Cut Actor From Picture. A message will be displayed about selecting the upper left corner of the actor. Click the mouse or press any key to make this message disappear. Now, move the mouse. You should see a pair of crosshairs move on the screen in tune with your mouse. Notice that you can only move the crosshairs by two pixels in the horizontal direction - more on this later. Move the crosshairs to the upper left corner of the red circle. You can only cut out rectangular areas, so make sure that the red circle is below and to the right of the white lines. Click the mouse once when you have maneuvered to the right point. Only click once! DO NOT hold down the mouse button and attempt to drag. You only click once! Now, when you move the mouse, a rectangular box will grow or shrink. Move the box until it contains the entire red circle, and click the mouse. Try to get as close to the circle as possible; the smaller your selected area, the faster SAP will run and the more memory and disk space you save. The area under the white lines will also be included as part of your actor. Finally, you will be shown another message box about saving or discarding your selection. Click or press a key to make the message go away. Now, if you are satisfied with your selection, click the mouse. If you messed up and want to try again, press the spacebar and your selection will not be saved.

You will be returned to the main menu. If you clicked the mouse to save the shot, the bottom of the screen should now say "shot : 1 (empty)". Shot 0 now contains the red circle.

Repeat the previous step, but this time select the blue circle instead of the red circle.

The main menu should now display "shot : 2 (empty)" at the bottom. You may use the left and right arrow keys to move between the currently selected shot. For example, if you move back to shot 0 and press "4" for Delete, the red circle will be deleted and shot 1 (the blue circle) will become shot 0. However, don't delete anything right now!

Instead, let's see what you've done so far. Press "6" to view the current actor. A message box will be displayed instructing you to use the left and right arrow keys. Press any key or click the mouse to make the message go away. You should now see the current shot in the upper left corner of the screen. Use the arrow keys to move among your different shots. In the lower right corner of the screen, the current shot number will be displayed. Press spacebar to return to the main menu.

Notice that the shots are superimposed on the old display screen. If you like, you can clear the SHR screen to color #0 by pressing "8", and then try viewing the shots again with option "6".

Congratulations! You have just created an actor composed of two shots, a red circle and a blue circle. This actor could very well have included shots of the running man as well, but it usually makes more sense to save this as a different actor.

To save this actor, select option 7. You'll be asked for a filename for your actor (it must be less than 15 characters) and it will be saved in the ACTORS directory. Type "CIRCLES" for the actor filename, and press return.

Before moving on to the scene editor, lets also cut out shots of the running man while we are in the ACTOREEDIT program.

If you have cleared the screen, then once again use the load option "1" to load in the picture "TUTORIAL.PIC". Now, this time you won't have to cut out each shot from the picture like you did for the circles. I've already done some of the work for you! I've chopped out 6 of the 8 shots and saved it to disk. It's up to you to cut out the rest.

To load in the saved actor, press "2". The file menu will come up and show a directory of all files in the ACTORS directory. Use the arrows to select the file named "RUNNER" and press return.

Take a look at the actor you've loaded by pressing "6", View Actor. Use the left and right arrow keys to toggle among the different shots. When you are finished, press spacebar to return to the main menu.

Now, the bottom of the screen should read "current shot : 0". If you cut from the picture into the current shot, you will erase whatever is in shot 0 now. Press the right arrow key six times until the screen reads, "current shot : 6 (empty)". At this point, whatever we cut will be placed in the sixth slot, which is now empty.

Next, use option "3" to cut the shot from the picture. The running man you want to select is in the right hand column and three rows down from the top. Cut this actor out into shot #6. Repeat the process and cut out the man in the lower right hand corner into shot #7.

Once you have finished, you may again use the View Actor option to make sure everything looks okay. If it does, then congratulations! Save this actor (with option 7) and call the file "RUNNER.2".

If something went wrong, then use the left and right arrow keys on the main menu to select the shot which is messed up, press "4" to delete that shot, and

try cutting from the picture again into that shot.

You may use this process whenever you want to edit an actor which you have already created and saved on disk.

3. Create the Scene

Next, we will do the fun (and hardest) part - creating the animation! If you are still in the ACTOREDIT program, type "9" to quit. Now, run the SCENEEDIT program.

Once the program loads, you should be presented with a screen similar to the main menu of the ACTOREDIT program. The first thing you should do is type "1" to load a background screen for your scene.

After choosing option 1, you will again be presented with the directory of pictures. Choose the picture called "STUFF". This is a fairly simple picture with a bunch of boxes and lines all over the place.

IMPORTANT NOTE: Make certain that the background picture and the picture that you created your actors in (in this case, "TUTORIAL.PIC") SHARE THE SAME PALETTE. If they do not, your actors will be the wrong color when animated on the screen! The program will use the palette stored with the background picture as the colors to use when drawing the actors.

Now, we need to load in an actor. Type "2" to load in a saved actor. You will be presented with a list of filenames; these are the actors which you saved from the ACTOREDIT program. Select the "CIRCLES" actor. When you are returned to the main menu, you'll see the "CIRCLES" displayed in the upper right hand corner showing that this actor has successfully been loaded.

Okay, you've loaded a background picture and an actor - the minimum requirements to begin shooting a scene - so lets start! Type "6" to shoot the scene and begin the adventure.

The graphics screen will come up and display a picture with a lot of lines and some boxes. This is the picture "STUFF" that you loaded for your background. In the lower right hand corner is the number "0000". This is the current frame. Frame 0 is the first frame. At this point, you may get a list of commands by typing "?". Do it now. A somewhat imposing list of commands will be displayed on the screen. Take a look at them, and see if it makes sense. If it does, then great! If not, they will make sense shortly, so don't panic or give up hope. When finished, press a key to return to the graphics screen.

The first thing you need to do is C)ast an actor. Type "C" now. This will add a new actor to the current frame. You should see your red circle in the upper left hand corner. Move the mouse - the red circle will move along with the mouse. You can use the mouse to place the circle wherever you want on the screen. Try moving it off the screen - the circle will be "clipped" so you can have actors smoothly cruise off any edge of the screen.

Notice that the red circle appears to have a hole in the middle! The background shows through. This is because you filled the center with color #0, the transparent color. Let's switch to the other circle, the blue one, which was not filled with color #0. To switch to the next shot of the current actor, press the up or down arrow. Since you only have two shots, the up and down arrow will "toggle" between the blue and the red circle. With the blue circle activated, try moving it with the mouse. You'll notice that the center is filled in black, and the background does not show through. Recall that earlier, the circles were filled in with different numbered blacks.

Switch back to the red circle, and move it to the middle of the left hand side of the screen. Now, watch the number in the lower right corner of the screen and click the mouse or press return (they both do the same thing). What happened? The number should have turned into 0001, but aside from that, nothing else should have changed on the screen.

However, something did happen! A new frame, frame 0001, was created, and frame

0000 was copied into frame 0001. Then, you were moved to frame 1. Since the previous frame was copied into this frame, the location of the actors is identical and everything looks the same. However, if you change the location of the circle, you'll be able to see the difference.

With the mouse, move the circle a couple of centimeters to the right and a couple of centimeters down.

Press the left arrow. This takes you back one frame, to frame 0000. The ball is back in its original position. Press the right arrow to bring you back to frame 0001. The ball moves slightly to the new position.

Make sure you are in frame 0001, and press return or click the mouse. Now, frame 0002 is created and frame 0001 is copied into frame 0002. We want to move the ball diagonally down again, but as you may have noticed, sometimes it is hard to make precise control with the mouse. In this case, you can use the keyboard for "fine tuning." The 8,4,6, and 2 keys move the circle just slightly in the respective direction on the numeric keypad. The W,A,S, and D keys move it a little more. Try pressing "D" twice and "S" twice to move the circle diagonally down and to the right.

Repeat the process until the circle reaches the bottom of the screen.

Let's take a look at what you've done. Type ESC to quit back to the main menu, and then type "P" for the scene projector. You should see the red circle slide over toward the bottom of the screen! Press any key to return to the main menu when it is over.

Time to add a little more to the animation. How about we make the circle "bounce" back up, diagonally and to the right. From the main menu, type "6" to return to the "shoot scene" portion of the program.

You can use the arrow keys to move to the last frame, but it is easier to use the "J)ump" command. Type "J" and then "L" for last frame, and the program will jump to the last frame you created.

You may want to check the previous (second to last) frame to see if it is identical to the last frame. It is common to have the last frame repeated twice, if you pressed return but didn't change anything. If the last frame is the same as the previous frame, then move to the last frame. If not, then go to the last frame and press return to create a new frame.

Now, press the up arrow key to switch to the blue circle. Press the "D" key twice and the "W" key twice to move the circle right and up.

Repeat the process, creating new frames and moving the circle up and to the right until it goes off the edge of the screen. When you're done, press ESC to return to the main menu.

Choose an intro effect for your scene by pressing "7". Choose any option you like. Do the same for the exit effect by pressing "8".

View your creation through the projector, "P"!

Assuming everything looks okay, save your scene via the save scene option, "5". Call the scene "CIRCLE.BOUNCE"

4. More Advanced Scenes

The last scene you created contained only one actor. This time, lets make a new scene with three actors and we'll also add some sound. We'll use the circles in addition to the runner.

Currently, there is no clean way to wipe out the current scene from memory, so you should use one of the following methods:

- 1) Quit the sceneeditor and re-run it
- 2) Select "4" to load a saved scene, but instead of choosing a scene

press ESC to abort. The current scene will be erased, except for the background picture.

Use one of the above techniques to start fresh. Using the commands you have previously learned, load in the background picture "STUFF", the actor "CIRCLES", and finally the actor "RUNNER".

Additionally, use option "3" to load a digitized sound. The familiar screen of file names will appear. Select the sound "NICESOFTWARE". When prompted for the playback speed, type in "200". The playback speed determines how fast the sound will be played back; 1000 would be quick, and 10 very slow. Of course, this all depends on the original digitization frequency.

Type "6" to begin shooting the scene. Type "C" to cast a new actor; you should see the red circle in the upper left hand corner. Move the circle to the middle of the screen. Type "C" again to cast another actor. Another red circle will appear. Now, type "N" to change this actor to a new one - in this case, the runner. The runner should appear in the spot where the red circle was. If you type "N" again, it will change to the next actor, which would make it turn into the red circle again. For now, leave it as the runner and move it just to the left of the red circle. Type "C" one more time to cast yet another actor. Another red circle will appear. Type the up arrow to change the red circle to a blue circle. You have changed the shot to a different one, but you haven't changed the actor. Move the blue circle to the right of the red circle.

Okay, right now you should have the runner on the left, and right next to it a red circle and then to the right of it a blue circle. You are going to make the runner run across both of these circles and you will see a very interesting thing.

As you've noticed, you can only control one actor on the screen at a time. To select a different actor, press the spacebar. The newly selected actor will blink for a moment so you know which one it is. Press the spacebar until the runner is the selected actor.

Press return to create a new frame. Frame 0000 will be copied into the new frame, frame 0001. The runner should still be the selected actor. We're going to try and make him run to the right. The trick is to watch the feet. You want the feet to line up as we switch to the next shot of the runner. So, with your eyes on the feet, press the up arrow key to change the runner to the next shot. Now, use the "D" or "6" key to move the runner slightly to the right so that the feet are near to where they used to be, but the runner is still moving towards the right.

Repeat the process until the runner has moved to the right side of the screen. The basic procedure is:

```
Press return to copy/create a new frame
Press up-arrow to switch to the next shot
Use the A,D,4,6 keys to position the runner a little to the right of
the previous position
```

While moving the runner, it may appear that the runner goes over the red circle and over the blue circle. However, when using the projector, this will not be the case! In the editor, the selected actor (in this case, the runner) is always brought to the foreground. In the projector, ACTORS ARE DRAWN IN THE ORDER THEY WERE CAST. This means that the runner will run OVER the red circle, since the runner was cast AFTER the red circle. However, the runner will run BEHIND the blue circle, since the blue circle was cast AFTER the runner. See for yourself! Press ESC to exit the editor, and type "P" to view the projection. The runner will move over the red, but behind the blue. This can be a very useful tool in making actors appear to go behind or over things.

Once this has been understood, return to the main menu and back to shooting your scene, option "6". We also want to add some sound in here. Lets make it start at frame 5. Use the J)ump command to get there, or press the right

arrow 5 times to get to frame 5. Next type "P" for "Play Sound". You will be presented with all of the loaded sounds; since you've only loaded one, choose sound 1. Now, when frame 5 comes up, the sound will play! Try it out. Press ESC to go back to the main menu, and run the projector again to check it out.

Of course, it is also possible to animate more than one actor simultaneously. From the main menu, select option 6, and use the J)ump command to jump to the last frame. Move the selected actor to some random spot on the scene. Press spacebar to select the next actor. Move it to some other random spot. Press return to create a new frame. Repeat the process - move the actor to some random spot, press space to select a new actor, and move it to some random spot, etc. Now, when this is played, after the man runs across the screen you should see actors pop up at various locations on the screen. You can also edit existing frames by going there with the arrow keys or the jump command, selecting the actor you want, and moving it. When you leave the frame, any changes you have made will be saved.

Feel free to play around some more with the scene; when you are finished with your creation, add some intro and exit effects, and save this scene under the name "RUNNER.CIR".

5. The Projector

The final step is making a movie. A movie is merely the linking together of various scenes. We'll make a miniature movie consisting of your first scene, the circle bouncing around, and the second scene, the man running across it.

To do this you will need to enter your text editor. The proterm editor, Orca editor, or any word processor will do (as long as you save the file as text). Run your word processor and enter the following:

```
CIRCLE.BOUNCE
RUNNER.CIR
0
END
```

Save this file in the */MOVIES directory under the filename "TUTOR.SAP". What will this do? As you might guess, it will first run the scene named "CIRCLE.BOUNCE" and then the scene named "RUNNER.CIR". These are the names that you used to save your previous scenes. The "0" means that the projector should quit after running the scene "RUNNER.CIR". If you had used a "1" instead, then the projector will re-loop the entire movie. The last line should always contain the word "END".

As another example, if you had instead created the following movie file:

```
CIRCLE.BOUNCE
CIRCLE.BOUNCE
RUNNER.CIR
1
END
```

Then upon running the movie, you would see the circle bounce scene twice, the runner, and then the whole thing would repeat indefinitely until ESC is pressed to abort the movie.

To run your movie, launch the PROJECTOR file. The familiar file menu will appear. Simply select the movie you've just created "TUTOR.SAP" and it will run. Abort at any time by pressing ESCAPE. Any other key will pause the movie at the current frame until another key is pressed.

6. Copying Movies To A Floppy

If you wish to copy your creation onto a self-contained floppy disk, there are a few things you need to do.

First, create the subdirectories PICTURES, SOUNDS, MOVIES, SCENES, ACTORS,

SOUNDSMITH, and SAP.DATA on the root directory of the floppy disk.

Copy the PROJECTOR program onto the root directory of the floppy.
Copy the TOOL219 tool onto the root directory of the floppy.

From your SAP disk, copy the file "FILEDIR.SCR" from the */SAP.DATA directory to the SAP.DATA directory of the floppy.

Copy all the necessary files from the PICTURES, SOUNDS, MOVIES, SCENES, ACTORS, and SOUNDSMITH directories to their respective directories on the floppy.

That's it - upon running the PROJECTOR program, your movie should run.

If you want the PROJECTOR program to automatically run your movie, then rename your movie file to "AUTORUN". When the projector program is first run, it initially looks for this file. If found, it will run it. If not, it will bring up the directory of movie files.

That is all for the tutorial - experiment, and have fun!

If you have problems, look at the "DEMO1" and "DEMO2" scenes and "DEMO.SAP" movie. These are finished examples of what you might get after using the tutorial.

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SAP SCENEEDITOR Command Reference

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The most complicated commands are in the SCENEEDITOR while shooting the scene. The following is a command summary.

- C - Cast new actor on the screen. This creates a new actor and adds it to the current frame. You may not have more than 15 actors on the screen simultaneously.
- N - Changes the currently selected actor to the next loaded actor.
- SP - Spacebar selects a different actor on the screen.
- Up - Up Arrow switches to the next shot of the currently selected actor.
- Dwn - Down Arrow switches to the previous shot of the currently selected actor.
- R - Remove the currently selected actor from the frame.
- I - Insert new frame in front of the current frame. The current frame is copied to this new frame.
- K - Delete the entire current frame.
- J - Jump to a different frame.
- <- - Left arrow moves to the previous frame.
- > - Right arrow moves to the next frame.
- CR - Creates a new frame if currently on the last frame. Otherwise, it moves to the next frame (same as right arrow). Clicking the mouse has the same effect.
- P - Play a loaded digitized sound
- O - Other options to take effect on the current frame
 - Turn off transwarp/zip chip for speed dependent animation. This is useful if animating in tune with music or sound, so everything will be synchronized for those with and without accelerators.
 - Wait for a key to be pressed.

- Pause for a certain amount of time. This time is based on the GS's clock, so it doesn't matter if an accelerator is running.
- Soundsmith options
- Screen Transitions

A,W,S,D - Move the actor by 4,4,4,4 pixels in the specified direction.
4,8,2,6 - Move the actor by 2,1,1,2 pixels in the specified direction.

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SAP Limitations

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Maximum of:

15 shots per actor. If you have an actor that needs more shots, you'll need to split it up into several different actors.

A single shot of an actor cannot be bigger than half the screen.

Maximum of 20 actors on the screen at once. This means you can only use the "C"ast command a maximum of 20 times for one frame.

Maximum of 15 actors may be loaded at one time in the SCENEEDIT program.

Maximum of 5 digitized sounds per scene.

Maximum of 200K combined sound per scene. The combined memory of the 5 allowable digitized sounds must not exceed 200K or great chaos shall erupt.

Perhaps the greatest limitation is in moving/cutting out the actors. You may notice that in moving horizontally, you can't move by 1 pixel. You have to move 2 pixels at a time. This can be a problem if you have an actor you would like to line up with something on the background, but you can't do it because you will be off by 1 pixel. In this case, you'll have to edit your background with a paint program and move the background over 1 pixel. The reason for this is that SAP uses byte addressing, whereas each byte contains two pixels of color.

Speed - SAP is kind of slow.

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SAP Comments and Addendum

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Despite stack screen updating, SAP can still be slow due to a large amount of overhead and C code. You can do the following to increase speed:

- 1) Keep actors small.
- 2) Keep actors close together. In particular, keeping the vertical distance between actors will speed things up. Two men, running horizontally on the top and bottom of the screen will be slower than two men running horizontally one right on top of the other.

Additionally, I am aware of the following additions which need to be made:

- 1) Cut and Paste features in the Sceneditor. This will make it much easier to do editing.
- 2) Ability to remove actors and sounds in the sceneditor. Currently you have to erase everything and start all over even if you want to just delete an actor or sound.
- 3) A built-in editor for the projector, so you don't need to load up your text editor.
- 4) General improvements to the user interface.
- 5) Perhaps a simple paint program in the ACTOREEDIT program to make quick and minor adjustments.

When System 6.0 and Apple's animation toolset comes out, I may rewrite SAP

using the new tools.

=====

Please give me feedback about this program! If I don't get much response, then I WON'T WRITE ANY NEW VERSION. This may sound familiar - I had done the same thing with Columns Beta and Columns 1.0. However, the response to both was very positive and I continued to work on Columns 2.0. SAP can also grow, but it won't if nobody cares for it.

You may freely distribute this program, but if you create anything I'd like to see it.

I may be contacted at:

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 Altered Apple : 916-737-1235, user #15
 Talisman : 612-332-8876, user #46
 UOP : 415-991-4832, user #53

SAP is written in Orca/C and Orca/M (c) Byte Works, with various routines utilizing the 360 text toolkit (c) 360 Microsystems and Tool219 (c) FTA for Soundsmith.

=====

DOCUMENT sargon.iii

=====

```

////////////////////////////////////
/                SARGON III                /
/                BY: RESET VECTOR          /
////////////////////////////////////
    
```

=====

SARGON III

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BELOW ARE THE COMMANDS YOU NEED TO KNOW TO USE SARGON III. PLEASE NOTE THAT YOU ENTER MOVES IN ALGEBRAIC NOTATION. THUS YOU ENTER D2-D4 (THE HYPHEN MAY BE A SPACE OR A HYPHEN) TO MOVE THE PAWN THAT STARTED OUT ON SQUARE D2.

- ESC: TOGGLES BETWEEN TEXT AND GRAPHICS.
- CTRL-N: STARTS A NEW GAME.
- CTRL-Q: EXITS THE PROGRAM.
- SHIFT-1 TO SHIFT-9: SELECTS LEVEL.
- LEVEL-1 IS 5 SECONDS PER MOVE AND
- LEVEL-8 IS 10 MINUTES PER MOVE.
- LEVEL-9 HAS NO TIME LIMIT.
- CTRL-T: TERMINATES MOVE SEARCH. CAN BE USED AT ANY TIME TO MAKE SARGON USE THE BEST MOVE IT HAS FOUND. NEEDED FOR LEVEL-9.
- CTRL-S: CHANGES SIDES WITH SARGON.
- CTRL-I: INVERTS THE BOARD.
- CTRL-B: TAKES BACK MOVES.
- CTRL-O: MAKES SARGON SUGGEST A MOVE.
- CTRL-E: EASY MODE - SARGON WILL NOT THINK ON YOUR TIME.
- CTRL-V: VERIFY MODE - SARGON WILL ACT AS REFEREE FOR TWO HUMAN PLAYERS.
- CTRL-Z: ZAP BEEPER.
- CTRL-D: OFFERS A DRAW TO SARGON.
- CTRL-R: REPLAYS GAME. SUBCOMMANDS ARE: RRVE AT A TIME.
- ESC: GRAPHICS/TEXT TOGGLE.
- CTRL-F: CANCELS REPLAY MODE AND MOVES YOU FORWARD TO LAST MOVE PLAYED
- CTRL-X: CANCELS REPLAY MODE AND LEAVES YOU IN CURRENT POSITION.
- CTRL-N: CANCELS REPLAY MODE AND STARTS A NEW GAME.
- CTRL-P: PRINTS LIST OF MOVES.
- CTRL-W: PRINTS CURRENT BOARD POSITION.
- CTRL-G: SAVE GAME TO DISK.
- CTRL-L: LOAD GAME FROM DISK. ENTER 'CATALOG' AT PROMPT FOR A CATALOG OF THE DISK.
- CTRL-A: ANALYSIS MODE. THIS ALLOWS EDITING OF THE BOARD POSITION:
 - AOR LEFT/RIGHT
 - AND ';' MOVES UP AND '/' MOVES DOWN.
 - C: CHANGES DEFAULT COLOR.
 - K: PLACES KING ON SQUARE.
 - Q: PLACES QUEEN ON SQUARE.
 - R: PLACES ROOK ON SQUARE.
 - B: PLACES BISHOP ON SQUARE.
 - N: PLACES KNIGHT ON SQUARE.
 - P: PLACES PAWN ON SQUARE.
 - SPACE BAR: CLEARS SQUARE.
 - RETURN: EXITS ANALYSIS MODE.
- CTRL-C: CHANGES COLOR WITH MOVE. THIS ALLOWS YOU TO SPECIFY WHOSE TURN IT IS TO MOVE NEXT.
- CTRL-Y: CANCELS OPENING LIBRARY AND MAKES SARGON THINK ON ITS OWN.
- CTRL-J: WINDOW ON SEARCH. NOT ACTIVE WHEN OPENING BOOK IS ACTIVE.

Control-Z:

("Zip") The character to the left of the cursor is repeated to the right-hand edge of the screen. This is useful for drawing the tops and bottoms of boxes. Typing a space and control-Z can be used to jump the cursor to the right-hand side of the screen.

Control-L:

("Lift/Lower") If you've entered a line of text and then decide it should be lower or higher on the screen, you can move it by first pressing Control-L and then the up or down arrow key. The line the cursor is on will be erased and re-written on the next line up (if you pressed up-arrow) or down (down-arrow). The line that was previously in the next-up or next-down position will be replaced by the line you are moving.

Control-G:

A "GET G\$" will be executed at the cursor's position. This will appear on the editor's screen as an un-blinking cursor character. Only one Control-G is allowed on a page.

Control-C and Control-T

("C" for "Commands" and "T" for "Title Screen".) Either of these control keys will do the same thing: display the title screen with its list of editor commands to jog your memory. You can then press <return> to return to the screen you were working on. There are two control key options for this command to make it harder to forget. (I couldn't use Control-H(elp), because a Control-H is a backspace.)

<Esc>:

Quit the editor. You will be prompted with "DONE? Y/N".

The SCLU "translator":

When you exit from the editor, SCLU prompts you for the starting line number for the program lines it will create, the amount by which to increment the line numbers, and the name to use for the text file it will write the lines to. If SCLU detects that it is running under ProDOS, it will have a default file name for the EXEC file it creates of "/RAM/SCLU.FILE". If your Apple has a RAM disk, you can press <return> at the file name prompt to accept this name. The translating of your screen layout into BASIC may take a minute or two. After completing the translation, SCLU removes itself from memory. You can then LOAD the program that you want the SCLU-written code added to, and EXEC the file SCLU has created.

The BASIC lines that SCLU writes will not always be the most efficient possible. It may use a "NORMAL: PRINT SPC (xx)" where an "HTAB yy" would be more sensible, for example. Just goes to show that, in this case at least, programmers are smarter than programs. SCLU's code will, however, (barring bugs) do the job of recreating your screen design.

Limits:

SCLU can't handle absolutely all possible screen displays. For example, if you fill a screen line with alternating MouseText and normal characters, SCLU will crash with a "STRING TOO LONG" error. Other overly fancy shenanigans may cause SCLU to write an illegally long BASIC line. Be half-way reasonable, and SCLU won't sclu things up.

About MouseText:

As many of you will know, MouseText is a set of graphics characters available on the IIGs, IIC, and "enhanced" IIE. IIE's manufactured after March, '85 are enhanced; older IIE's need a ROM upgrade to display MouseText. I believe that all of the currently available Apple II clones have a MouseText character set. The MouseText characters consist of open and solid apples, a variety of arrows, lines for drawing boxes, etc. If you have one of the MouseText-capable machines, the title page you see when you run SCLU uses MouseText. From within a BASIC program, it can be determined whether an Apple can display MouseText with the following PEEKS: If peek(64435)<>6 then II+; no MouseText. If peek(64448)=234 then un-enhanced IIE; no MouseText. To use MouseText with SCLU, you'll need to know which letter corresponds to which MouseText character. A letter-to-MouseText listing is included on the Beagle Bros. "Peeks, Pokes and Pointers" chart, and in many Apple-oriented books and manuals. Also, if you have an Apple ImageWriter II printer, the program "IMAGE2.MOUSETXT" on this disk will print out a similar listing.

Karl Bunker
October '87

```
=====
DOCUMENT sclu
=====
```

SCLU
Screen Layout Utility

SCLU ("skloo") is a neat little utility program which allows you to quickly and easily design 40 column screens of text. Using the SCLU editor, you simply type the text onto the screen as you want it to appear in your BASIC program. The editor allows you to enter normal, inverse, flashing and MouseText characters. (More about MouseText below.) It also has several word-processor-like commands to help you design your screen. When you are finished, you quit the editor with <esc>, and SCLU will translate what you have typed on the screen into lines of BASIC code. These lines of BASIC are written into a text file that you can then EXEC to enter them into any BASIC program. SCLU lets you experiment with a variety of screen layouts, without having continually to "round trip" between editing and testing your program. SCLU is useful for designing more-or-less elaborate "title page" screens, and for situations that call for one or a few screenfuls of neatly formatted text.

The SCLU editor:

A brief summary of the editor's commands appears on SCLU's title page. Here is a full description of the SCLU editor:

Control-N:

Text entered will be normal.

Control-I:

Text will be inverse; only upper case can be entered (the 40 column mode firmware doesn't allow lower case inverse).

Control-F:

Text will be flashing; upper case only.

Control-A:

("A" for "Apple".) Text will be MouseText. Note that the 40 column firmware doesn't allow both flashing and MouseText characters on the same screen.

Arrow keys:

Move the cursor; II+ users will have to use control-K/control-J in place of the up/down arrow keys.

<Return>:

Moves the cursor to the beginning of the next line; doesn't effect the content of either line.

Control-P:

("Push/Pull") Enter insert mode; text to the right of the cursor will be pushed forward when new text is entered. If a character is deleted, text to the right of the delete will be pulled back. This mode is usually off, and will be turned off by using any arrow key or <return>. Because SCLU is in BASIC, it's pretty slow while in insert mode.

<Delete>/Control-D:

Delete character to the left of the cursor; with pull-back if the control-P insert mode is active. II+ users can use control-D in place of the <delete> key. Deleting resets the text mode to normal.

Control-B:

("Beginning") Cursor jumps to the left-hand side of the screen.

Control-E:

("End") Cursor jumps to the right of the last character on the line.

Control-S:

("Shorten") All text to the right of the cursor is erased.

===== DOCUMENT scr.blank =====

Screen Blanker GS v2.2
by: Ron Mercer (aka. The Dungeon Master)

Call: The Mist // 216/974-1153 70megs, 9600bps

[A Parasitic Presentation]
[This is just ONE of the wares that I plan on releasing today: My Birthday]

< This one has NO bugs >
< This one does not lock up if an invalid key is pressed >
< This one detects keypresses better >

This USE file for ACOS will take over the answering of your modem, thus allowing for many features (suggestions please?). The screen will be blanked while awaiting a call; to reduce wear on the monitor (character imprints on your screen). While awaiting a call you can toggle the screen (back to normal or back to black) with the spacebar.

To give credit where credit is due, Xor Blade came to me with his problem, so it is for him that this file was written.

Installation is easy; copy the file SCR.BLANK to whatever spec you want it on, then modify your LOGON.SEG (or whatever seg has the MODEM(0) command in it) so instead of a MODEM(0) you have:

use "x:scr.blank":edit(0)

(where spec "x:" is a drivespec of your choosing)

Commands Available:
SPACEBAR = toggle screen (black/normal, normal/black)
Q = quit to prodos
G = sysop login
A = pick up phone

Enjoy

Aug18/1988

===== DOCUMENT script =====

Intele-Term 1.2
Script Language Description

Copyright 1986 by Morgan Davis

DESCRIPTION

The IT (Intele-Term) program on this disk has the ability to execute scripts, files containing many instructions which can be executed in a batch mode, not unlike EXEC files in ProDOS BASIC. The script language contains a variety of commands which allow you to perform many sophisticated tasks with the Intele-Term program, such as automatic redial until connect, automatic login, sending and receiving files using XMODEM protocol, and much more.

With the [A]t command in IT, you can tell IT to wait until a certain time of day before executing a script for you. This allows your computer to wait until a specified time before running a complex set of dialing and connecting instructions. For example, you could write a script which lets your computer dial up an information service at 3 o'clock in the morning when the rates are cheapest, then download stock quotes, send or retrieve electronic mail, etc.

While a script is busy running, you can cancel it by pressing Escape.

Using any standard ASCII text editor, you can write your script file. Name it anything, but give it a .SRC file extension. This lets you distinguish between the script source file and the compiled output that IT uses. The structure of a script file follows these guidelines:

1. Each instruction is on a line by itself
2. Labels are declared on lines by themselves and a colon (:) follows the label name.
3. When labels are referenced, the colon is not used.
4. Indenting is optional, but aids in keeping your program readable.
5. All text arguments can have control characters imbedded in them by entering a caret (^) followed by the letter (upper or lowercase) of the corresponding control character. For example, to put a carriage return at the end of a PRINT instruction, you would use:

PRINT "Testing^M"

Creative use of control characters can produce some very interesting displays. Inverse and Normal video modes can be turned on. You can keep the speaker, etc.
6. Text arguments which contain spaces must be put between quotation marks, otherwise the program will only recognize the first word in a series of words.
7. A space character must separate a command from its argument(s).

Before a script can be used by IT, it must be compiled using the COMPILER program on the ModemWorks disk. You can call up the compiler from IT by using the [C] command.

The script language consists of these commands:

| | | | |
|---------|---------|----------|---------|
| DO | TERM | GOTO | HOME |
| PRINT | SPEED | ECHO | DIAL |
| CONNECT | RETURN | WAIT | IF |
| SEND | HANGUP | SENDFILE | GETFILE |
| BREAK | PAUSE | DISK | RUN |
| END | PRINTER | EMULATE | |

Each command is described next.

DO label

Causes script execution to begin executing instructions at a certain label. When a RETURN instruction is encountered, program flow resumes with the next instruction following the DO command. This is just like a GOSUB in Applesoft BASIC.

TERM

Temporarily pauses script execution and puts you into TERMINAL mode. When you press Escape to exit terminal mode, script execution continues.

GOTO label

Diverts script execution to a certain label. This is like GOTO in Applesoft.

HOME

Clears the screen and puts the cursor in the upper left corner.

PRINT "text"

Displays text on the screen, but is not sent to the modem.

SPEED bps

SPEED will set the bits per second rate for use with IT. Values for "bps" are 300, 1200, 2400, and 9600.

ECHO mode

Sets up local or remote echo modes for terminal mode. Arguments for "mode" are ON and OFF. ECHO ON is half duplex (local echo). ECHO OFF is full duplex (remote echo).

DIAL number

Dials a phone number. See &CALL in the manual for details.

CONNECT

Attempts to connect with a host computer after dialing out. Use of the IF statement is useful after executing CONNECT to determine if connection was successfully established.

RETURN

Causes script execution to RETURN to the line following the corresponding DO instruction.

WAIT "text"

Halts script execution until "text" has come in through the modem. This is used for handshaking on incoming data. Use the IF instruction to determine whether or not the string to handshake on was found.

IF condition GOTO label

IF is used to test the most recent function performed by the script, such as attempting to connect with a host computer, sending or receiving a file, or handshaking on incoming text. Example conditions for use with IF are:

```

if FOUND goto ...           if OK goto ...
if CONNECT goto ...        if GOOD goto ...
if FAILED goto ...         if BAD goto ...
if TRUE goto ...           if SUCCESS goto ...
if FALSE goto ...          if NO goto ...
if YES goto ...
    
```

Placing NOT or NO in front of a condition will test for a negative condition, such as IF NOT FOUND GOTO label. The word THEN can be used in place of GOTO if you desire, although both GOTO and THEN are totally optional. If the condition tested is true, the script will attempt to GOTO to the label name which is at the very end of the IF instruction line. So if you had a label called "Stop" you could do this: IF NO CONNECT Stop

SEND "text"

Works just like PRINT, except this will send text to the modem and not to the screen. Remember, if you need to send a carriage return, use "^M" (caret followed by the letter M).

HANGUP

Disconnects the modem with the host, and hangs up the phone.

SENDFILE file options

Prepares to send the "file" using special "options." If "option" is PROTOCOL, XMODEM will be used to send the file. Example:

```
SENDFILE FOOBAR.COM PROTOCOL
```

If "options" is not PROTOCOL, the file is sent as a regular text file, line by line. You must specify two "option" arguments: an interline delay value, and a character which to use to handshake on each new line. Example:

```
SENDFILE BLETCH.TXT 7 :
```

This will send the file "BLETCH.TXT" line by line, with an interline delay of 7, and will wait for a colon from the host before each line of the file is sent out.

GETFILE file PROTOCOL

Gets a "file" from the host computer using XMODEM protocol. (Sorry, text receive-to-disk is not implemented).

BREAK

Sends a modem break tone. (see &BREAK in the ModemWorks manual)

PAUSE seconds

Causes script execution to pause for so-many seconds, then execution will resume.

DISK command

Allows the script to execute a ProDOS BASIC disk command. Examples:

```
DISK prefix /profile/mail
DISK delete /ram/temp
DISK cat,s6,d2
```

RUN script

Lets you run a different script file from within a script.

END

Causes a script to stop running. If you're online, you're taken right to terminal mode.

PRINTER mode

Specifies whether any output which is shown inside the terminal mode window will be sent to the printer or not. Values for "mode" are ON and OFF. PRINTER ON sends output to the printer, while PRINTER OFF does not.

EMULATE terminal

Initializes terminal emulation for the named terminal template file. If the template does not exist in the current prefix, you should specify a fully qualified pathname to the file. Terminal template files are those with a file type of \$00 on the ModemWorks disk.

FILES

On disk, you'll find a sample script source file named SCRIPT.SRC. Use SCRIPT.SRC as an example of a typical "dial up and log-in" script.

The program named COMPILE is the actual script compiler. It can be invoked using the [C]ompile command from within IT, or from BASIC.

BUGS

The COMPILE program will not catch duplicate labels declared in a script file. Be careful.

=====

DOCUMENT sepia.izer

=====

Sepia-izer

=====

Lots of IIGs graphics, especially scanned-in images, are grey scale. With 16 shades of grey, a reasonable degree of photographic clarity can be achieved on the GS. However, grey scale is kind of -- well -- grey. Sepia tone is often a much more aesthetically pleasant palette, while retaining all the clarity of grey scale. For those who may not know, sepia tone refers to a range of brownish tones, from almost black to almost white. Many early photographs were sepia tone, rather than black and white. Personally, I like sepia tone a lot.

You can convert a grey scale graphic to sepia tone with most paint programs, either by building the sepia tone palette by hand, or by copying the palette from a pre-existing sepia tone graphic. The former method is slow and difficult, and the latter isn't possible with all paint programs, and requires that you already own at least one sepia tone graphic.

Sepia-izer is another method of converting grey scale graphics to sepia tone. Sepia-izer will take any PIC or Apple Preferred Format PNT file, and convert the palette of the graphic to sepia tone. To use Sepia-izer, simply launch it, and select a file from the list displayed. Prompts explain how to navigate to the disk and folder your graphics are in. The file SF.GET must be in the same folder that SEPIA.IZER is in when you launch it. (SF.GET is a utility which provides the user-friendly, point-and-click means of selecting files in Sepia-izer. SF.GET is freeware and is available with complete documentation on GENie and America Online.)

Ifs, Ands, Buts, and Watch-outs:

Sepia-izer is dangerous if misused. It alters your original graphic file, rather than creating a new graphic, so be sure your file isn't irreplaceable. If the original graphic was not, in fact, a grey scale graphic, the result will be a mess. Sepia-izer only works on Apple Preferred Format PNT files and SHR image PIC files. Unfortunately, Sepia-izer has no capability for displaying graphics.

I'm not pretending Sepia-izer is worth much of anything (it's freeware, by the way). It was really a bored-hot-summer-night kind of a project. But _I_ use it and find it worthwhile; maybe you will, too.

Karl Bunker

=====

DOCUMENT seven.city.gold

=====

```

<==*-----*==>
|           Seven Cities of Gold           |
|           The Manual                     |
<==*-----*==>

<==*-----*==>
|           Written by                     |
|                                           |
|           The Camel Jockey              |
<==*-----*==>

<==*-----*==>
|           Prelude                        |
<==*-----*==>
    
```

```

%%
%% %%
%% %%
%%
    
```

%% NCE, in a tavern on the waterfront, an old salt whispered to you the tale of the Seven Bishops Christian men who had been blown far off course into an unknown realm and who established seven Kingdoms whose splendor ranked with the reign of Solomon. Since that time you have dreamed of little else.

Now at long last you have been granted the resources necessary to mount an expedition. To be sure, the Court's ministers are interested only in surpassing Portugal's maritime strength and controlling commerce to and from the Orient. They do not know of your real motives. But no matter. The expedition is yours to command, and you feel certain that adventure beyond all imagining, and riches beyond all dreams of avarice, are in your grasp.

```

<==*-----*==>
|           In Europe                       |
<==*-----*==>
    
```

The Court

Not every visit to the palace will fill your heart with the same exultation as the first. Nevertheless, here you must return - for recognition of your accomplishments, for the glory and power of titles, perhaps for more gold desperately needed to continue your search. Alas, need alone will not guarantee another audience to any save novices.

Home

Here, in private, may contemplate your successes (or lick your wounds) and study the maps you've created on your journeys. Here you may also judge the progress you're making towards your goals - how much and how many rivers you've explored, how many natives you've encountered, and how many special landmarks (great lakes, lust jungles, etc.) you've found. Finally, you may learn how many missions you've established and how much more gold you've found than you've spent.

The Court considers all the categories listed, except missions and lives, in granting titles. The highest rank, Viceroy, is reserved for those who can achieve an overall rating of at least 50% by 1540. (Losing an expedition completely - dying - costs you the maps and discoveries made since the last time you stopped by the pub. It also costs you the opportunity to get future credit for all those discoveries save the discovery of land, and you lose a year and a half

of your valuable time.)

The Outfitters

It is here that you will spend your gold to equip and provision your expeditions. As your experience grows, learn to choose effectively among the ways you can invest your wealth. Do you plan to trade? How many goods will you need? Do you aim to conquer? What size army must you assemble? Can you find food? How much should you take? Find the answers that fit your style of exploration. Or prepare yourself for an unhappy relationship with the Court and for expeditions barely able to survive - hardly the marks of explorers destined to become Viceroys.

Player Tip

Food is bought and bartered for in relation to the number of men in your expedition. Decide on the number of men you want first, then on how many weeks' worth of food you want for them. To get a feel for this relationship, play around with the two quantities the first few times you're give the opportunity.

The Pub

Wise conquistadors will stop by here after every trip to record their maps and discoveries. Losing also all the maps and discoveries you made on your last three trips is heartrending.

```
<==*-----*==>
|           The Expedition           |
<==*-----*==>
```

The Voyage

When you leave port, mark well the indications of your voyage and how they continually change. On the screen window, north is always at the top, west to the left. At the top of the screen you see the month and year and the number of vessels still in your expedition. To the left is the size of your army and the number of weeks you can feed that many mouths with the food on hand. To the right is the ledger of your cargo of goods and gold. At the bottom is your speed and the depth of the water.

Your ship's cartographer can help you but little on this part of your search. Choose the "view map" option to learn your latitude and pay attention to the passage of time. By such dead reckoning you will learn to cross the ocean with the least expense of food and life.

There are many perils in the uncharted waters beyond Spain. Men die of scurvy or of storms in which no one can hear their last cries for help. Those same storms can blow you far off course and cost you vital time. Your supply of food dwindles as you ply your way across the vast ocean. Wander too long in search of landfall, and you will surely perish.

From the Historical Record

Columbus' critics were right. If there had been no American continent, no Spanish fleet of that era could have completed the ten thousand mile expedition across the Atlantic to Japan. They couldn't carry enough food.

The food they could carry was no treat - a grim mixture of tough salt mat, hardtack, and dried vegetables. Meals were cooked in a wooden firebox embedded in a heap of sand on deck. Sour wine and stale water completed the repast.

Discovery and Exploration

Bring your ships into safe mooring carefully and learn from your costly mistakes. Resolve not to lose more ships by inattentively running around or to the same shoals or shallows. Remember also that if you leave your ships unattended while you set off on long journeys, the sailors who man the ships (who are not included in your roster count) just might sail away before your return.

As you move over the land think of all who will bless your name for your discoveries. The Court and merchants want gold and trade; sailors, other explorers and scholars will be eager to see your maps. Others in the Universities will be anxious to hear of the surface of the land and of the people who live in it. And the Holy Church is ever solicitous to save unenlightened souls.

The Church has a powerful ally in your need for food and someone to help carry it. Unless you find and learn to deal with some local inhabitants, you're not going to get very far in your quest for the fabulously wealthy cities you hope to find.

Playing Tips

1. Imagine a world without roads and you'll begin to grasp the importance of rivers to the explorers in the 16th Century. Your own progress also depends on your use of rivers - a moderate pace on a river moves you as fast as a reckless pace on land.

2. Your computer will build maps for you as you go. Consult them frequently. (Your positions is always approximately in the center.) You want to build pictures in your head and perhaps even keep journal notes of what happened where. Your goal is to be able to find your way back to useful places and avoid dangerous ones. (one screen measures 120 miles on a side on the exploration surface and 960 miles on a side on your maps.)

```
<==*-----*==>
|           The Natives           |
<==*-----*==>
```

Making Contact with the Natives

In any new region, where the natives live will not be visible (save to the novice) unless you take the time to stop and look for signs. When you have spotted a signal and move to enter a village, think also of what signal you mean to send as you go in. Reckless aggression? Cautious friendliness? Open-handed generosity? The decision is yours alone. And its implications and consequences are yours alone to bear.

There will be considerable variety in the natives you encounter. Some will be more populous, some more credulous, some more hostile, and some more complex combinations of those attributes. If you would survive and prosper, learn to use your ears and eyes for clues to the natives' moods and the patterns in their responses to your actions and combinations of actions.

Trade or Conquest

Both approaches are available to you. Both, if successful, bring valuable bearers as well as goods. To trade, as the natives will be quick to tell (if your gait and perhaps your generosity seem suitable), you must deal directly with the chief. He always stands in the center of the village until and aggressive threat causes him to vanish or yield in despair.

Conquest is quick, but it consumes lives and leaves bitter memories. Trading is safer, but it is also slower and requires many goods. Take whatever actions your heart and mind tell you to take - and attend to what you learn about yourself in the bargain. And harken. None but novices should always believe everything their bearers tell them -

especially bearers far from home on an expedition whose food is going stale. And consider that the natives remember long and well what treatment they receive at your hands. Let your future dreams temper your present schemes.

From the Historical Record

On his final voyage, Columbus found himself stranded in Jamaica. At first the natives supplied food; but the voracious appetites of the explorers - they consumed 15 to 20 times as much food as the natives did themselves - soon put them out of favor. The Spanish were slowly starving.

Columbus devised a stratagem. His almanac predicted a total eclipse of the moon on the last night of February 1504. Columbus summoned the native chieftain and announced that Almighty God was displeased with their treatment of His chosen emissary. If food was not brought to the Spanish, the Lord would darken the moon forever.

The eclipse began at moonrise. Soon the entire village ran howling to Columbus' ship, imploring him to halt the destruction. Columbus waited in his cabin until the full eclipse phase had passed, then emerged and took credit for a successful intercession on their behalf.

Columbus and his men enjoyed an ample food supply for the duration of their journey.

Establishing Forts and Missions

Both trade and conquest can bring you the opportunity to establish more than a thinly manned fort, and how few to avoid and over garrisoned armory, will depend on the size of the native population at the site. Let the pictures signifying fort and missions be your guide. And let experience tell you how eager the conquered are to throw off their yokes during your absence.

From the Historical Record

At times the natives were only too willing for the Spanish to establish armed garrisons in their own land. Gudcanagari, chieftain of a Haitian tribe, implored Columbus to establish a colony so that Spanish guns could help him defeat his rivals on the island. Columbus had his own reasons for wanting to found such a colony. Thus was Villa de la Navidad (Christmas Town) the first settlement and first armed fort in the New World.

Playing Tips

1. Pay attention to the time of year and to your latitude. Toward the far north and south, the effects of climate become visible in the fall, winter and spring. And, since how much food you'll find in a village depends on when the last harvest was, you'll find paying attention to the seasons materially rewarding as well as aesthetically pleasing.
2. Don't underestimate native communications. Some can spread word of your activities to cities you haven't visited yet. And bearers can show you the location of other settlements - and of treasures, if you pause long enough to listen to them.
3. A mission can supply nearby ships and cause the sailors to wait patiently for the return of the landing party, provided care has been taken to inform the mission inhabitants of the location of the ships.

1540 and Beyond

Within 50 years of Columbus' first voyage, the Spanish had conquered the New World's most advanced civilizations and had begun to

consolidate one half of the territory into a colonial empire. Center stage began to pass from the Spanish Conquistadors to the traders and settlers of many nations who followed.

You may continue your explorations after 1540 if you wish, but you will receive no more titles from the Court or other recognition for your efforts. If you wish to see the complete map of the territory you've been exploring so you can begin anew with a New World, see the reference card section of this doc file.

```
<--*-----*-->
|           Advanced Play           |
<--*-----*-->
```

Notes on the World Maker

Calling brand new New Worlds "random continents" conveys something of their challenge and variability, but it doesn't do justice to the sophistication of the program that produces them. New Worlds are not simply drawn willy-nilly. They conform to geological and cultural principles built into the program code.

There is, for instance, a plate tectonics model consulted for each creation. Mountain ranges are generated where the plates bump into each other. And secondary ranges (like the Allegheny mountains on the historical map) may be created as well.

The program also consults a cultural dissemination model for its work. The influences of major civilizations are presumed to spread outward. Consequently, pueblo dwellers generally will be found between city-states and primitive agriculturists. The model will allow for varying levels of this influence and can thus produce occasional continent arrangements which have no Incan level civilizations. Alternately, it can make a very rich and powerful arrangements, ones which, like 16th-Century Japan, are highly civilized from coast to coast.

Competitive Play

Though only one player may use and save a position on a particular map disk, competitive opportunities may be created by using 2 of the program disk to make multiple copies of a map disk. Several different players might then explore the same terrain, comparing progress periodically or simply declaring the winner to be the player with the highest totals and title by some agreed upon date. (Note: You can start a new game with a map disk without disturbing a game previously saved to that disk, but you cannot save more than one game on any given disk.

```
<--*-----*-->
| Basic Joystick Control Information |
<--*-----*-->
```

General - Moving the joystick moves the expedition. Pressing the button while moving changes speed. Pressing the button while at rest produces a options menu.

The Exception - Pressing the button while moving at sea sets your course. You may release the joystick and you will continue on course until you move it again to change directions. Pressing the button while sailing on course produces the options menu.

In the Options Menu - Moving the joystick up and down moves the highlighted from option to option. Pressing the button selects the highlighted option.

In the Transfer Menus - Moving the joystick up and down moves the highlighted from item to item. Moving it right and left transfers

quantities of the highlighted item from column to column. The price of items and the amount of gold or goods you have to spend appears at the bottom of the screen. If you are simply transferring resources and not buying or bartering, holding the button down will speed up the process. To leave a transfer menu, push the joystick up until the work "leave" appears, then press your button.

```
<==*-----*==>
|           Creating a Map           |
<==*-----*==>
```

Historical - Boot side 2 of your program disk and follow the instructions as they appear on the screen.

Random Continents - Boot side 1 of your program disk and follow the instructions as they appear.

```
=====
DOCUMENT seven.city.ref
=====
```

```
<==*-----*==>
|           Seven Cities of Gold           |
|           Reference Card                |
<==*-----*==>
```

```
<==*-----*==>
|           Written by                    |
|                                           |
|                                           |
|           The Camel Jockey              |
<==*-----*==>
```

```
<==*-----*==>
|           Introduction                  |
<==*-----*==>
```

Seven Cities is a game of discovery. The instructions in this file will help you get started by telling you how to create a map disk and how to make one complete trip to and from the New World. You may then turn to the manual if you want additional hints and information.

```
<==*-----*==>
|           Make a Historical Map Disk    |
<==*-----*==>
```

Boot side 2 of the game disk (i.e., put the disk in drive 1 upside down and turn on your computer or simultaneously press Open Apple, Control, and Reset). Side 2 contains the map you want to copy as well as the copy program itself, so when you see the message, "Insert the disk you want to copy from and press 'space'...", just press the [SPACE BAR]. When you see the message, "Insert the disk you want to copy to and press 'space'...", insert a black disk. Continue following the prompt instructions as they appear (remembering that side 2 of the program disk is the disk you're copying from) until you see the message "Good copy..."

```
<==*-----*==>
|           Boot Side 1 of the Game Disk |
<==*-----*==>
```

Once the title starts appearing on the screen, you may press the [SPACE BAR] at any time to complete that process. When the complete title is on the screen, make sure you have a joystick plugged in and press [RETURN]. Then press the joystick button to select the highlighted "Play the Game" option. When prompted to do so, remove the game disk and put your map disk in the drive, and press the button again to select "Play a New Game". (If the highlight is not on "Play the Game" and "Play a New Game", use the joystick to move it there before pressing the button.)

Finally, use the joystick to move the highlight to the level you want and press the button. To play, choose any level except Demo. If this is your first trip. Novice level is recommended.

```
<==*-----*==>
|           Set Sail                      |
<==*-----*==>
```

Use the joystick to move to the left to your ship. (Hold down the button to move faster.) At sea, set course (and "automatic pilot") by pressing the button while you push the joystick in the direction you

want to go. Study the screen border for information about the passage of time and your status. Note to novices: Set your course due west when leaving Europe and you will soon come to a very interesting island.

```
<==*-----*==>
|           Land Ho!           |
<==*-----*==>
```

Sail in close and press the button. Use the joystick to move the highlight over "Drop Stuff Off" and press the button again. Now use the joystick to transfer men, food, and goods from the ships to a land expedition. (To move all of an item, hold the button down as you move the stick to the right or left.) When you're ready, move the stick up until "leave" appears and press the button.

```
<==*-----*==>
|           Exploring           |
<==*-----*==>
```

On land and in villages, pressing the button while moving changes your speed, pressing it while at rest produces an options menu. If you choose the view map option, your position on the map is approximately in the center.

```
<==*-----*==>
|           Natives             |
<==*-----*==>
```

Villages are marked for novices. At other levels, you must stand still and look for the blinking light that signifies a village location. Once inside, look for the chief (who does not move) in the village center, being careful not to bump into too many inhabitants unless you want to fight. If you get to trade, look on the bottom of the screen for information about prices and how many goods you have.

```
<==*-----*==>
|           Return Home         |
<==*-----*==>
```

Try the court for rewards, your home for a status report, the outfitters for new men and supplies, the pub to save what you've accomplished, then set sail again.

```
<==*-----*==>
| Creating Random Continent Map Disk |
<==*-----*==>
```

Start up the program as though you were going to play, then select "Create Another World" and follow the instructions as they appear on the screen. The creation process can take as long as 10 minutes.

```
<==*-----*==>
|           Other Keystrokes     |
<==*-----*==>
```

[D] - Discovers everything, if you press while in your home in Europe.

[SPACE BAR] - Pauses and resumes the game.

[CTRL-R] - To restart game.

[CTRL-S] - Turns sound ON/OFF

```
=====
DOCUMENT shadow.keep.1
=====
```

```
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[-]           S H A D O W   K E E P           [-]
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[-]           Written by: LA THIEF           [-]
[-]           Edited and Distributed by: Friendly Man   [-]
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```

THE OUTPOST.....312/441-6957

THE BEGINNING

Many years ago, an evil began to spread across the land. It was centered in the Shadowkeep, the home of the powerful wizard, Nacomedon. The demon, Dal'Brad, had imprisoned Nacomedon in a crystal and held his captive deep in the tower while he wrought the evil madness.

This evil spread until it reached the borders of the four races of to Earth. Roos, Thalidars, Zhis'ta and Humans alike were threatened by the wretched evil that was spreading from the tower. A few brave adventurers were sent forth from each civilization, determined to put a stop to the evil and perhaps acquire a small fortune at the same time.

Roos, hardy explorers of great physical endurance; Thalidars, masters of the ancient art often known as magic; Zhis'ta, agile and shrewd warriors from birth; and Humans, intelligent leaders with a knack for getting into trouble -- akk hiubed together to fight the demons in the Shadowkeep.

Alas, it was not enough. Each was defeated in turn. There was time for just one more group of brave adventurers. One more party of heroes was needed to topple the cruel and heartless obelisk that was the Shadowkeep. We call on you, our last and most able chance, to accept the challenge -- to assemble your party, approach the Keep, and, if your spirit is able, rid the tower of its malicious tenant.

II. FINDING YOUR ADVENTURERS Here at the Lonely Inn, the mysterious proprietor will greet you and ask your name. He is a friendly sort, curious about your band of adventurers and eager for your business. He has run this Inn on the edge of the Shadowkeep for many years, unexplainedly protected from the evil of Dal'Brad that lurks so close to his door.

Before selecting your band form among the many visitors at the Inn, pause and consider the importance of assembling a balanced and able group of adventurers. Up to twenty different characters may be registered with the innkeeper, and form this gathering you will create a band of nine, all who must harmonize and support each other.

As you register your team, the proprietor will ask a series of questions about each member, questions that concern their race, profession, and gender. As the details are recorded onto the register, the resulting attributes of each individual are open for your inspection.

Characters may have any name, in length up to twelve letters, and with no spaces or numerals...

The four great races of Roo, Thalidar, Zhis'ta, and Human each possess their own qualities and quirks. Within each race, males are stronger than females, though the females of a race possess greater dexterity...

Adventurers are trained in one of the five professions:

WARRIORS:

sturdy masters of the mace and broadsword; at least four per party is a sound grouping

MONKS:

wise and insightful, agile and vigorous

RUNEMAGES:

possessors of the Runes of power; can decipher glyphs that baffle others

SHADOWMAGES:

draw their power from shadow

NECROMANCERS:

seek power over what is most feared: death...

The innkeeper records the background of each adventurer in his log. It is acknowledged that race, gender, and profession determine a character's attributes. But, of course, all individuals bring strengths and weaknesses that exceed those of their positions. The proprietor thus allows extra value to be distributed among any adventurer's attributes, in any or all of the six areas:

STRENGTH:

How much an individual can carry, and the amount of damage he can inflict in combat.

INTELLIGENCE:

How many spells a character can learn, and how quickly he can learn new ones.

DEXTERITY:

The agility of a character -- the ability to move quickly and leap out of (or into) danger. The most dextrous individual moves first in a fight.

POWER:

The ability to focus magical energies. Power is drained by magic, restored by rest. A character with no power will not live.

LEADERSHIP:

Force of personality. The character with most leadership will be declared leader of the party. HIT POINTS: The ability to withstand physical damage. Hit points are restored by rest or healing arts, and, as with power, are necessary in order to live.

Once new adventurers have been registered, review or rename veteran characters from past adventures.

Also, recreate any whose souls were saved on the Save Disk. Select this option from the list, name the character whose life and spirit should be restored. Welcome the adventurer back into the party.

Finally, gather the party, selecting up to nine of the most able and ready. The mission ahead is not for the dull of mind or the frail of spirit.

III BEGINNING THE QUEST The adventurers must prepare for the journey to the Keep. They may give equipment and supplies to each other, and through other means prepare themselves. They may also visit Raddath. An enigmatic, pan-dimensional creature, Raddath will offer his wares and wisdom to the party. He has felt the evil of the Keep and thus will give his aid in any way he can. Raddath buys and sells magic and goods, and can heal damage, drain poison, and even revive a character killed while in the Keep. He is not, however, given over to charity. Raddath has no aversion to acquiring a fortune while helping destroy the Keep.

FURTHER NOTE:

While Raddath is skilled in magic, he offers no guarantees of the effectiveness of his cures. No refunds.

The final preparation may be to order the party. Sound organization is essential within the confines of the Keep. Take this opportunity; it may be your last.

The road to the Keep is short, but it wears long on the soul of the hero who walks it...

(OF COURSE, IF YOU HAVE BECOME FAINT OF HEART, NO ONE WILL STOP YOU FROM ABANDONING THE QUEST NOW. IF YOU LEAVE THIS PLACE, YOU MAY NEVER SEE IT AGAIN...)

IV WITHIN THE TOWER While approaching the Keep, and within it, instruct the adventurers with precision and clarity.

RALPH GET THE TORCH

EZEKIEL CAST THE LUMINANCE SPELL

NAOMI GET THE TORCH AND GIVE IT TO REBB

REBB LIGHT THE TORCH AND PREPARE THE SWORD

NAOMI WEAR THE ARMOR THEN PREPARE THE MACE

DAGMAR PUT THE WAND OF TRAVEL IN THE CHEST

Any command not directed to a certain character will inspire the leader of the party to respond.

The party as a whole will move following basic commands.

F or FORWARD

L or LEFT (to face left)

R or RIGHT (to face right)

B or BACKWARD (to step back without turning)

Explore the Keep thoroughly, and exercise caution.

OPEN DOOR, CLOSE DOOR, LISTEN

Inhabitants will occasionally allow you to address them, which you should do in either of the following ways. Try to do so before they lop your head off.

ASK SILDRA WHERE THE GOLD IS "SILDRA WHERE IS THE GOLD"

From time to time, assess the damage inflicted on fellow

adventurers.

LOOK PARTY (gives members' power, hit points)

STATS

ROLF CONDITION (substitute C for Condition)

LOOK NAOMI

Magical healing is possible through the aid of Raddath. If a visit to him is impossible, characters may use any magic they possess, but at the expense of some power.

The adventueres can investigate and acquire objects while in the KEEP.

SEARCH (some characters will find hidden objects more quickly than others)

LOOK SCROLL

MORDOR GET SCROOL

FANNIE GET ALL BUT TORCH ZOORA GET ALL GET GREAT SWORD AND READY IT

If an adventurer has too heavy a load, something will need to be dropped. The amount they can carry depends on their strength.

DROP THE BASTARD SWORD

DROP ALL BUT THE TORCH

MERCER DROP ALL

Or, the adventurer might simply give the object away.

MYRA GIVE ROBERT THE GEM OF CHANGE GIVE THE SOGGY STICK TO BILL

You might wish to let one object hold another.

OPEN THE BOX AND

PUT THE GOLD INSIDE

CLOSE BOX

PUT ROCK IN HOLE

PLACE GOLD ON THE TABLE

Find out what an object can do by using or examining it.

USE THE FUNNY ROCK

EXAMINE THE FUNNY ROCK

If you have a particular use in mind, and a certain target, state those.

SMASH THE ALTAR WITH THE BREAKER BAR

ATTACK THE CORD WITH THE GREAT SWORD

Light is required to explore the dark, dank Keep. Wihtout a lit torch (or an appropriate light spell), searching will be impossible. (Compat will be possible but difficult; there would

be no warning at the approach of monsters.) Any illumination will serve thebut will eventually extinguish, but will eventually extinguish, becoming a soggy stick or used up spell. It is advisable to have several sources of light at any given time.

LIGHT TORCH

ZEKE CAST THE LUMINANCE SPELL

V MAGIC:

Rely on the power of magic; above all else, it will be your key to success.

Though all may cast spells within the Keep, many have the capacity to learn no more than a scant two or so. Power and training determine one's triumph while using this ancient art. Mages, with exceptionally learned backgrounds, begin the journey with knowledge of a small number of spells. Raddath has acquired many others, which he makes available for sale to the hopeful adventurer.

As all may cast spells, so will all feel the effects of the task. After casting a spell, even the most powerful magician weakens, and eventually must restore powers with sleep. Monitor the losses of power, thus avoiding the loss of an adventurer.

Up to two spells or magical artifacts may be active at any one time.

INVOKE RING OF LIFE AND CAST THE FORTRESS SPELL

Discover more about spells you acquire by reading or learning them. READ BOOK OF DARKNESS, LEARN DEATH SPELL GET HEAL SCROLL, LEARN IT, CAST IT

A scroll that is successfully learned becomes a spell that may be cast. The scroll will vanish once it has been learned.

Mere mortals are limited in the number of spells they may know. When one's memory is full and the spell cannot be learned, a spell must be forgotten. FORGET DEATH SPELL

Once a spell has been forgotten, only another scroll will grant a new opportunity to acquire the spell. Ready the magical artifacts as you prepared other weaponry. READY SOULEATER SWORD

Learning magical spells is sufficient preparation for use.

Watch for podiums while in the Keep. Through these devices you and your band of adventurers may quickly transport to another level of the Tower. The incantations needed to operate these mysterious devices are always changing.

Finally, the halls of the Keep are laced with spells that bind, hide, or hinder. Doors are often sealed with spells of warning, released only by the timely use of magical words discovered by those who made the journey before you. The passwords that are known: SAFETY, LAIR, PASS, FRIEND, HOME

Be apprised of the possibility of other passwords; and hope that if you are unsuccessful in vanquishing the demons from the Kee that you will at least return your successors what you learned.

VI COMBAT:

Successful warriors approach combat with weapons, equipment, and magic in readiness. An adventurer would do well to have equipment prepared for both Attack and Parry, and to wear the armor.

READY BASTARD SWORD, PREPARE GREAT SHIELD, WEAR SCALE MAIL

At a sign of combat, the party will, at your command, negotiate, flee, or remain to fight. When you mobilize the ranks and determine the course of action, you may assign each member to attack, parry, cast spells, change places prepare equipment, or, of course, do nothing.

When assigning adventurers to their tasks, consider the skill that they might possess due to heritage and profession. These skills might cause them to perform some tasks better than others. Before combat, gain information on a member's skill as such:

EXAMINE ELLA

THE SKILLS:

ATTACK:
Skills necessary to land a blow on an enemy.

PARRY:
Success with which a character can avoid or deflect a blow.

MAGIC:
Technical proficiency in casting magic.

OPEN:
The ability to open sealed or locked objects.

SEARCH:
The aptitude for finding hidden objects.

If combat has worsened the condition of the party, change positions to preserve life and limb. Enter: ORDER

And, as weariness sets in, allow the few remaining good spirits in the Keep to restore your band's energy. Rest for up to ten hours, then resume the journey. One hit point and a unit of power is restored to each character for every hour of sleep. SLEEP FOR 3 HOURS

Beware:
Monsters can sense when a party is asleep and unprepared for attack. A blow while asleep can be far worse than the extremes of combat. Consider the use of certain spells that will conceal the sleeping party from marauding monsters. Or, perhaps choose a safer course:
sleep outside the confines of the Keep.

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DOCUMENT shadow.keep.2

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[-]          Written by: LA THIEF          [-]
[-]          Edited and Distributed by: Friendly Man      [-]
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VII SAVING AN ADVENTURE, AND RESTORING IT LATER

When perils strike and the fate of the party is in jeopardy, preserve the spirit of the adventure onto the disk we have named the "Save Disk." This way, if the situation later becomes hopeless, you may send that party back in time to the earlier conditions, as recorded on the Save Disk.

This is also useful if you must interrupt the quest. Record the adventure and later return.

To save the adventure, enter: SAVE

You will then need to insert the Save Disk. If you have a second disk drive, place the Save Disk there. The program will ask you to assign a number to the version of the adventure you are saving. Make a note of the number you give, and the conditions of the adventure. The computer will alert you when the adventure has been successfully saved and you may proceed.

Up to 15 games may be saved onto your Save Disk

When you are ready to restore a past adventure, enter: RESTORE

As before, insert the Save Disk, and, finally, give the number of the adventure you wish to restore.

VIII ADDENDA: LORE USEFUL TO THE SERIOUS ADVENTURE

A. MAP-MAKING
Let your mind be occupied by the fight itself, and not with trivia of your whereabouts. Have at hand numerous sheets of gridded parchment, for map-making.

On these sheets, record the halls, the rooms, the stairs and floors of the Keep. Mark every step, and note the local conditions. Beware that the monsters are devious, and may cause walls to shift and doors to vanish. Do not be baffled or hindered, but merely reorder your party and press on.

B. WEAPONS & EQUIPMENT
Able adventurers will make use of a variety of weapons, but will choose wisely from the lot, knowing the characteristics and powers of each piece.

ATTACK WEAPONS AND EQUIPMENT

AXE:
Battle axes such as this, far larger than those for chopping wood, are also far more destructive.

BASTARD SWORD:

So named for its middling size, it reaches four feet.

BREAKER BAR:

Pry open chests, closed doors, and other obstacles that require sturdy leverage.

BROAD SWORD:

Commonly seen, and measuring three feet.

GREAT SWORD:

Stretching a full six feet, few enemies escape death when struck by this instrument.

KINSLAYER SWORD:

A deadly weapon because of its enchantment. One uses this at the price of some power.

MACE:

Of classic proportions, the deadly spiked ball is attached to the stout handle.

QUARTER STAFF:

Tough wooden poles, four and a half feet tall, fend of aggressors from the user

SOGGY STICK:

The remnants of a torch that has extinguished; a crude but often effective weapon.

SOULEATER SWORD:

Delivers injuries that devastate the victim. One uses this weapon at the price of some power.

TORCH:

One torch will provide sufficient light for the entire party, and will last for several moves.

VALKHAM SWORD:

Will fell a monster in a single blow. Immensely powerful, but at the cost of power to the user.

DEFENSIVE EQUIPMENT

MEDIUM SHIELD:

This rectangular shield of half the height of a human tapers to a point at the bottom.

GREAT SHIELD:

Nearly of a warrior's stature, the sides curve out slightly and protect well.

ARMOR

LEATHER ARMOR:

The simplest and lightest form of armor, made of sturdy sewn leather.

PLATE MAIL:

The wearer must be of great physical strength to wear the heaviest of mail, but will be protected for the effort.

RUNIC ARMOR:

Magical armor of plate construction which augments a user's defenses.

STUDDER MAIL:

Heavier leather is reinforced with studs of metal, more

protective for the wearer.

SCALE MAIL:

Metallic links overlap, lending a reptilian look to the garment. Protection is greater than from the studded mail.

CHAIN MAIL:

Interwoven metal loops afford better coverage than the scale mail.

SILVER ARMOR:

The most protective of armors, having absorbed so much magic from prior wearers.

C. MAGICAL SPELLS

ATTACK SPELLS

FLAME:

Torches a single creature.

THRUST:

Attacks a creature as does the Flame, but is more effective and of a higher price.

FIREBALL:

Brings effect upon an entire group, thus is quite useful.

SUNBURST:

A spell with exceptional power, it can work against entire groups and can slay Demons as well.

FREEZE:

Locks its single target into inactivity, for a short time.

STASIS:

Like the Freeze spell but for groups of the enemy.

DEFENSE SPELLS

PROTECT:

Defends its caster from an enemy's blows.

GUARDIAN:

Cousin of the Protect spell, but stronger.

BARRIER:

This invisible shield stands between the party and its attackers.

SANCTUARY:

More powerful kin to the Barrier spell.

WARD:

Protects the caster from the enemy.

FORTRESS:

Of similar type as the Ward spell, yet protects the group.

ENHANCEMENT SPELLS

LUMINANCE:

A magical torch.

REVEAL:

Akin to Luminance, but of longer duration.

HEAL:

Soothes and heals those who receive its application; hit points are restored.

HASTE:
Heightened dexterity is the gift, for a short time.

SPELLS OF THE COLLEGE OF NECROMANCY

ZOMBIE:
Animaztes a dead adventurer, restoring double the hit points but rendering the individual severely disabled. If such a character leaves the Tower, he will dissolve and can never return.

DEATH:
The victim will be drained of life when this potent spell is cast.

DECAY:
A group of enemies will suffer dreadfull at the hands of this unpleasant magic.

DISSOLVE:
Excises a single foe from this reality.

MAIM:
Wholly unpleasant, and to be cast against a group of opponents.

REVIVE:
Returns to life an adventurer killed within the Keep.

SPELLS OF THE COLLEGE OF RUNE MAGIC

CANTRIP:
This spell doubles the potency of objects, but only for a price.

CURE:
Damage to a character will be cured no matter how grim the condition.

FEAR:
Plunges a foe into paralyzing fear for a short time.

FIRE:
Ignites a group of monsters.

PERCEIVE:
Cast this spell to obtain a clue about the surroundings.

SLAY:
Destroys creatures outright.

SPELLS OF THE COLLEGE OF SHADOW MAGIC

DARKFIRE:
Inflicts damage on any creature.

ILLUSION:
The target of this spell will ignore the entire party.

MOONFIRE:
The spell will blind the foe in its path, and thus render it less dangerous.

SHIFT:
Instantly transports the group to a safe place.

STARFLARE:
A huge and terrifying ball of flame which annihilates all

creatures in the way.

TWILIGHT:
Causes monsters to become blinded to the presence of the adventurers, and pass by without noticing them.

D. MAGICAL ARTIFACTS

AMULET OF EVIL:
Single foes may be attacked by the magic of this black necklace.

BLACK CRYSTAL:
Protects the user from the blows of the enemy.

BLACK RING:
Passed down from the Necromancers, this is endowed with the power to transform a creature into a zombie.

BOOK OF DARKNESS:
One who reads this tome will know the dark, and everything it contains.

BOOK OF NOTES:
perhaps the notebook of Nacomedon himself, the reader will glean an answer or two.

BOOK OF OPENING:
Its powers can open those things that are closed and locked.

CHALICE IF AWE:
A young enchantress once owned the chalice, and used it to rescue those who were caught in the Land of Darkness before their time.

CULDRUM'S WAND:
The namesake of the wizard Gorwyther's aggrssive apprentice, this wand will attack numerous enemies at once.

DEVIL'S GEM:
Perhaps the storehouse for the soul of a Great Demon (such creatures commonly safekept their souls in gems).

ELDRITCH STAFF:
The user of this slender pole may seek advice from the gods.

FUNNY ROCK:
With a rock such as this, dexterity can be a trait of even the clumsiest Roo.

GEM OF DARKNESS:
When invoked, an able shield against an enemy's blows.

GLOVES OF COLD:
These strength-giving articles were fashioned inside a volcano and thus will withstand great heat.

HAMMER:
Powers to enchant came to this tool through its creator, a goblin Master Smith and mage.

RAGGED CLOAK:
Remain hidden from monsters while wearing this garment.

RING OF LIFE:
Will resurrect a fallen adventurer.

ROD OF POWER:
The user may enhance his magical abilities through the use of this article.

ROGARTH'S STAFF:

The mighty wizard that crafted this staff controlled vast armies of gargoyles through its use. A supremely powerful artifact.

SALVE OF AID:

restore lost hit points with this unguent.

SHADOW CLOAK:

Takes the blows of an enemy, sparing the user from the assault.

SILVER HELM:

Once owned by the Mage-King Tehrien of Yarr, this magical cap can deflect blows from weapons. The visor will preserve the eyes from blindness in the face of spells or fire.

SMEDLY'S STICK:

At the hands of an angry and evil knight, the unfortunate Smedly and his kin were transformed into sticks such as this one. These can transport your party to a safe place, no matter how distant.

STAFF OF POWER:

Boosts the ability to cast spells, but only temporarily.

STAFF OF QUIET:

Advances the user's chances of dodging blows.

SUN AMULET:

Silently and invisibly, the party may pass predatory monsters, when this artifact is used.

WAND OF TRAVEL:

The wielder of this wand will be ignored by the enemy, even in the heaviest of combat.

E. CREATURES

BARGUEST:

Wolf-like and adept at magic. The Barguest prefers to guard places of power, such as temples and castles, and comes to its duties at the call of magic. Its lack of armor should not be confused with a physical frailty.

BROLLACHAN:

Two eyes, a grinning mouth, and shapeless substance -- that is all. Evolved from horrible creatures in the deepest unexplored marshlands, the Brollachan is difficult to destroy with conventional weaponry. at the lack of a proper spell, adventurers should flee.

COCKATRICE:

A thoroughly evil creature composed of the head, wings, and feet of a large fighting cock. Its body is covered with scales, and it has a long, barbed serpent's tail.

DEMON:

A large humanoid of terrifying appearance. Eyes cast an evil gleam above protruding fangs, and the black body is often winged, with a red glow as if from flame. Enchanted or mundane weapons often fail, for the Demon is near impossible to destroy.

FACHAN:

Bizarre and feathered, this foul creature resembles the trunk of a diseased tree. One arm sprouts from the middle of its chest. Its lone eye stares from the middle of its head. it prefers to batter its foes, and jumps from place to place on its single leg.

FOUL FROND:

This green plant-like creature has a bite of poison that can lay flat an adventurer in quick order. When its enemy succeeds in cutting it down, it may leave behind a silver rose.

GARGOYLE:

Short, ropelled by bat-like wings, and possessing a spiked tail, spurred elbows, and a horned head. The gargoyle is physically tough, with rough, stone-like skin. Its magical powers are keen, though the creature is not well-armored.

GHOST:

Quick and troublesome, the residual life force of a once living creature, ghosts can be bitter about their plight and thus quite unpleasant. An unfortunate death from before may have bound this creature to a single spot.

GOBLIN:

Puny and dirty, ugly and irritating. Goblins often dress in tattered, cast-off clothing and have little to distinguish them.

HUMAN:

The best of traits can turn the most sour. A small number of these adaptable bipeds have turned to evil, and have used their knowledge of armor and civilization to aid the realm of Dal'brad. Humans can adopt a negotiative stance, but be wary of traitors and falsehood.

VENOMOUS SHEEP:

Small and innocent in appearance, these mindless, fanged creatures can inject a powerful poison which has no antidote. They display great aggression.

OGRE:

Physically strong but unmagical, the ogre is second cousin to the Troll. Its dark skin coloring is tinged with red.

RED CAP:

Evil creatures that thrive when residing on sites of great bloodshed. Their terms of service allow them to wet their caps with the blood of their victims.

STOOR WORM:

A large, slow, python-like creature with a dragon's head may often be found keeping guard over treasures. After constricting an adventurer's armor and shattering it, the Worm will batter its victim.

TROLL:

A weaker relative to the Ogre, but nonetheless tough in physical battle. This hideous humanoid has dark, scaly skin and misshapen eyes. They dislike sunlight; the dark has invaded their core and has made them cunning and evil.

WIGHT:

Like the Ghost, often has an unearthly tie to a grave. They are slow to act, possibly due to the rotting corpses they inhabit. Their great magical power makes them difficult adversaries.

ZHIS'TA:

A hatred of evil has turned into a love of it. When Zhis'ta become part of the evil realm, their cunning and agility take on a keenness that is hard to overcome. However, these traitors, like the Humans that have come into the Keep, have a weakness that can be turned to advantage at the hands of an able warrior.

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DOCUMENT shadow.keep.3

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[-]           Edited and Distributed by: Friendly Man [-]
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ATTACK WEAPONS AND SPELLS

| Name | Effect | Power | Target | Duration | Chance | Weight | Cost |
|-----------------|--------|-------|--------|----------|--------|--------|------|
| Axe | 14 | | | | | | |
| Bastard Sword | 9 | | | | 5% | 45 | 8 |
| Breaker Bar | 5 | | | | | 30 | 2 |
| Broad Sword | 6 | | | | 10% | 24 | 5 |
| Great Sword | 11 | | | | | 57 | 13 |
| Kinslayer Sword | 25 | 6 | | | 10% | 15 | 1900 |
| Mace | 5 | | | | | 24 | 4 |
| Quarter Staff | 4 | | | | | 15 | 1 |
| Soggy Stick | 2 | | | | | 9 | 0 |
| Souleater Sword | 15 | 3 | | | 15% | 15 | 1500 |
| Torch | 3 | | | 48 | | 8 | 1 |
| Valkham Sword | 25 | 4 | | | 5% | 15 | 2000 |

| Name | Effect | Power | Target | Duration | Chance | Weight | Cost |
|------------------|-----------|-------|--------|----------|--------|--------|------|
| Darkfire Scroll | 10 | 2 | Single | | | 5 | |
| Death Scroll | 50 | 8 | Single | | | 15 | 2000 |
| Decay Scroll | 15 | 5 | Group | | | 5 | 1000 |
| Dissolve Scroll | Destroyed | 6 | Single | | | 5 | 1000 |
| Fear Scroll | Stop | 4 | Single | | 5% | 17 | 450 |
| Fire Scroll | 20 | 5 | Group | | | 17 | 750 |
| Fireball Scroll | 15 | 4 | Group | | | 12 | 1000 |
| Flame Scroll | 8 | 3 | Single | | | 25 | 1000 |
| Freeze Scroll | Stop | 4 | Single | | 8% | 15 | 1700 |
| Maim Scroll | 5 | 2 | Group | | | 25 | 1100 |
| Slay Scroll | 25 | 3 | Single | | | 25 | 500 |
| Starflare Scroll | 75 | 10 | Group | | | 15 | 8900 |
| Stasis Scroll | Stop | 10 | Group | | 16% | 5 | 3000 |
| Sunburst Scroll | 100 | 10 | Group | | | 1 | 8500 |
| Thrust Scroll | 25 | 5 | Single | | | 17 | 3500 |

DEFENSIVE WEAPONS AND SPELLS

| Name | Effect | Power | Target | Duration | Chance | Weight | Cost |
|---------------|--------|-------|--------|----------|--------|--------|------|
| Great Shield | 10 | | | | | | |
| Medium Shield | 7 | | | | 20% | 44 | 7 |

| Name | Effect | Power | Target | Duration | Chance | Weight | Cost |
|------------------|--------|-------|--------|----------|--------|--------|------|
| Barrier | 6 | 3 | Group | 5 | | | |
| Fortress Scroll | 10 | 4 | Single | 6 | 20% | 1 | 1250 |
| Illusion Scroll | Ignore | 4 | Group | 5 | 12% | 1 | 850 |
| Moonfire Scroll | 75 | 3 | Single | 6 | 15% | 1 | 800 |
| Protect Scroll | 4 | 2 | Single | 5 | 25% | 1 | 450 |
| Sanctuary Scroll | 10 | 6 | Group | 5 | 12% | 1 | 1300 |
| Shift Scroll | Move | 4 | Group | | 20% | 1 | 2000 |

Twilight Scroll Ignore 4 Single 5 15% 1 450

ARMOR

| Name | Effect | Power | Target | Duration | Chance | Weight | Cost |
|---------------|--------|-------|--------|----------|--------|--------|------|
| Chain Mail | 6 | | | | | | |
| Leather Armor | 1 | | | | | 30 | 15 |
| Plate Mail | 10 | | | | | 240 | 300 |
| Runic Plate | 15 | | | | | 100 | 2000 |
| Scale Mail | 5 | | | | | 90 | 60 |
| Silver Armor | 20 | | | | | 150 | 2800 |
| Studded Mail | 3 | | | | | 60 | 30 |

MAGICAL ARTIFACTS

| Name | Effect | Power | Target | Duration | Chance | Weight | Cost |
|-----------------|--------|-------|--------|----------|--------|--------|---------|
| Amulet of Evil | 13 | 5 | | | | | |
| Black Crystal | 5 | 2 | | 5 | 50% | 2 | 600 |
| Black Ring | | 5 | | | 75% | 1 | 900 |
| Chalice of Awe | | | | | 100% | 4 | 32000 |
| Culdrom's Wand | 10 | 1 | | | 75% | 4 | 1000 |
| Funny Rock | 10 | 1 | | 4 | 50% | 1 | 700 |
| Gem of Change | Move | 10 | | | 100% | 1 | 3500 |
| Gem of Darkness | 5 | 5 | | 100 | 50% | 2 | 1300 |
| Gloves of Cold | 20 | 2 | | 50 | 75% | 8 | 1200 |
| Hammer | | 0 | | | 100% | 24 | no cost |
| Ragged Cloak | Ignore | 5 | | 10 | 50% | 12 | 1500 |
| Ring of Life | | 5 | | | 33% | 1 | 400 |
| Rod of Power | 8 | 3 | | | 60% | 4 | 1300 |
| Rogarth's Staff | 127 | 20 | | | 50% | 17 | 32000 |
| Salve of Aid | 10 | | | | 95% | 6 | 150 |
| Shadow Cloak | 75 | 4 | | 10 | 70% | 12 | 1300 |
| Silver Helm | 8 | 1 | | 25 | 90% | 20 | 18000 |
| Smedly's Stick | Move | 5 | | | 80% | 8 | 2800 |
| Staff of power | 50 | 4 | | 10 | 75% | 17 | 3000 |
| Staff of Quiet | 50 | 4 | | 10 | 30% | 15 | 1300 |
| Sun Amulet | Ignore | 5 | | 15 | 50% | 12 | 1800 |
| Wand of Travel | Ignore | 5 | | 15 | 80% | 4 | 1300 |

ENCHANCEMENT SPELLS

| Name | Effect | Power | Target | Duration | Chance | Weight | Cost |
|-----------------|--------|-------|--------|----------|--------|--------|------|
| Cure Scroll | 50 | 6 | Single | | | | |
| Guardian Scroll | 8 | 5 | Single | 6 | 15% | 1 | 600 |
| Haste Scroll | 10 | 1 | Single | 4 | 17% | 1 | 400 |
| Heal Scroll | 10 | 2 | Single | | 15% | 1 | 450 |
| Revive Scroll | | 8 | Single | | 20% | 1 | 300 |
| Ward Scroll | 5 | 2 | Single | 6 | 23% | 1 | 850 |
| Zombie Scroll | | 4 | Single | | 20% | 1 | 500 |

USEFUL ITEMS

| | | | | | | | |
|------------------|--|---|--|--|-----|----|-------|
| Goldens (1) | | | | | | | |
| Ornate Ring | | | | | | 1 | 300 |
| Eldritch Staff | | 1 | | | 50% | 15 | 500 |
| Tiny-Sword | | | | | | 1 | 500 |
| Book of Notes | | | | | | 6 | 1000 |
| Silver Rose | | | | | | 3 | 1000 |
| Book of Darkness | | | | | | 6 | 10000 |
| Devil's Gem | | | | | | 2 | 32000 |

CHANCE:

is the chance (percentage) the item or spell will work.

DURATION:

is the approximate number of turns the invocation lasts.

EFFECT:

Apple II Computer Info

is the numerical value or means by which the target is effected.

POWER:
shows the cost in power to use the spell or object.

TARGET:
either a single individual is affected, or a group.

WEIGHT:
is the object's weight, in a relative value.

=====
DOCUMENT shard.sprng.cht
=====

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The Shard of Spring: The ORIGINAL Cheat
Crackgd by: Coast to Coast
Released: 7/01/86
(So it very well could be the first after all...)

Written by: Short Circuit

%\|\%|\%|\%|\%|\%|\%|\%|\%|\%|\%|\%|\%|\%|\%|\%|\%|\%|\%|\%|\%|\%|\%|\%

This is my second cheat now, following my Ultima IV cheat which I wrote a couple months ago. The game itself looks good (though I've only played it a small time), including the graphics... who would ever think SSI could come out with a game with good graphics? From what I've seen, the play system is good, and the "plot" of the game is interesting. An Ultima clone, granted, but different in subtle ways. Anyway, on to the cheat.

Use a sector editor, such as the one found in Copy //+, and scan the disk for your character's name. Once you've found the track and sector that located in (probably track \$1A), you can use the following info.

First off, your character's name will be located in bytes \$00-\$09 in the file. The name can be edited freely with no harm being done.

NOTE: To have your character's name appear changed on the roster, you must hunt around 'till you find his old name in track \$01. Somewhere in there will be a list of characters' names. This is the list of names that appears when you hit "List" from the Character Utilities. If you don't change the name here, the name will appear unchanged on the roster, but not on the character itself. Example: You change your character Fred so that his name is Rob. On the roster his name would remain Fred. But if you chose Fred and took him into an adventure, his name would be Rob. Understand? If you don't, forget it. Just change the name in both locations.

Ok, now for the rest of this stuff:

| Byte | Function |
|-----------|--|
| :\$ | :\$:\$:\$:\$ |
| \$0A | Race: 00 - Human
01 - Dwarf
02 - Troll
03 - Elf
04 - Gnome |
| \$0B | Class: 00 - Fighter
01 - Wizard |
| \$0C | Speed Attribute |
| \$0D | Strength Attribute |
| \$0E | Intellect Attribute |
| \$0F | Endurance Attribute |
| \$10 | Skill Attribute |
| \$11/\$12 | Hit Points - Max/Current |
| \$13/\$14 | Spell Points - Max/Current |
| \$15-\$17 | <Unknown> |
| \$18 | Level |

Skills
: : : : :

'Till then, have fun with the game...

Following are the bytes that determine which skills you possess. The bytes are the same for either class, but the skills differ. A \$00 in the byte means you do NOT have that skill, and a \$01 indicates that you DO.

| | | | |
|--------|----------------|-------|--|
| Skill: | Fighter | Byte | Wizard |
| | : : : : : | : : : | : : : : : |
| | Sword | \$19 | Fire Runes |
| | Axe | \$1A | Metal Runes |
| | Mace | \$1B | Wind Runes |
| | Karate | \$1C | Ice Runes |
| | Dark Vision | \$1D | Spirit Runes |
| | Tactics | \$1E | Weapon Lore |
| | Armored Skin | \$1F | Potion Lore |
| | Berserking | \$20 | Item Lore |
| | Hunting | \$21 | Monster Lore |
| | Persuasiveness | \$22 | Priesthood |
| | \$23-25 | | <Unknown> |
| | \$26-\$27 | | Experience points |
| | \$28 | | 65535 Counter (When you exceed
65535 Experience points, this goes
to \$01, when you achieve another
65535 Experience points, it goes to
\$02, and so on. |

Items
: : : :

The Items are even more screwed up than the Skills. The bytes \$29-\$32 determine what you hold in each of your ten item positions. Each value placed in the byte designates an item. I know they go down to \$00 and up to at least \$38... here is a list of \$30-\$38... I'll update this file when I have time to figure out the rest of them.

NOTE: The column of titles in quotes are the real names of the items. The names in the first column are those before the items are "Identified".

Remember: these are the VALUES, not the bytes.

| | | |
|------|-------------|------------------|
| \$30 | Lantern | "Lantern" |
| \$31 | Iron Key | "Key" |
| \$32 | Copper Key | "Copper Key" |
| \$33 | Silver Key | "Silver Key" |
| \$34 | Gold Key | "Gold Key" |
| \$35 | Iron Coin | "Royal Seal" |
| \$36 | Bloody Head | "King's Head" |
| \$37 | Crystal Bar | "Forcefield Key" |
| \$38 | Paper Dove | "Teleporter" |

A couple more values I deciphered in my tinkering:

| | | |
|------|-------------|------------------|
| \$0A | Huge Axe | "Battle Axe" |
| \$0B | Huge Sword | "2-Handed Sword" |
| \$12 | Scale Mail | "Scale Mail" |
| \$14 | Suit/Armor | "Plate" |
| \$16 | Violet Vial | "Violet Vial" |

When I get the rest of them figured out, I'll post an addition to this file with the completed list, as well as replacing those <Unknown>s with their real functions (one of them has to be health status... I'll probably figure out which one as soon as I re-send this to CYG...)

FOURTH LEVEL TO SAVE SHEILA.

=====
DOCUMENT shiela
=====

+*****+
! SHEILA !
+*****+

THE KEYBOARD

RIGHT AROW MOVES RIGHT
LEFT ARROW MOVES LEFT
+; MOVES UP
?/ MOVES DOWN
I MOVES UP IN COPY-A VERSION
K MOVES DOWN IN COPY-A VERSION

WEAPONS

RETURN FIRES IN DIRECTION OF MOVEMENT

L LAYS A BOMB

DIRECTIONAL FIRING

A FIRE UP
Z FIRE DOWN
S FIRE LEFT
D FIRE RIGHT

MISCELLANEOUS

P STOPS OUR HERO; EVERYTHING ELSE STILL MOVES

Q QUIET SOUND; TOGGLES OFF AND ON

ESC STOPS GAME. HIT ANY KEY TO CONTINUE

HERE ARE THE SPELLS THAT YOU CAN CAST.

8 GET WEAPONS 1200 POINTS TO CAST
GIVES YOU 1 TELEPORT PILL
2 BOMBS
2 SPEARS

9 GET LIFE 500 POINTS TO CAST
GIVES YOU 1 LIFE POINT

0 TELEPORT 1500 POINTS TO CAST
TELEPORTS YOU SOMEWHERE WITHIN THE CASTLE

* PLAGUE 10000 POINTS TO CAST
KILLS ALL THE MONSTERS IN THE CASTLE

- DEFUSE 6000 POINTS TO CAST
DEFUSES ALL THE BOMBS YOU'VE LAID

SPACE CHANGES SIZE AND SKIPS BORING
PARTS (MUSIC, TEXT, ETC.)

YOU MUST GATHER 4 KEYS AND DEPOSIT THEM IN THIER PROPER PLACE ON THE

=====

DOCUMENT shk.v3.4

=====

SHRINKIT FOR THE APPLE II

Program by Andy Nicholas
Documentation by Karl Bunker

Send comments/suggestions on ShrinkIt to:
Andy Nicholas
1180 Reed Ave., Apt. 12
Sunnyvale, CA 94086

Electronic Addresses:
GEnie or America-Online: shrinkit
CompuServe: 70771,2615
Internet: shrinkit@apple.com

Send comments/suggestions on this documentation to:
Karl Bunker
GEnie: k.bunker

What is ShrinkIt?

ShrinkIt is a utility program for archiving files and disks. "Archiving", in this usage, refers to the process of placing files or disks "within" another file -- the archive file. Archiving is usually done to prepare the files/disks for transmission via modem, or for storage purposes. Thus, an archive file, whether created with ShrinkIt or another archiving utility, will be a file which serves as an envelope, containing one or more other files, or complete disks. There are a number of reasons for archiving files before transmitting them with a modem. The principal reason is that an archive provides a means of sending the "attributes" of a file -- its filetype and other information -- along with the file itself. An archive also allows several related files (or an entire disk) to be packed together into a single file. True archiving utilities will also have the capability of compressing the files they contain to minimize the transmission time and disk space the archive requires.

ShrinkIt uses a highly efficient compression algorithm known as Ziv-Lempel compression, and creates archive files with a format called NuFX. ShrinkIt and ShrinkIt-GS are currently the standard archiving utilities for Apple II telecommunications. ShrinkIt can unpack files which have been archived with ShrinkIt, as well as those which have been packed with certain other file-packing utilities, such as BLU and ACU.

About These Instructions

Most users of ShrinkIt will be interested in unpacking files they have downloaded from a Bulletin Board Service or Information Service. Others will also be using it to pack files that they want to upload to such a service. In these instructions I will first describe how one uses ShrinkIt to unpack archives, and then how to create a new archive file. Finally I will give an explanation of each of the options available in ShrinkIt's Main Menu, and fill in certain other details about ShrinkIt's functioning. If you are ONLY interested in how to unpack a file which you have downloaded, you can just read the section entitled "Unpacking an Archive", and skip the rest of this file. I will attempt to make these instructions understandable to the relatively new computer-user; if you are unfamiliar with any of the terms used, or become generally confused, you may want to consult the instruction manual to your telecommunications software, or a magazine article on telecommunicating with the Apple II.

System Requirements

ShrinkIt requires a 128K enhanced IIe, a IIC, IIC+ or IIgs. Versions of ShrinkIt for the Apple II+ and unenhanced IIe are also available. Shrinking and UnShrinking functions have been split into two different programs for these older machines. These programs are called IIPLUS.SHRINKIT and IIPLUS.UNSHRINK, and they will run on any 64K Apple II, using the 40-column screen. More information on these alternate versions of ShrinkIt will be given towards the end of these instructions.

ShrinkIt-GS

These instructions are for the 8 bit version of ShrinkIt. A IIgs version of ShrinkIt is also available. Archives that have been created with ShrinkIt-GS can be unpacked with version 3.0 or later of the 8 bit ShrinkIt, providing that none of the files being extracted from the archive is an "extended" GS/OS file (also know as files with resource forks). Since ProDOS-8 can't handle extended GS/OS files, someone who doesn't own a IIgs would probably have no reason to extract such a file. If you open an archive containing extended files with the 8 bit ShrinkIt, these files will be marked "forked" in the file list.

Distribution and Copyright Info

ShrinkIt is a Freeware program. This means that you are under no obligation to pay the author anything for it, but the copyright is retained by him. You are encouraged to distribute this program to whomever you please.

Launching ShrinkIt

ShrinkIt can be launched using standard program selectors such as Bird's Better Bye, Squirt, ProSel, or the IIgs Finder. (Some versions of ProSel 16 can't launch ShrinkIt; an update to the latest version of ProSel fixes this.) ShrinkIt is too large to be directly launched from the BASIC prompt ("]"). However, a small SYS file called SHRINKIT.SYSTEM is distributed with ShrinkIt. SHRINKIT.SYSTEM can be launched from BASIC, and it, in turn, will launch ShrinkIt.

Some Terms Defined

In the Apple II telecommunications community, there are a number of different file- and disk-packing formats which have been used over the years. Most of these formats have been superseded by ShrinkIt and its NuFX format; others are still used. These various formats are usually denoted with a three-letter suffix appended to the file's name (as in "MY.FILE.BNY"). Here are some of the suffixes you are likely to encounter, with brief descriptions of their related file formats:

- .BNY: Binary II format. Though not a true archive format, a Binary II "envelope" will preserve a file's attributes through a download or upload. ShrinkIt can unpack .BNY files, and they can also be automatically unpacked during downloading by many telecommunications programs.
- .BQY: "Squeezed" (i.e., compressed with a different algorithm than the one used by ShrinkIt) files within a Binary II envelope. Created with the utility BLU, these files can be unpacked with ShrinkIt.
- .QQ: If you remove the Binary II envelope from a .BQY file, the squeezed files it contains will have the suffix .QQ, or sometimes .SQ. These files can be unsqueezed with ShrinkIt.
- .ACU: The archive format used by America Online (formerly AppleLink Personal Edition); these files can be unpacked with ShrinkIt. (America Online currently uses .SHK format for new uploads.)
- .SHK: NuFX format; can be created and unpacked with ShrinkIt.
- .BXY: A NuFX archive within a Binary II envelope. This is the format

currently required for new uploads to the Apple II libraries of GEnie and Comuserve. .BXY files can be created and unpacked with ShrinkIt. Although this "envelope within an envelope" format may seem redundant, it has several advantages. Ideally, the Binary II envelope will be entirely "transparent" to end users -- it will be automatically added by telecommunications software during uploading, and automatically removed during downloading. As more telecommunications programs come to support automatic Binary II packing and unpacking, this ideal will be increasingly realized. Thus, if your telecommunications software supports automatic Binary II unpacking during downloading, you can turn this option on when downloading a .BXY file. Doing this will give you a downloaded file which is a "bare" NuFX archive. Thanks to the Binary II envelope, this file will automatically be given the correct name and filetype.

Unpacking an Archive

ShrinkIt starts up with a display of its Main Menu. The options in this menu are selected by using the arrow keys to highlight an option and pressing <return>, or by pressing the letter associated with the option you want.

When you have downloaded a file with one of the suffixes given above, you will want to process this file through ShrinkIt to unpack it and get at the files or disks it contains. It doesn't matter which of the packing formats your download is in; ShrinkIt will automatically recognize the format and handle the file accordingly.

To unpack an archive, you select "O-Open Archive" from the Main Menu. This will send you to a display called the File Dialog. Similar File Dialog displays are used for many of ShrinkIt's functions; the one you see after selecting Open Archive will show the title "Open Which Archive?" across the upper screen. The File Dialog is used in this case to select which archive file to "open", or unpack.

Most of the File Dialog screen is used to display a list of the files in the currently open folder. On the right side of the screen are a list of the key-commands you can use at this point:

```
TAB      to change disk drives.
RETURN   to open a highlighted folder, or open a highlighted file.
ESC      to close the current folder.
OA-      (Open Apple-period) to cancel this operation.
SPACE    to select a file for opening.
```

Below this list of key-commands you will see this notation:

```
OA-G or RETURN does function
? does tree search
```

Thus, if you only want to select a single file in the File Dialog, you can just press <return> with that file highlighted. If you want to select several files to be opened in sequence, you can select the files you want with <space>, and then press either <return> or OA-G (Open Apple-G).

The "tree search" function is a very powerful feature which will be especially useful to hard disk owners. By pressing "?", you will be sent to a "directory tree display" -- a display of all the folders within the currently open folder. You can then select the folder you would like to open simply by pressing the arrow keys to highlight that folder. Press <return> and you will be back at the File Dialog screen with your selected folder open. The tree search will not function on volumes which are on an AppleShare network.

At the bottom of the "Open Which Archive?" File Dialog, there is the prompt:

```
Showing ARCHIVES (OA-S)
```

This indicates that ShrinkIt is currently displaying only folders and files that it has identified as archive files. ShrinkIt uses two

methods to decide whether a file is an archive: It checks the attributes of the file (its filetype and auxftype), and it checks to see if the filename has an appropriate suffix. When a file is downloaded, its attributes may not be preserved through the download. If your archive doesn't have EITHER the appropriate attributes, OR one of the suffixes listed above, ShrinkIt won't be able to recognize that file as an archive. If you don't see your archive file listed (after you've opened the appropriate folder), try pressing OA-S. The prompt will change to "Showing ALL FILES (OA-S)", and indeed, the File Dialog will now show all of the files in the current folder.

Press <return> to open the archive file you have selected, and ShrinkIt will display a list of the "items" -- the packed files or disks -- within that archive. At this point you have to select which items you want to extract. Usually you will want to extract all of them, but you have the option of extracting only one or a few. You can select individual items by pressing <space>, or all of them with OA-A.

When the items you want are selected, press <return>. Another File Dialog screen will be displayed, this one entitled "Destination Folder?" You use this to choose which disk and folder you want to put the new, unpacked files in. With this variation of the File Dialog, only folder (DIR) files will be displayed, and the words "<Select Current>" will be seen at the top of the list of files in each folder you open. Open the folder you want, and then press <return> with <Select Current> highlighted. The archived files will now be unpacked and saved to your disk.

Occasionally, you may want to have the different files within an archive unpacked into different destination disks or folders. If you press OA-

If the archive file contains a packed disk (or disks), ShrinkIt will prompt you to select a "device" (disk drive) for the archived disk to be unpacked to.

Creating an Archive

As you might expect, creating an archive is somewhat more involved than unpacking one. However, in many ways the procedure is similar to unpacking. First you will select "N-New Archive" from ShrinkIt's main menu. You will be prompted with:

```
Archive What?
Files Disk Cancel
```

Archiving files will be examined first. Press <return> with "Files" highlighted, and you will be sent to the File Dialog display described above. This File Dialog screen is entitled "Archive Which Files?" and naturally, is used to select what files you want to archive. Again, you use <space> to select the files you want, and when done, press <return> or OA-G to go to the next step in creating the archive. If you press <space> with a folder (directory) highlighted, then that folder and all of its contents will be archived.

When you press <return> or OA-G, yet another File Dialog screen will appear, this one entitled "Name of Archive to Create?" At the bottom of this File Dialog screen you will see a prompt for "Filename:_____". Using the key-commands described above, you can first open the disk and folder you want your new archive to be saved to. Then type in a filename for the archive file you are about to create. To avoid confusion, be SURE to add the correct suffix to your filename: Straight NuFX archive should have the suffix ".SHK", and NuFX-within-Binary-II archives should be suffixed ".BXY". After entering the filename, press <return>, and the archive will be created.

There is one very important point to note at this stage: If you want the new archive to be a .BXY (NuFX-within-Binary-II) archive, you must press OA-<return> (Open Apple-<return>), rather than simply <return> after typing in the filename. There is a brief notation to

the right of the "Filename:" prompt to remind you of this.

The best way to create a .BXY file is to use ShrinkIt to make a .SHK file, and then let your telecommunications program add the outer Binary II envelope during uploading. However, not all telecommunications programs can do this. ShrinkIt does not allow you to add new items to a .BXY archive after it has been created. This can only be done with "bare" NuFX archives. For this reason, if you are using ShrinkIt to make a .BXY file, you must start out with all of the files you want to archive in the same folder, so you can select and pack them all at once.

If the archive is simple NuFX, you can add a packed file or disk to it after it has been created. This is done by selecting "A-Add to Archive" from ShrinkIt's main menu. You will first be prompted to select the files (or disk) you want to add, and then to select which archive you want the new items added to.

To create a new archive from an entire disk, select "N-New Archive" from the main menu, and then select "Disk" from the "Archive What?" prompt. Disks to be archived may be either 800k 3.5" or 140k 5.25" disks, and may be ProDOS, DOS 3.3, CP/M or Pascal. Some non-standard, "customized" operating systems can also be handled. For most purposes, creating archives from individual files will be more efficient, and preferable. Disk packing is intended primarily as a means of handling data on the older operating systems.

ShrinkIt's Main Menu

The above instructions describe ShrinkIt's two main functions: creating and unpacking archives. ShrinkIt can perform a number of other functions, however. This section reviews each of the options available in ShrinkIt's main menu, in the order in which they are listed.

Q-Quit:

Exits you from ShrinkIt and returns you to your program selector.

N-New Archive:

Create a new archive.

O-Open Archive:

Open an existing archive to unpack it, or simply to see a list of its contents.

A-Add to Archive:

Add new items -- either packed files or a packed disk -- to an existing archive.

C-Catalog:

Display a catalog of a disk or folder. The folder or disk to be cataloged is selected using the File Dialog screen described above.

R-Rename Files:

Allows renaming of files.

X-Copy Files:

Copy files from one disk or folder to another. After selecting this function, two File Dialog screens will appear. The first will ask "Copy Which Files?", and the second "Destination Folder?"

D-Delete Files:

Deletes files.

T-Type Files:

This option allows you to read TXT (ASCII text), AWP (AppleWorks Word Processor), and WPF (WordPerfect Word Processor) files. A File Dialog is used to select the file or files to be "Typed", and then the contents of the file are displayed on-screen. Pressing <space> moves you through the file a page at a time; <return> will exit you from the current file and display the next one you selected (if any). Either <esc> or OA-. (Open Apple-period) will return you to the main menu.

/-Create Folder:

Allows you to create a new folder. A File Dialog is used to choose where to put the new folder and what to name it.

F-Format Device:

Format (initialize) a 5.25" or 3.5" disk. If you are using a IIgs and an Apple 3.5 drive, you will be prompted for an option called "Fast-Format and Skew 2:1". This is a high-speed disk formatter which forgoes a little error checking for the sake of rapidity. If you'd rather do a slower, safer formatting, select "Cancel" at this prompt.

E-Erase Device:

Erase the contents of a ProDOS disk.

Z-Zero ProDOS Disk:

If you are planning to create an archive from a ProDOS disk, you should perform this operation on the disk first. It will "zero out" all the unused blocks on the disk, making the disk archive smaller.

?-About ShrinkIt:

Displays information about the programmer, gives distribution and copyright information, credits those who helped out, and displays a list of "short cut keys".

Key-Commands and Short Cut Keys

This section describes the key-commands which are available within many of ShrinkIt's functions. Some of them have been referred to before. A few of these commands are needed to perform certain of ShrinkIt's operations, while others are just short cuts or alternate ways of doing things. This list does not include those key-commands whose function is explained by on-screen prompts in the File Dialog displays.

OA-up arrow and OA-down arrow: In the File Dialog, the arrow keys together with Open Apple will move you through the file list quickly.

OA-A: Select all files in the open folder, or all items in the open archive.

OA-<space>: Select an archive item to be extracted (unpacked) with separate prompting for a destination folder.

OA-P: Select all items in an archive to be extracted with prompting.

OA-E: In the File Dialog, eject the current 3.5" disk.

OA-O: In the File Dialog, display a list of online volumes.

/: In the File Dialog, instead of selecting a pathname by opening the correct disk and folder(s), you can also type it in; just press "/" to start the full pathname. If you type the pathname of a folder, that folder will be opened and displayed in the File Dialog. If you type the full pathname of a file, the operation you have selected (Type, Open Archive, etc.) will be performed on that file.

U: If, for some reason, you want to archive a file without compressing it, you can do so by pressing "U" to select it instead of <space>.

OA-U: You can select all of the files in the open folder to be archived without compression by pressing OA-U.

OA-B: When scrolling through the list of items in an open archive, this will send you to the beginning of the list. When "Typing" a file, OA-B sends you to the beginning of the file.

.: At most points in ShrinkIt, you can simply press "." (period) to cancel an operation, rather than OA-. (Open Apple-period).

ShrinkIt for the][+ and unenhanced //e

As mentioned earlier, if you are using an unenhanced //e or a][+, you will have to use alternate versions of ShrinkIt. ShrinkIt for these machines is broken up into two programs: IIPLUS.SHRINKIT for

creating archives and IIPLUS.UNSHRINK for unpacking archives. To an extent, the above instructions apply to the IIPLUS ShrinkIts, but there are some important differences.

In general, the IIPLUS ShrinkIts are simpler than the standard version. The 40 column screen is used, so the on-screen information is minimal. None of the utilities, such as copying files, are available; these programs only create or unpack archives.

The Open Apple (OA) key is not used. Some of the OA key commands are replaced with Control key commands, but others, such as OA-A (select all) are not implemented. To select an archived file to be extracted with separate prompting, press "P" (instead of OA-<space>).

In the File Dialogs of the IIPLUS ShrinkIts, instead of pressing <esc> to close the current folder, you must press <return> with the words "Parent Directory" highlighted.

For More Technical Information...

If you want to know more about data compression:

Bell, T., Cleary, J., and Witten, I. Text Compression. Prentice-Hall, 1990. ISBN 0-13-911991-4

Ziv, J. and Lempel, A. A Universal Algorithm for Sequential Data Compression. IEEE Trans. Information Theory, Vol. IT-23, No. 3, May 1977, pp. 337-343.

Ziv, J. and Lempel, A. Compression of Individual Sequences via Variable-Rate Coding, IEEE Trans. Information Theory, Vol. IT-24, No. 5, Sept. 1978, pp. 5306.

Storer, James A. Data Compression: Methods and Theory. Computer Science Press, 1988. ISBN 0-7167-8156-5.

Held, Gilbert. Data Compression, Techniques and Applications, Hardware and Software Considerations. John Wiley & Sons, 1987

Welch, T. A Technique for High-Performance Data Compression. IEEE Computer, Vol. 17, No. 6, June 1984, pp. 8-19.

If you want to know more about the NuFX ("nu-eff-ex") archive format, please consult the Apple Filetype Technote for \$E0/\$8002.

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DOCUMENT shogun

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=====

Soft-Sect presents:

-> S H O G U N <-

Brought to you by: The Crasher & El Cid

Docs by: Ware Jerk

Released: 07/09/89

=====

=====

Preface to the Story

=====

In Shogun, you play the role of resourceful English seaman John Blackthorne, Pilot-Major of the Dutch trader-warship Erasmus, which is on a secret mission of trade and plunder to the Spanish-dominated Pacific Ocean.

The year is 1600, and the powerful Catholic empire of Spain and Portugal is locked in a death struggle with the upstart Protestant nations of England and Holland. The Catholic nations have spread their political and religious influence across the world, reaching as far as China and the almost mythical land of Japan, extracting great wealth in spices and precious metals. Their extensive knowledge of the Asian seaways is highly secret information coveted by English and Dutch traders. But while the European powers battle each other, a longer and even more vicious struggle is raging among the feudal lords of Japan.

After hundreds of years of anarchy, Japan was unified by the great warrior Nakamura, was Taiko, or military ruler. But the Taiko has died, leaving as heir a seven-year-old boy, and a five-man Council of Regents to rule in his name. The dominant figures on the Council are Lord Toranaga and Lord Ishido. Each is a daimyo: powerful warrior-rulers who follow the ancient samurai traditions. Each harbors the ambition to be Shogun: supreme ruler under the divine but nearly powerless Emperor.

Toranaga and Ishido are each backed by lesser daimyos and hordes of samurai. They jockey for position, nearly evenly matched, looking for any way of bolstering their chances. Perhaps the Jesuits will swing their support behind one candidate, or hostages will neutralize a powerful supporter. The balance is delicate, and the appearance of the Erasmus creates excitement and new possibilities.

It is into the center of this momentous conflict that you, John Blackthorne, have been thrown, and soon you discover that the perils of the sea are almost trifling compared to the danger and intrigue among the samurai lords of Japan.

Life in Japan can be a hazardous affair. If you choose the wrong friends of confidants, you may find your head detached from your body. But strict adherence to the rules of etiquette, some judicious questions, and careful listening will enhance your pleasure, prestige, and prospects for survival.

Shogun is one of a new family of Infocom stories which utilize vivid graphics to enhance the story. So now, along with the quality interactive fiction that you've come to expect from Infocom, you can also expect beautiful artwork as well. You'll find that the art in Shogun is tied very closely to the story and gives you a "fine-focus" on the mood or locale as you play the role of John Blackthorne.

=====

Hints
=====

Shogun contains on-screen hints! If you ever get stuck, just type HINT and follow the instructions on your screen. The hints generally progress from a gentle nudge to a complete answer.

Don't let the presence or absence of hints on a particular subject affect your thinking. In fact, fake hints have been added to prevent this.

We strongly recommend that you look at only one hint at a time. Avoid the temptation to use the hints too often; this inevitably spoils, or at least lessens, the fun of solving a solving a puzzle.

If you don't have the will power to stop looking at the hints you can type HINTS OFF. This will deactivate the on-screen hints (unless you RESTART or RESTORE to an earlier point).

=====

As described elsewhere in this manual, many commands have abbreviations: you can type N instead of NORTH, for instance, or I instead of INVENTORY.

With function keys, you can use a single keystroke as an abbreviation for whatever you choose. You can use a function key to abbreviate a long word that you don't type (like TORANAGA), or to abbreviate a commonly used command (like RESTORE), or even to abbreviate a whole sentence (like LOAD THE PISTOL).

The 10 user-defined functions (F1-F10) are accessed by holding down the Closed Apple/Option key and simultaneously pressing the number key (1-0) which corresponds to the function you want to use. The arrow keys have also been defined as function keys. Initially, they are defined as the four cardinal directions. You may, however, change them also. Please note that the left arrow key is defined as WEST and cannot be user as a backspace key.

You start the story with the function keys already set to commonly used commands. To see what the function keys are to, or to change the settings of the function keys, type DEFINE at the prompt {>} and press the RETURN key. Then use your mouse or up and down arrow keys to highlight the setting(s) you want to change. The vertical bar {} or exclamation point {}!} is used as an abbreviation for the RETURN key automatically pressed when you use that function key. Note: Only one RETURN can be included in each function key definition. Anything typed after the first RETURN will be discarded.

You can restore all the original settings of the function keys by highlighting the RESET DEFAULTS command and pressing the RETURN key. You can save any changes you make by highlighting the SAVE DEFINITIONS command. If after saving your own definitions you wish to RESET DEFAULTS, or save a new set of definitions, you may retrieve your previous definitions save by highlighting the RESTORE DEFINITIONS command and pressing the RETURN key.

To leave the DEFINE screen, highlight the EXIT command and press the RETURN key.

=====

Below are explanations for a number of useful one-word commands. In many cases, these will not count as a move. Type the command after the prompt {>} and press the RETURN key. Most of these commands appear in all Infocom games, but those that are starred (*) are new.

AGAIN

- This repeat your previous input. For instance, typing TURN THE WHEEL TO PORT then typing AGAIN would be like turning the wheel to port twice in a row. You can abbreviate AGAIN to G.

BRIEF

- This command tells Shogun to fully describe a location only the first time you enter it. On subsequent visits, Shogun will tell you only the name of the location in BRIEF mode, and remain in BRIEF mode unless you use the VERBOSE or SUPERBRIEF commands. SUPERBRIEF tells Shogun to display only the name of a place you have entered, even if you have never been there before. In this mode, Shogun will not even mention which objects are present. Of course, you can always get a full description of your location and the items there by typing LOOK. SUPERBRIEF mode is meant for players who are already familiar with the geography. The VERBOSE command tells Shogun that you want a complete description of each location, and the objects in it, every time you enter it, even if you've been there before.

*COLOR

- If you are playing Shogun on a computer with a color monitor, you can type COLOR to change the colors of the text and background on your screen. This command works only on computers which support a color display.

*DEFINE

- This command allows you to change the settings of the function keys. See the "Function Keys" section above.

DIAGNOSE

- Shogun will give you a report of Blackthorne's (ie: your) physical condition.

*HINT

- If you have difficulty while playing the story, and you can't figure out what to do, just type HINT. Then follow the directions at the top of your screen to read the hint of your choice.

INVENTORY

- Shogun will list what Blackthorne is carrying and wearing. You can abbreviate INVENTORY to I.

LOOK

- This give you a full description of your location. You can abbreviate LOOK to L.

*NOTIFY

- Normally in Shogun, the game will not notify you when your score changes. You can turn on this notification feature by using the NOTIFY command. Typing NOTIFY a second time turns the feature back off.

OOPS

- If you mistype a word, such that Shogun doesn't understand it, you can correct yourself at the next prompt by typing OOPS and the correct word. For example, if you typed ATTACK

THE NINAJ WITH THE SWORD and were told "[I don't know the word 'ninaj']" you could type OOPS NINJA rather than retyping the entire sentence. You can abbreviate OPPS to O.

QUIT

- This lets you stop. If you want to save your position before quitting, follow the instructions in the "Starting and Stopping" section below. You can abbreviate QUIT to Q.

*REFRESH

- This command clears your screen and redraws the display.

RESTART

- This stops the story and starts it over from the beginning.

RESTORE

- This restores a previously saved position. See "Starting and Stopping" below for more details.

SAVE

- This puts a "snapshot" of your current position on you save disk. You can return to a saved position in the future using the RESTORE command. See "Starting and Stopping" below for more details.

SCRIPT

- Tells your printer to begin making a transcript of the story. A transcript may aid your memory, but is not necessary, and will work only on certain computers.

SCORE

- This command will show your current score and a ranking which is based on that score.

SUPERBRIEF

- Tells Shogun to give you the sparest level of description. See BRIEF above.

*UNDO

- You can use this command to "back up" one move. Suppose, for example, that you found a package but didn't know what it was. You might type OPEN THE PACKAGE and be told "The package explodes as you open it, destroying all your possessions." You could then type UNDO, and you would "back up" one move. Your possessions would be intact, and you could try giving the package to an enemy, or leaving it alone, or something else.

UNSCRIPT

- This tells your printer to stop making a transcript.

VERBOSE

- This command tells Shogun too give you the wordiest level of description. See BRIEF above.

WAIT

- This causes time in the story to pass. Since nothing happens until you type a sentence and press RETURN, you could take a nap, eat dinner, then return to the story to find that nothing has changed. You can use WAIT to make time pass in the story without doing anything. For example, if you saw two soldiers arguing, you might WAIT to see what they'll do; if you were aboard a ship, you might WAIT to see where it goes. You can abbreviate WAIT to Z.

=====
Sample Transcript
=====

This transcript is not from Shogun, but will give you a good feeling for how Infocom's interactive fiction works. It contains some simple puzzles and their solutions. The player's commands appear in capital letters after each prompt {>}.

>LOOK
You are at the helm of the tradeships Dek Twintig, about to make port in Goro.

>LOOK AT THE SEA
The sea is as calm as the day is beautiful. The sails are full and the brisk wind moves the ship along at a quick and steady pace. Directly to port lies the barrier reef which makes Goro an ideal harbor, sheltered from the relentless battering of the sea and safe from easy enemy attack.

>LOOK AT THE REEF
The reef is to port, marked by a line of churning surf and broken two hundred yards ahead by the mouth of the winding channel that leads to the anchorage in Goro Harbor. The Dek Twintig is running before the wind parallel to the reef.

>LOOK AT THE CHANNEL
The channel is ahead and to port, marked by red and green buoys; red buoys mark the channel's left side and green buoys mark the right side.

>WAIT
Time passes...
From atop the mainsail in the crow's nest you hear the lookout yell, "Coming up on the channel now."

>TURN THE WHEEL TO PORT
You turn the wheel to port and the Dek Twintig slips into the channel.

>LOOK AT THE CHANNEL
The channel surrounds you on both sides, about twice as wide as your ship, with red and green buoys marking its boundaries. Beyond the buoys lie shallow water, rocks, and disaster. The channel bends to starboard about three hundred yards ahead.

>WAIT
Time passes...
The ship moves deeper into the channel propelled by the stiff winds.

>WAIT
Time passes...
The ship moves deeper into the channel propelled by the stiff winds. The ship seems to be moving away from the center towards the left side of the channel. You hear the lookout yell excitedly, "Approaching red buoy dead ahead!" Startled, you look to the left for the buoy but it's too late because you've just left the channel and run aground. Luckily, you're on a sand bar, and not the rocks.

>UNDO
(UNDO done)

>TURN WHEEL TO STARBOARD

You quickly turn the helm to starboard just avoiding the red buoy. The Dek Twintig responds, veering back towards the center of the channel.

>LOOK AT THE CHANNEL
The channel surrounds you on both sides about twice as wide as your ship. The ship seems to be veering off to the right side of the channel. You remember your recent close call as you hear the lookout yell, "Green buoy sighted, Captain!"

>STRAIGHTEN WHEEL
You quickly straighten the wheel and the ship immediately centers herself in the channel.

>LOOK AT THE CHANNEL
The channel surrounds you on both sides, about twice as wide as your ship. The lookout yells, "Channel turning starboard, Captain."

>TURN THE WHEEL STARBOARD
You turn the wheel to starboard, expertly following the center of the channel.

>STRAIGHTEN THE WHEEL
You straighten the wheel holding the Dek Twintig to the center of the channel. The lookout yells, "Anchorage dead ahead, Captain."

>LOOK AT THE CHANNEL
The channel surrounds you, about twice as wide as your ship. The channel opens up into Goro bay about two hundred yards ahead.

>WAIT
Time passes...
You enter the harbor under full sail, a tribute to English seamanship. The anchorage is just a hundred yards away now.

>CREW, LOWER THE SAILS
The crewmen, who had been taking in the first sight of Goro, snap to and scurry up the riggings and smartly lower the sails and the Dek Twintig coasts majestically to the anchorage. You notice a small boat being launched from the shore and heading your way.

>TELL THE FIRST MATE TO LOWER THE ANCHOR
Seersucker orders three men forward to lower the anchor. Presently, you hear a splash and first part of your voyage is complete. The small boat is getting closer.

>LOOK AT THE BOAT
The small boat, now coming up beside the Dek Twintig, is manned by a crew of twelve. They are dressed in strange but beautifully wrought clothing. Some of the men look like warriors.

>SEERSUCKER, LOWER THE LADDER
With the help of Hornung and Shalle, Seersucker lowers the ladder over the side.

>WAIT
Time passes...
Four heavily armed men board the ship and position themselves around the top of the ladder. After a few moments a fifth man climbs the ladder. His manner and dress set him apart from the others, he is obviously their superior.

>INVENTORY
You are carrying official letters of introduction from the Dutch government, a sword, and a box containing a present to the people of Goro from Prince William of Orange. You step forward to address the leader. Immediately the four armed men jump forward, drawing their swords. You quickly step back.

>BOW TO THE LEADER
The leader takes a much more relaxed stance. His guards relax but eye you warily.

>GIVE LETTERS TO THE LEADER
You hand the letters of introduction to the leader. He looks at them but doesn't comprehend their meaning.

>GIVE THE BOX TO THE LEADER
The leader takes the box and opens it. Inside is a globe of Europe and Japan outlined in precious stones. The leader runs his hand over the European portion of the globe letting it come to rest on the purposely unadorned country of Spain. You feel uncomfortable with his choice of resting place.

>WAIT
Time passes...
The leader closes the box and speaks to one of the guards. The guard goes to the side of the ship yells down to the men remaining in the small boat. Another man, obviously of Spanish descent, climbs the ladder and boards the ship. Eyeing you suspiciously, he approaches and introduces himself. "I am Dario Glaz. This man," he points to the leader, "is Admiral Sukata, commander of the port of Goro. He wishes to know who you are?"

>I AM CAPTAIN WICKS
Upon hearing your name, Glaz becomes livid with rage, turns to Admiral Sukata and anxiously says something to Sukata. Instantly, Sukata yells something to his men and then to Glaz. The guards on deck come to a fighting posture while those remaining in the small boat begin to scurry up the ladder. Glaz faces you and says, "Captain Jeremiah Wicks, I hereby place you under arrest in the name of Admiral Sukata for the crime of piracy." As he speaks the guards move towards you.

>I AM NOT A PIRATE
The guards continue their advance. Your crew is not sure what to do.

>I AM CAPTAIN ALEXANDER WICKS
You hurriedly explain to Glaz that Jeremiah Wicks is your half-brother, a scrouge to your family and an enemy of England and all nations. He turns and speaks once more to Sukata, Sukata listens intently then orders his men to stop.

=====
Starting and Stopping
=====

On your screen, you will see a description of the opening location of the story, Bridge of the Erasmus, followed by the prompt {>} indicating that Shogun is waiting for your first input.

Here are a few inputs for you to try at the first several prompts. After typing each input, don't forget to hit the RETURN key.

>INVENTORY
>TAKE THE WHEEL
>SIT IN THE CHAIR
>TURN THE WHEEL TO STARBOARD

You should now have a feel for interacting with the story. You decide what to do next.

Saving and restoring: It will probably take you several days to complete Shogun. Using the SAVE feature, you can continue the story at a later time without having to start over from the beginning, just as you can place a bookmark in a book you are reading. Even if you aren't about to stop playing, it's useful to SAVE before (or after) trying something dangerous or tricky. That way, even if you get lost or "killed" in the story, you can return to your saved position.

To save your place, type SAVE at the prompt {>} and then press RETURN. Using a disk with data on it (other than for Shogun saves) may result in the loss of that data, depending on your computer. You can save your position as often as you like by using additional

blank disks.

Any time you want to return to a saved position, just type RESTORE at the prompt {>}, and hit RETURN. You can then continue the story from your save.

Quiting and restarting: If you want to start over from the beginning, type RESTART and press the RETURN key. (This is usually faster than re-booting.) Shogun will ask you to confirm this command. If you want to stop entirely, type QUIT and press RETURN. Once again, Shogun will ask to make sure this is really what you want to do.

Remeber: when you RESTART or QUIT, you must SAVE if you want to return to your current position in the story.

=====
Interactive Fiction
=====

In Shogun, you type your commands in plain English each time you see the prompt {>}. Most of the sentences that Shogun will understand are imperative sentences. See the examples below.

When you have finished typing your input, press the RETURN key. Shogun will then respond, telling you whether your request is possible at this point in the story, and what happened as a result.

Shogun recognizes your words by their first nine letters, and all subsequent letters are ignored. For example, Shogun would not be able to distinguish between DEMONSTRation, DEMONSTRative, and DEMONSTRator.

To move around, just type the direction you want to go. Directions can be abbreviated: NORTH to N, SOUTH to S, EAST to E, WEST to W, NORTHEAST to NE, NORTHWEST to NW, SOUTHEAST to SE, SOUTHWEST to SW, UP to U, and DOWN to D. IN and OUT and PORT, STARBOARD, FORE and AFT will also work in certain places.

Shogun understands many different kinds of sentences. Here are examples, using objects and characters that don't necessarily appear in Shogun:

```
>WALK TO THE NORTH
>WEST
>NE
>DOWN
>TAKE THE APPLE
>OPEN PANEL
>READ THE RUTTER
>LOOK AT THE COMPASS
>TURN WHEEL TO PORT
>LIFT THE SWORD
>TEAR THE CLOTH
>STEER TOWARD BAY
>GIVE THE CHOPSTICKS TO THE WOMAN
>CLIMB INTO THE PIT
```

You may use lower-case letters and words like A and THE if you wish. Shogun doesn't care one way or the other.

You can use multiple objects with certain verbs if you separate them by the word AND or by a comma. Some examples:

```
>TAKE THE PISTOL AND THE BAG
>DROP THE SWORD, THE COMPASS, AND THE TOWEL
```

You can include several sentences on one line if you separate them by the word THEN or by a period. Each sentence will be handled in order, as though you had typed them individually at separate prompts. For example, you could type all of the following at once, before pressing the RETURN key.

```
>TAKE THE ROPE. GO UP THEN TURN THE WHEEL TO PORT
```

If Shogun doesn't understand one of the sentences on your input

line, or if an unusual event occurs, it will ignore the rest of you input line.

The words IT and ALL can be very useful. For example:

```
>EXAMINE THE APPLE. TAKE IT. EAT IT
>CLOSE THE HEAVY METAL DOOR. LOCK IT
>TAKE THE KIMONO. PUT IT ON
>TAKE ALL
>GIVE ALL BUT THE PISTOL TO THE PRIEST
```

The word ALL refers to every visible except object those inside something else. If there were an apple on the cabinet and an orange inside the cabinet, TAKE ALL would take the apple but not the orange.

There are various kinds of questions that Shogun understands. Examples include: WHO IS {someone}, WHERE IS {something or someone}, and WHAT IS {something}. For example:

```
>WHO IS TORANAGA?
>WHAT IS A SAMURAI?
>WHERE IS OSAKA?
```

When you meet other people in Shogun, you can talk to them by typing their name, then a comma, then whatever you want to say to them.

```
>PRIEST, HELLO
>YABU, TELL ME ABOUT THE PLAN
>MARIKO, GIVE ME THE DAGGER
```

Sometimes Shogun "knows" you mean to answer a question posed by another character. In these situations you can omit the name and comma. For example if Mariko asked, "What's your favorite color?" you could answer.

```
>YELLOW
```

You can also ask questions of characters by using the form ASK {someone} ABOUT {something}. For example:

```
>ASK OCHIBA ABOUT THE SAMURAI
>ASK OMI ABOUT ISHIDO
>ASK YABU ABOUT THE PLAN
```

Keep in mind, however, that most people don't care for idle chatter, you should listen to others and answer their questions. Often your actions will speak louder than your words.

Shogun tries to guess your intention when you give incomplete information. When it makes a guess, it will tell you. For example:

```
>UNLOCK THE DOOR
{with the key}
The door is now unlocked.
```

If your command is ambiguous, Shogun will ask you to clarify. You can answer these questions simply by supplying the missing information at the very next prompt. For example:

```
>GIVE THE PROCLAMATION
Who do you want to give the proclamation to?
```

```
>THE QUEEN
The queen smiles as she accepts your gift.
```

=====

Tips for Novices
 =====

1. Draw a map. It should include each location, the connections to adjoining locations, and any interesting objects there. Remember, there are 10 possible directions (NORTH, SOUTH, EAST, WEST, NORTHEAST, NORTHWEST, SOUTHEAST, SOUTHWEST, UP AND DOWN) plus IN and OUT, PORT, STARBOARD, FORE and AFT.

2. EXAMINE all objects you come across in the story.

3. TAKE as many things as you can carry. Most objects that you find are important for solving the puzzles that you'll run into.

4. SAVE your place often, so that if you mess up or get "killed", you won't have to start over from the beginning.

5. Read the story carefully! There are often clues in the description of locations and objects.

6. Try everything you can think of. Even strange or dangerous actions are fun and may provide clues: you can always save your position first. Here's a silly example:

```
>GIVE THE BROKEN COMPASS TO TORANAGA
Toranaga scornfully refuses your offer. He continues to look in the bushes for his dagger.
```

Thus, you discover that maybe giving something else to Toranaga (perhaps your dagger?) might be better.

7. There are many possible routes to the end of Shogun. If you get stuck on one puzzle, move on to another. Some puzzles have more than one solution; other puzzles don't need to be solved at all. Sometimes you will have to solve one puzzle in order to obtain the item(s) or information you need to solve another puzzle.

8. Play Shogun with a friend! Different people may find different puzzles easy and can often complement each other.

9. If you really have difficulty, you can type HINT. The screen will then show you a list of questions to which you can get answers. (Simply follow the instructions at the top of your screen to see the hint of your choice.) You don't need to use the hints to enjoy the story, but it will make solving the puzzles easier.

10. Read the sample transcript above to get a feel for how interactive fiction works.

11. You can word a command in many different ways. For example, if you wanted to stop the ship, you could type in any of the following:

```
>DROP THE ANCHOR IN THE WATER
>THROW THE ANCHOR IN THE WATER
>PUT ANCHOR IN WATER
```

If you type a sentence that Shogun doesn't understand, try rephrasing it or using synonyms. If Shogun still doesn't understand, you're probably trying something that isn't important for completing the story.

=====
 Common Complaints
 =====

Shogun will complain if your input confuses it completely. Shogun would then ignore any further sentences on your input

line. (Certain events, such as attack, will also cause Shogun to ignore any additional sentences on your input line, since the event may have changed your situation drastically.) Here are some of Shogun's complaints:

{I don't know the word _____.}

That word is not in the story's vocabulary. It may help to use a synonym or rephrasing the command; more likely, you're just barking up the wrong tree. Shogun uses many words in the descriptions that it will not recognize in your inputs. So, you might read, "The moon casts violet shadows across the crater," but discover that Shogun doesn't know the words MOON or SHADOW or CRATER in your input. When this happens, you can assume that you don't need to refer to those things to complete the story; they are there only to create a more vivid image of your location.

{I think there's a verb missing in that sentence!}

Unless you are answering a question, each sentence must have a verb (or one of the special commands). Among the most important verbs that Shogun understands are TAKE, DROP, PUT, GIVE, LOOK, READ, EXAMINE, OPEN, CLOSE, ENTER, EXIT, EAT and WEAR. There are many more. Remember, you can use a variety of prepositions with your verbs. (For example, LOOK can become LOOK AT, LOOK INSIDE, LOOK BEHIND, LOOK UNDER, LOOK THROUGH, and so on.)

{I can't understand that many nouns with _____.}

Shogun recognized your verb, but it can't understand so many noun "phrases" with it. For example, Shogun may recognize SKIP but not SKIP THIS PART.

{You can't see any _____ right here!}

The object you referred to is not visible. It may be somewhere else, or it may be present but in a closed container.

{You can't use more than one object at a time with _____.}

You can use multiple objects (that is, nouns or noun phrases separated by AND or a comma) or the word ALL only with certain verbs, such as TAKE, DROP, and PUT. For example, EXAMINE will not work with multiple objects; you couldn't say EXAMINE ALL or EXAMINE THE BOWL AND THE SWORD.

{There isn't anything to _____!}

You used the word ALL, but there aren't any appropriate objects visible.

{Sorry, but I don't understand. Please that another way, or try something else.}

The syntax (sentence structure) you used is not among the hundreds of syntaxes that Shogun recognizes. For example, SIT UNDER THE TREE and SKIP AROUND THE MAYPOLE are syntaxes that Shogun wouldn't recognize. There's a limited amount of space in the program, so syntaxes that are less common or not useful aren't included. Try rephrasing the sentence.

{I beg your pardon?}

You pressed the RETURN key with typing anything.

=====
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Ethereal Exclusive (Soft-Sect's homebase) 301-529-6418
A private system running at 9600 w/104 megs. of storage
=====

Also be sure to call:

Magnetic Field - (312) 966-0708
Midwest Exchange - (312) 447-3857
=====

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DOCUMENT short.circuit

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//////////////////////////////////////\//////////////////////////////////////
|
|           S H O R T   C I R C U I T   S O F T   D O C S
|
|   Written by The Compiler for "Oceania" (713) 778-9356 24hrs.
|   Use on other boards permitted as long as this notice is intact!
|
//////////////////////////////////////\//////////////////////////////////////

```

THE SCENARIO: DEVICE ZX88B - mistakenly activated during a moment of feverish international tensions- is about to trigger twenty DOOMSDAY Bombs from a series of enemy satelites encircling the Earth! The world holds it's breath as you are assigned to disarm the device before it detonates the bombs.

Device ZX88B is a sophisticated failsafe system designed to resist tampering. It can't be turned off. It can't be destroyed. The twelve microchips within it are designed to send detonation pulses to the enemy satellite network within minutes of activation. The source of these pulses is the microfuse built into each of the twelve microchips.

Game Play:

Motherboard: The Motherboard within DEVICE ZX88B represents all twelve microchips and shows you which are available for entry at any given time. Enter a microchip by typing it's number. As long as the game lasts, you will always have a choice of at least two microchips to enter. The game evaluates your play on each chip, and awards a greater number of choices after a well played screen. If a chip defeats you, you may choose to re-enter it immediately, or re-enter it later in the game.

Microbatteries: You must use the power stored in each of the microbatteries to OVERLOAD, and disarm each microchip. You must go to a battery to transfer power to each of the other two batteries on each microchip. You continue to go to a battery and send charges to the other two until one of them becomes overloaded and begins to flash. At this time the flashing microchip is vulnerable and so are you. You must reach the overload without being hit. This causes the circuit to blow. You then begin a "Lightning Run" for bonus points. The "charge" on the overloaded battery becomes the amount of time available to you for the lightning round.

Neutrons, Double Neutrons, and Photons: Avoid being hit by these foriegn particles that pulsate throughout the microchip. Contact with any of them will drain power from the batteries and alert THE DEVICE of your intrusion. FIVE hits will cause the system to eliminate you and make micro fuse contact.

Microspark: Microsparks usually appear in dead ends and contact with them will send a power surge throughout the circuit, further charging the batteries.

Microfuse: The microfuse is the herat of the microchip. Do not let the left and right sides connect. If connection is made a detonation pulse will result. Polarity on the fuse can be flipped by making contact with it, thus slowing it down.

Lightning Run: During the lightning round you can run up your score and get revenge on the neutrons and photons by running over as many of them as you can.

Lightning: During the lightning round the spark becomes lightning and acts as a point multiplier. Each time you contact it point values for the neutrons and photons double.

Vacuum: The vacuum roams the wires of the microchip during the lightning round. Contact with it will bring the lightning round to an end.

The Twelve Micro-chips:

1. Bouncing Neutrons- slow
 2. Quicker Neutrons- medium fast
 3. Neutron Chambers- normal
 4. Photon Chamber- Beware of the flashing electron guns that fire Photons.
 5. Chamber Maze- Travel through the walls of the maze instead of the wires.
 6. Double Cross Chamber-Where you enter determines if you travel in the walls or in the wires.
 7. Magnetic Chamber-The walls draw you from side to side, changing without warning.
 8. High Speed Micro-chip- Batteries drain faster and microfuse makes contact in half the time of a normal chip.
 9. The Short Circuit- Short circuit moves quickly, timing is crucial to jump through it.
- A. Photon Wire Maze- Beware of the One Way wires.
- B. Photon Walls- Combine all your talents to jump wires and move through the chamber walls.
- C. Photon Diamonds- Manuver the diamond maze and skillfully jump through the short circuit.

The Controls:

- Space Bar - Begins Game
- CTRL-J - Joystick
- CTRL-P - JoyPort
- 1-9,A-C - Select Micro-chip
- Button 0 - Jump
- CTRL-S - Toggle sound
- CTRL-R - Restart
- ESC - Pause

=====

DOCUMENT sideways.1

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```

/\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
\ /
  SIDWAYS SOFT-DOX
S           BY           S
I           THE PENGUIN  I
D
E           &           E
W           JAY OF A.P.P.L.E. W
A
Y           FOR         Y
S           THE SOUTH POLE....[312] 677-7140 S
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  \ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\

```

WHAT YOU NEED

TO RUN SIDWAYS YOU WILL NEED AN APPLE][+,e,c COMPUTER WITH AT LEAST 48K, AT LEAST ONE DISK DRIVE, A PRINTER INTERFACE CARD, AND A DOT-MATRIX PRINTER WITH DOT-ADDRESSABLE GRAPHICS CAPABILITY. FOR A LIST OF CURRENTLY SUPPORTED PRINTERS AND PRINTER INTERFACE CARDS, SEE THE SECTION ENTITLED 'INSTALLATION GUIDE'.

WHAT'S ON YOUR DISK

YOUR SIDWAYS DISK CONTAINS THE FOLLOWING FILES:

SIDWAYS.....THIS IS THE SIDWAYS PROGRAM

INSTALL.....THIS PROGRAM ALLOWS YOU TO SET-UP SIDWAYS FOR YOUR HARDWARE CONFIGURATION (PRINTER MODEL,INTERFACE CARD,SLOT NUMBER)

SAMPLE.PRF.....THIS IS A SAMPLE SPREADSHEET, WHICH CAN BE USED IMMEDIATELY TO DEMO SIDWAYS PRINTING.

INSTALLING THE PROGRAM

BEFORE YOU CAN USE THE SIDWAYS PROGRAM, YOU MUST TELL IT THE TYPE OF PRINTER YOU HAVE, THE TYPE OF INTERFACE CARD YOU HAVE, IN WHICH SLOT THE INTERFACE CARD IS LOCATED, AND THE NUMBER OF DATA BITS PER BYTE THAT YOUR PRINTER WILL ACCEPT (NORMALLY 8).

1. PUT YOUR SIDWAYS DISK IN DRIVE 1 AND TURN ON THE COMPUTER.
2. WHEN THE SCREEN TITLE APPEARS, TYPE THE CHARACTER "I" (FOR INSTALL). BE SURE TO DO THIS BEFORE THE MAIN SIDWAYS MENU APPEARS.
3. THE "INSTALL" PROGRAM WILL TELL YOU HOW SIDWAYS IS CURRENTLY INSTALLED, AND WILL PRESENT A MENU FOR CHANGING THE INSTALLATION. SELECT WHICHEVER ITEMS NEED TO BE ALTERED; THE PROGRAM WILL LEAD YOU THROUGH THE VARIOUS OPTIONS IN A SERIES OF MENUS.
4. WHEN YOU HAVE MADE ALL THE NECESSARY CHANGES, USE THE "TEST INTERFACE" OPTION TO DO A PRELIMINARY CHECK OF THE SYSTEM. THIS WILL SEND A LINE OF TEXT CONTINUOUSLY, INSURING THAT YOUR SELECTION OF PRINTER INTERFACE CARD AND AND SLOT NUMBER WERE CORRECT.

5. NOW USE THE "EXIT" OPTION TO LEAVE THE INSTALL PROGRAM AND START THE NEWLY INSTALLED SIDEWAYS PROGRAM.

6. CHECK OUT THE SYSTEM BY PRINTING THE SAMPLE SPREADSHEET THAT WE'VE INCLUDED ON YOUR SIDEWAYS DISK WHEN THE SIDEWAYS SCREEN COMES UP, TYPE IN "SAMPLE.PRF", FOLLOWED BY <RETURN>.

IF YOU BUY A NEW PRINTER, OR OTHERWISE CHANGE YOUR CONFIGURATION, MAKE SURE YOU KEEP SIDEWAYS ABREAST OF NEW DEVELOPMENTS BY REPEATING THE ABOVE PROCEDURE.

REFER TO THE SECTION ENTITLED "INSTALLATION GUIDE" FOR INFORMATION ON PARTICULAR PRINTERS AND INTERFACE CARDS, AND HOW THEY SHOULD BE INSTALLED.

STARTING UP THE PROGRAM

 PUT YOUR SIDEWAYS DISK IN DRIVE 1 AND TURN ON YOUR COMPUTER FIRST, A TITLE SCREEN WILL APPEAR, FOLLOWED, AFTER A FEW SECONDS, BY THE SIDEWAYS MENU.

WHAT YOU SEE ARE ALL THE CURRENT SETTINGS OF THE FORMATTING AND PRINTER OPTIONS. YOU MAY ALTER ANY OF THESE OPTIONS, SAVE THE NEW SETTING TO DISK, SELECT A FILE FOR SIDEWAYS PRINTING, OR EXIT TO A DIFFERENT PROGRAM.

THE CURSOR ALWAYS POINTS TO A HIGHLIGHTED FIELD; INITIALLY IT POINTS TO THE PRINT FIELD. USE CTRL-E AND CTRL-X TO MOVE THE CURSOR AROUND THE SCREEN TO DIFFERENT FIELDS (ON AN APPLE IIe USE UP-ARROW AND DOWN-ARROW). IF YOU WOULD LIKE TO ALTER THE VALUE OF A FIELD, SIMPLY POSITION THE CURSOR TO THAT FIELD AND RE-ENTER IT.

FOR MOST OF THE FIELDS, YOU WOULD SIMPLY ENTER THE NEW VALUE AND TERMINATE YOUR ENTRY WITH <RETURN>, OR CTRL-E OR CTRL-X. YOU CAN USE LEFT-ARROW OR DELETE TO DELETE THE LAST CHARACTER YOU TYPED, OR <ESC> TO DELETE YOUR ENTIRE ENTRY. IF YOUR ENTRY IS INVALID, YOU WILL GET AN ERROR MESSAGE, AND THE FIELD YOU JUST ENTERED WILL REVERT ITSELF TO ITS PREVIOUS VALUE.

THE REST OF THE FIELDS ARE "TOGGLE" FIELDS: YOU CAN CHANGE THEIR CONTENTS SIMPLY BY STRIKING ANY ALPHANUMERIC KEY (SUCH AS THE SPACE BAR). THESE FIELDS INCLUDE HORIZONTAL FORM SIZE, CHARACTER FONT, AND DOUBLE STRIKE.

SELECTING A FILE TO PRINT

 TO PRINT A FILE, POSITION THE CURSOR TO THE PRINT FILE FIELD AND TYPE IN THE NAME OF THE FILE YOU WANT TO PRINT, TERMINATE BY HITTING <RETURN>. ENTER THE FILE NAME IN NORMAL DOS FORMAT:

filename[,Sn][,Dn][,Vn]

(S,D, AND V ARE SLOT, DRIVE, AND VOLUME. AS INDICATED BY THE BRACKETS, THE ARE OPTIONAL PARAMETERS,)

ONCE PRINTING HAS BEGUN, THE FOLLOWING IS DISPLAYED:

STRIKE "P" TO STOP PRINTING

IF YOU DO STRIKE "P", THE PRINTER WILL STOP PRINTING AT THE CURRENT LINE AND DO A FORM FEED.

AFTER YOUR FILE HAS BEEN PRINTED, YOU MAY ONCE AGAIN ALTER THE OPTION SETTINGS, ENTER A NEW FILE NAME FOR PRINTING OR EXIT TO ANOTHER PROGRAM.

SLOT, DRIVE, VOLUME:

IF YOU DON'T SPECIFY A SLOT OR DRIVE NUMBER, SIDEWAYS WILL USE THE DEFAULT SLOT AND DRIVE. INITIALLY, THE DEFAULT IS THE SLOT AND DRIVE FROM WHICH SIDEWAYS WAS BOOTED (NORMALLY SLOT 6, DRIVE 1). WHENEVER YOU SPECIFY A SLOT OR DRIVE WITH A FILENAME, IT BECOMES THE NEW DEAFULT.

IF YOU DON'T SPECIFY A FILENAME, BUT TYPE IN A SLOT AND/OR DRIVE NUMBER, FOLLOWED BY <RETURN>, SIDEWAYS WILL CHANGE THE DEFAULT SLOT AND DRIVE WITHOUT ATTEMPTING TO PRINT ANYTHING. YOU MUST REMEMBER TO PRECEDE THE DRIVE OR SLOT NUMBER WITH A COMMA. FOR EXAMPLE, TO CHANGE THE DEFAULT DRIVE TO DRIVE 2, TYPE IN:

,D2 <RETURN>

IF YOU SPECIFY A VOLUME NUMBER, SIDEWAYS WILL MATCH THIS NUMBER TO THE VOLUME NUMBER ON THE DISK, AND GIVE YOU AN ERROR ON A MISMATCH.

WILDCARDS:

IF YOU DON'T REMEMBER THE NAME OF THE FILE YOU WANT TO PRINT, YOU CAN EXAMINE THE FILENAMES ON YOUR DISK BY USING A "WILDCARD" IN THE FILENAME YOU ENTER. THE EQUAL (=) SIGN IS THE WILDCARD CHARACTER-IT STANDS FOR ANY SEQUENCE OF CHARACTERS IN THE CORRESPONDING POSITION OF THE FILENAME. FOR INSTANCE, P=W WOULD STAND FOR ANY FILENAME STARTING WITH P AND ENDING WITH W. AFTER ENTERING THE FILENAME WITH THE WILDCARD IN IT, DON'T TYPE <RETURN>, BUT USE RIGHT-ARROW TO DISPLAY, ONE-BY-ONE, ALL TEXT FILES MATCHING YOUR ENTRY. WHEN THE FILE THAT YOU WANT APPEARS, HIT <RETURN> TO PRINT IT.

HERE ARE SOME EXAMPLES OF WILDCARDS:

= ALL FILES ON DEFAULT DRIVE
 =,D2 ALL FILES ON DRIVE 2
 =ING ALL FILES ENDING IN ING

FILENAME RULES:

YOUR FILE MST BE ON A DOS 3.3 DISK. DOS ASSIGNS EVERY FILE ON YOUR DISK A "FILE TYPE", WHICH GENERALLY DESCRIBES THE FORMAT OR PURPOSE OF THE FILE. THE "TEXT" FILE TYPE INDICATES A FILE COMPOSED OF PRINTABLE CHARACTERS-THIS IS THE TYPE OF FILE SIDEWAYS EXPECTS, AND IF YOU ENTER A FILE OF A DIFFERENT TYPE, SIDEWAYS WILL NOT RECOGNIZE IT. TEXT FILES ARE INDICATED BY THE "T" CODE NEXT TO THE FILE NAME WHEN YOU CATALOG YOUR DISK.

YOU SHOULD NOT USE FILE NAMES WITH EMBEDDED CONTROL CHARACTERS, OR WITH FLASHING OR INVERSE CHARACTERS.

WHILE SIDEWAYS WILL HANDLE LOWER-CASE CHARACTERS IN A FILENAME, IT IS GOOD PRACTICE TO AVOID USING THEM. SIDEWAYS WILL DISREGARD CASE WHEN YOU USE RIGHT-ARROW TO SEARCH FOR A FILE; HOWEVER, WHEN YOU TERMINATE YOUR FILENAME ENTRY WITH <RETURN>, ALL THE CHARACTERS OF THE FILENAME MUST BE IN THE CORRECT CASE FOR THE FILE TO BE FOUND.

WHEN YOU USE RIGHT-ARROW TO SEARCH FOR A MATCHING FILENAME, THE EQUAL SIGN (=) IS A WILDCARD; BUT WHEN YOU TERMINATE YOUR FILENAME ENTRY WITH <RETURN>, THE EQUAL SIGN IS TAKEN LITERALLY.

SIDEWAYS OPTIONS

 SETTING PAPER DIMENSIONS:

HORIZONTAL FORM FEED REFERS TO YOUR PAPER WIDTH. IT WILL TOGGLE BETWEEN 8 INCHES AND 13 INCHES. IF YOU HAVE A NARROW CARRIAGE PRINTER,

YOU SHOULD LEAVE IT SET TO 8 INCHES.

VERTICAL FORM FEED IS THE DISTANCE BETWEEN PERFORATIONS OF YOUR PRINTER PAPER. WHENEVER SIDEWAYS IS DONE PRINTING A PAGE, IT FORM FEEDS TO THE NEXT MULTIPLE OF VERTICAL FORM SIZE. IT IS NORMALLY SET TO 11 INCHES.

SETTING THE STYLE OF THE PRINTOUT:

DOUBLE STRIKE IS A TOGGLE FIELD WHICH MAY BE ON OR OFF. IF IT'S ON, EACH LINE WILL BE PRINTED TWICE, FOR ADDED PRINT DENSITY.

CHARACTER FONT IS A TOGGLE FIELD WHICH GIVES YOU A CHOICE OF VARIOUS TYPE SIZES, FROM TINY TO EXTRA LARGE. ON THE RIGHT OF THE SCREEN, THE DIMENSIONS OF THE "DOT-MATRIX" - THE VERTICAL AND HORIZONTAL PRINT DOTS THAT ARE USED TO MAKE UP EACH CHARACTER IN THE SELECTED FONT ARE SHOWN.

CHARACTER SPACING IS THE DISTANCE BETWEEN SUCCESSIVE CHARACTER COLUMNS, MEASURED IN TERMS OF THE VERTICAL DOT DENSITY OF THE PRINTER. YOU CAN CROWD CHARACTERS TOGETHER, OR SPREAD THEM APART, BY MAKING THIS NUMBER SMALLER OR LARGER-THE RESULTING NUMBER OF CHARACTERS PER INCH IS DISPLAYED AT THE RIGHT.

LINE SPACING IS THE DISTANCE BETWEEN SUCCESSIVE PRINT LINES, MEASURED IN TERMS OF HORIZONTAL DOT DENSITY OF THE PRINTER. YOU CAN CROWD LINES TOGETHER OR SPREAD THEM APART BY MANIPULATING THIS VALUE-THE RESULTING NUMBER OF LINES PER INCH IS DISPLAYED AT THE RIGHT.

YOU MAY SET A DIFFERENT CHARACTER AND LINE SPACING FOR EACH CHARACTER FONT; WHEN YOU CHANGE FONTS, YOU AUTOMATICALLY REVERT TO THE CHARACTER AND LINE SPACING ASSOCIATED WITH THE NEW FONT.

SETTING THE FORMAT OF THE PAGE:

LEFT MARGIN CONTROLS THE AMOUNT OF WHITE SPACE BETWEEN TOP-OF-FORM AND THE LEFTMOST SIDEWAYS PRINT COLUMN

TOP MARGIN CONTROLS THE AMOUNT OF WHITE SPACE BETWEEN THE RIGHT EDGE OF THE PAPER AND THE 1ST SIDEWAYS PRINTED LINE.

BOTTOM MARGIN CONTROLS THE AMOUNT OF WHITE SPACE BETWEEN THE LAST SIDEWAYS PRINTED LINE AND THE LEFT EDGE OF THE PAPER.

THE AMOUNT OF SPACE AVAILABLE FOR PRINTING IS DETERMINED BY SUBTRACTING TOP MARGIN AND BOTTOM MARGIN FROM HORIZONTAL FORM SIZE. THE PROGRAM AUTOMATICALLY COMPUTES THE NUMBER OF LINES THAT WILL FIT ON EACH PAGE, AND DISPLAYS THIS ON THE RIGHT HAND SIDE OF THE SCREEN.

OTHER OPTION:

STARTING PAGE ALLOWS YOU TO SKIP OVER THE INITIAL PAGES OF A PRINT FILE; IT IS NORMALLY SET TO 1.

SAVING OPTION SETTINGS TO DISK

ONCE YOU HAVE SET UP THE SIDEWAYS OPTIONS AS YOU LIKE THEM, YOU CAN SAVE THEM TO DISK BY TYPING CTRL-S, AND RELOAD THEM FROM DISK BY TYPING CTRL-L.

THE OPTION SETTINGS ARE SAVED IN A FILE CALLED SWOPTIONS. WHEN YOU TYPE CTRL-S, THE CURRENT OPTION SETTINGS ARE WRITTEN TO SWOPTIONS ON THE DEFAULT SLOT AND DRIVE. WHEN YOU TYPE CTRL-L, THE OPTION SETTINGS ARE LOADED FROM SWOPTIONS ON THE DEFAULT SLOT AND DRIVE. REMEMBER THAT YOU CAN ALTER THE DEFAULT SLOT AND DRIVE BY ENTERING THEM IN THE PRINT FILE FIELD WITH A BLANK FILENAME, FOLLOWED BY <RETURN>.

YOU CAN ALSO SAVE THE OPTION SETTINGS TO THE SIDEWAYS DISK ITSELF. IF

YOU HAVE DONE SO, THEY WILL BE RELOADED EVERY TIME YOU BOOT SIDEWAYS, AND YOU WILL NOT NEED TO USE CTRL-L.

IF YOU HAVE ONE STANDARD SET OF OPTION SETTINGS THAT YOU USE MOST OF THE TIME, IT MAKES SENSE TO SAVE THEM TO THE SIDEWAYS DISK. IF YOU HAVE DIFFERENT OPTION SETTINGS USED FOR DIFFERENT PRINT FILES, YOU MIGHT WANT TO SAVE EACH OF THE VARIOUS SETTINGS TO A DIFFERENT DISK, AND USE CTRL-L TO READ THEM IN.

=====

DOCUMENT silent

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SILENT SERVICE DOCS (for the GS)

A USAlliance release

Typed and Compiled by

Disk Doctor

CALL

Future World 301-486-4515 20 Megs, original software

The actual playing of the game is very simple since Silent Service is almost totally mouse controlled. What I will be doing is giving a description of each command and its uses.

Scenarios: This is the first options you will see when booting up the game.

Torpedo/Gun Practice: This option places you outside the American base at Midway Island. Four ships are anchored here all you have to do is blow them up.

Convoy Actions: Here you have an actual fight. You have to destroy all the ships. Watch out for destroyers because they attack back.

War Patrols: This is comprised of several convoy actions. In this option you must find the ships. Here you have a limited amount of fuel (55 days). When finished return to base.

Difficulty Levels: After choosing a senario you will be taken to another menu. This menu has options that affect the games difficulty.

Skill Level: Range: 1-4; 1= Midshipman, 2= lieutenant, 3= Commander 4= Captain. The levels affect accuracy of torpedos, damage from depth charges, skills of enemy lookouts and sonar operators as well as other factors.

Reality Levels: These also contol difficulty and also amke the game more realistic.

1. Limited visibility: If selected ships that are beyond sonar and radar range will not appear on maps
2. Covoy Zig-Zags: Convoys will change course at regular intervals if selected.
3. Dud Torpedoes: Torpedos will launch but don't explode.
4. Port Repairs only: Once something is destroyed it may not be repaired.
5. Expert Destroyers: Certain enemy convoys will be escorted by expert destroyers.
6. Convoy Search: Convoys won't always appear in radar range. Convoys can be sighted by doing a 360 degree periscope/binocular sweep of the horizon.
7. Angle-On-Bow Input: The computer will no longer calculate the angle for torpedo shots. You must enter the angle yourself based on periscope observations. This option is for experts only!

Terminology

Port: The left side of the ship

Starboard: The right side of the ship

Bearing: The direction you are looking

Heading: The direction your ship is going

The Game: After choosing all the levels you will be taken to the actual game. It will eventually take you to an inside view of the submarine. From this option page you can select yout next move by moving to the mouse tocertain locations on the graphic. The options are: go to bridge (can only be done if surfaced), examine maps and charts, quatermasters log, damage reports, instuments and guages. You can also continue patrol in the war patrol option and quit to main menu in the other modes.

Bridge: From the bridge you can fire torpedoes and the gun. You can also vary the speed of the sub from full reverse to full foward. The sub can dive from this screen.You can also change the direction of the sub and use the biniculars and also change the time mode. You can also identify the enemy ship when it is in you binocular or periscope sights on target (the ship is on target the sight turns white). To identify the target move the mouse pointer the large box and click the mouse.

Periscope: This option is the same as the bridge options. The periscope can be used up to 44 feet below the water. When under water the gun can not be used. It can also not be used at night.

Maps: This option allows you to navigate the sub. You can also use the three zoom levels to locate ships. The time mode is very important for speeding up the process of approaching ships. Time mode 1 is normal (one minute game time takes 15 seconds). Each increase in time scaling doubles the speed. Time mode 4 is 32 game time.

Special Commands and descriptions

Torpedo: Your sub has 24 torpedos, 14 foward and 10 aft(back). A topedo is fired by clicking the mouse on the torpedo graphic. A torpedo has an the most effective range between 1000 and 4000 yards. After firing several torpedos. Only 4 torpedos can be active at once. If more are fired the earlier ones will stop before hiting their target. After firing several the screen will say bow torpedos or aft torpedo tubes broken or empty. You will have to wait to use these again (10 minutes) or you can rotate you ship 180 degrees and use your other set of torpedo tubes.


Deck Gun: The deck gun has an effective range of 8000 yards. You start with 80 shells. The main purpose of the gun is to destroy damaged ships. The gun has alomost no effect on destroyers, but work quite well on tankers and troop transports. The gun can only be used when surfaced. If a ship is approaching you want to decrease the gun deflection. "-" decreases gun deflection, the "=" key increase gun deflection. Use the the = if the distance is increasing. Each time you press the key the deflection increases or decreases 25 yards. Example: If a destroyer is moving towards you at 18 knots at a distance of 4000 yards it will move over 200 yards before the projectile would hit it. Therefore a deflection of -200 to -250 yards should be selected before firing. When the ship is 2000 yards away the deflection should only be a 100 yards.

Battery: The subs battery is capable of running for 1 hour at flank speed when under water and several hours at lower speed. The battery recharges when the sub is surfaced.


Blow Emergency Tanks: Control E does this. You use this option only when you sub is in a fatal dive. This will usually bring you to the surface. You can use this only once per battle. Once used you will not be able to dive again.

Release Fake Debris: "?" accomplishes this. This also can only be used once. This used to fake destroyers into believing that the sub was destroyed.

Volume: As you all know the volume can be controlled through the the control panel. You can also use the "v" key. This will allow you to select low, medium, high, or off for the volume.

there are for ships that end like this.  they are c,h,m,n

C is like A except it has 2 stacks that have the T in it and the other ending.

H has something in it that looks like this  instead of the first tall tower.

Convoy Action Scenarios: These scenarios have various types and amounts of of ships to fight. Some are harder than others.

Plunger in the Inland Sea: (day/submerged) You will fight an escorted cargo ship. You will be fighting moving ships. They will also change direction.

Wahoo vs. Convoy: (day/surfaced) You will have to destroy an unescorted group of ships, but time is of the essence because a destroyer is on the way.

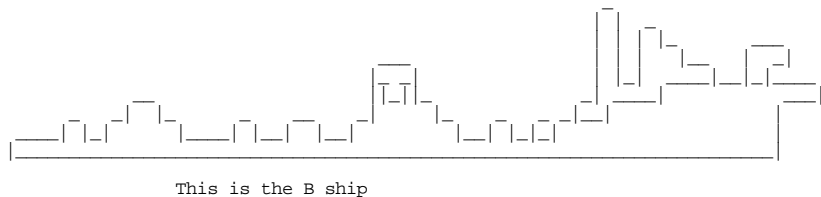
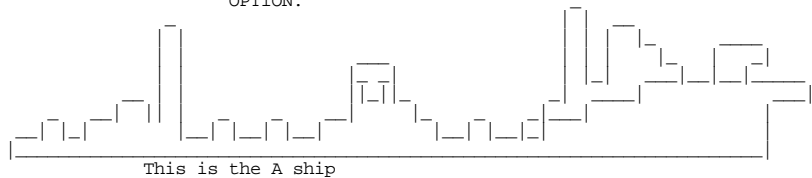
Hammerhead at Borneo: (night/radar) In this scenario you will be introduced to night combat. Avoid being as long as possible. Approach at moderate speeds.

Searaven at Toagel Mlingui: (endaround) You are in a bad position against a convoy. You must maneuver around the enemy to get a good attack.

Tautog at Night: (radar/visual night) Here you can approach the convoy but more care must be taken since there is good visibility this night.

Grayback in the China Sea: (submerged radar) A very difficult scenario. Three radar equipped destroyers are guarding the convoy. The best plan of attack is to use you periscope in a dawn or dusk attack.

SHIP IDENTIFICATION: THESE DIAGRAMS ARE NECESSARY TO PLAY THE WAR PATROL OPTION.



shit, this is taking way too long I'm just going to tell the minor variations so you can play this option.

===== DOCUMENT sinbad =====

Sinbad and the Throne of the Falcon

DOC's rewritten by Exocet of FactUS

THE QUEST

The Caliph of Damaron was a powerful ruler in his youth; but now he's an old coot, and pretenders are plotting to further their own selfish ends in the kingdom. Orincess Sylphani, the Caliph's beautiful daughter, has been urging her father to name a successor before it is too late..

The morning our story opens, Sylphani, as was her custom, was the first to enter the Caliph's chambers. But instead of her father, she discovered a Falcon on his bed. The Caliph was no longer human.

The princess immediately summoned the royal physicians; but in spite of their supposed knowledge, they had no answer's. However, the wise men were able to agree on this: if the transformation was the result of a conjuror's spell, it would have to be broken soon. Otherwise, the Caliph might be trapped as a foalson forever.

Princess Sylphani realized she needed a hero. She remembered the orphaned boy who was raised at the palace by her own mother - the boy who had left to become a sailor when she was only ten years old. She had made him promise to return if ever she needed him, and she couldn't imagine a greater need than this.

You, the mighty Sinbad, receive the summons from your childhood playmate, and immediately hasten to Damaron. Overwhelmed at what a beautiful young woman Sylphani has become, you silently take a vow to do anything she requires.

The task is formidable. You must marshal the Caliph's forces to guard the city; you must undertake a great voyage to learn how the Caliph can be saved; and, above all, you must keep Princess Sylphani under your constant protection.

ON THE TRAIL

At the crossroads, you see a signpost showing potential destinations. Click on a city to go there. At the top of the screen on the right side is an INFORMATION BAR that contains, from left to right, a Location Box, a Restart Box, and a Music Box. The Location Box tells you where you are. Click on the Restart Box to begin your quest anew; click on the Music Box to toggle the music off and on.

Plan your travel's by clicking on the map on Sinbad's belt. Check the precious time left to you by clicking on the Thersanill Stone next to your map. The time is represented by an hourglass; as you undertake your journeys, the sand fills the bottom of the glass. When the last grain of sand passes from the top, the Caliph's doom is sealed. You also use the hourglass to send order's to the armies of Damaron (see war is hell later) and check your progress on the quest.

If you are lucky enough to find a Genie, he grants you three wishes, and stays with you until you use all three. Click on his bottle to confer with him. You may choose any number of wishes; if the one you see does not satisfy your desire, click on the bottom of the screen to see another. When you decide to accept a wish, click on the scroll.

Your odyssey will take you on ocean voyages as well as overland treks, and all the tools listed above are available to you in your cabin aboard the Sabaralus as well. To travel on the high seas, you may click on any of the destinations listed on the right page of the log book. (coming up later). To land on your current location click on the left page.

On the left side of the screen at the crossroads, and in your cabin aboard the Sabaralus, is the strength bar. If your strength is low, click on the strength bar for a rest for a day.

YOUR LOYAL CREW

Your ship, the Sabaralus, is the worthiest ship afloat, and your crew will defend it with their lives. But, while you are on land, pirates are likely to attack your ship. Each attack costs lives, and when your entire ship is gone, the pirates will take your ship. So, when you anchor, remember that large continents may have many ports. If you try to explore the entire continent from a single harbor the journey may cost several lives. Also always remember where you leave your ship!!!

Each time the ship lands you must decide how many men to take with you, and how many to leave guarding the ship.

When you return to your ship to begin a voyage, you can send out a recruiting party to recruit new crew member's, the best places to get new crew member's are in large port's..

THE FINE ART OF CONVERSATION

In your travels between cities, you may run into some old friend's. Libitina, the Gypsy, or the Shaman. When you see one of these people, click on him or her, instead of the signpost, click anywhere else to ignore them..

LIBINITIA

Libitina is a dangerous seductress, renowned for her power's of sorcery. She is the only person who can tell you where the idols are. Try to get her to tell you their location, but don't make her angry. If you do she will surely kill you..

IRIS THE GYPSY

You knew her as a child, and her knowledge can be very valuable to you..

THE SHAMAN

The Shaman is a legendary figure. He alone holds the knowledge to unlock the curse affecting the Caliph. When you locate him remember his word's, and don't forget where you found him!!

THE SWORD FIGHT

Sinbad always attacks from the left. Move the joystick left or right to advance or retreat. Hold the button down and push up for high swing, right for normal, down for low.

When in a duel, you may retreat, but when you do, your crew remains at the mercy of your opponent's, there are some fight's that you can't retreat from.

THE CYCLOPS

When one of these beasts attacks your camp and kidnaps your men, you must face him in his underground lair, the only weapon you may use when dealing him is your sling and stones. Move the sling left and right with the joystick, and press the button to throw through the stones, but watch out for the boulder's that the cyclops throws!

Well, that's about it, I left out some of the garbage, but don't think that I missed anything important. Enjoy the game, and have fun..

Exocet

=====

DOCUMENT skate.die

=====

Skate or Die

You can use the mouse, joystick, or the keypad to control your skater. The joystick gives the best control of your skater though.

Keys:

S: sound on or off.

A: abort current event and return to Rodney's Skate Shop.

Rodney's Shop

You start out in Rodney's where you need to register before you skate. Just click on the on the "Sign-In" clipboard and then type in your name. To remove a name click over it. Move the pointer around in the shop to make any further selection. After leaving Rodney's just skate in the direction of the event of your choice. Push the joystick forward to move in the direction that your facing. Push left or right to go in one of those directions. Pull back to slow, or stop completely.

Events

Downhill Jam: You fight time and your buddy(if you ain't got one we supply Lester) to reach the main street first. Careful though, there's a reception party waiting. The controls are like Downhill Race with Regular and Goofy foot options available. Also, clicking while leaning the controller does the clobbering stuff. Click and lean into the direction you're facing to punch, either high, middle or low depending on where you're leaning the controller.

Click and lean away from the directions you're facing to kick, either high, middle or low. No bonus points if you skate longer than 4 minutes.

Downhill Race: Moving the controller forward with a click is a jump and back is a duck. Click and left/right does a slide turn. There are no bonus points if you skate longer than 4 minutes.

High Jump: While your in the ramp, move the controller rapidly in any direction you want to build speed. You get a maximum of five passes on the right side where the height marker is. To go for it and record your attempt, click the button at the highest point of your jump.

Pool Joust: You get five passes to to get your opponent, then he takes the boffing stick and gets a chance to slam you. The first one to get three slams wins, but you have to win by two.

Freestyle Ramp: There's a hundred feet of wood and steel, carved into a wide smooth U-shape. You start on the left platform, move the controller forward or back to choose your entry point. After you drop in, you'll have ten passes through the ramp, executing tricks at the left, right, or both ends. As you make a pass, click the button in the pump zones to increase your speed and to select a certain trick. Also, lean the controller into or away from the direction your going.

| Trick | # of Pumps Needed | Lean Controller |
|-------------|-------------------|---|
| Kickturn | None | Away from the current direction |
| Rock-n-Roll | None | Into the current direction |
| Footplant | One | Away from the current direction |
| Rail Slide | One | Into the current direction(move controller forward or back when on the platform to rail side. A click or lean |

| | | |
|-----------|------------------|--|
| Handplant | Two | drops you back into the ramp.)
Away from the current direction(you get a bonus for holding this move.) |
| Ollie Air | Two | Into the current direction(rotate in the air by leaning the controller left or right-opposite direction to stop spin.) |
| Aerial | None, One or Two | No lean(rotate in the air by leaning left or right-opposite direction to stop spin.) |

Remember, one click in a pump zone counts as one pump. To get two pumps in a pass, pump once in each zone.

=====

DOCUMENT skyfox

=====

////!\\

\SkyFox/

\!\\!//

Brought To You By

\!\\!\\!//

\The Time Lord/

////////!\\!\\!\\

Kracked By

\!\\!\\!//

\Mr. KracMan/

////////!\\!\\!\\

\\//\\

/Club X\

\\//\\

We Deliver!

The Black Market.....[615] 377-6929

Getting Started

Start your disk as you would any other.

Use a self-centering joystick.

Press the joystick button to begin.

(Note: A Mockingboard plugged into a][+ or][e will

dramatically improve game sound effects and music.)

Choosing Ranks (Skill Levels) And Scenarios

Move the joystick right and left to select SCENARIOS

and forward and backward to select RANKS (skill levels).

Press the joystick button when you have the ones you want.

There are 5 RANKS from CADET (the easiest) to ACE OF THE BASE (the hardest).

There are 15 SCENARIOS.

The first 7 SCENARIOS are TRAINING MISSIONS, some with ENEMY

TANKS only, some with ENEMY PLANES only, some with both.

TRAINING MISSIONS contain no ENEMY MOTHER SHIPS

and the enemy cannot destroy your home base.

In the 8 invasions you must protect you home base or lose

your computer and whatever fighters you still have there.

When you wipe out all the enemy forces or when the enemy wipes out all your

planes, you will be returned to base. when you get to the end of the game,

use your joystick to select either same game (same rank, same scenario) or

restart (if you want to change either). Then press the button.

(See inside for more information about scenarios.)

Launching A SkyFox Fighter

After you choose rank and scenario,

the base computer will appear on the screen.

To launch automatically against the nearest targets,

press the joystick button to enter the launch tube.

If necessary, then use the joystick to select low

(for launching against tanks) or high (for launching against planes).

Press the button again to launch. Your launch speed depends on your rank.

Flying A SkyFox Fighter

Move the joystick right and left to turn the plane.

Move it up and down to change altitude.

Press and hold down the second joystick button

to engage the after burners for quick thrust.

Release it to return to your pre-thrust speed.

Tank Training 1-

You are launched flying due east toward three consecutive waves of tanks.

When you destroy the last one, you will automatically be returned to base.

Launch again to face even more tanks.

Use your overhead radar scanner to spot your targets.

Tank Training 2-

You will be launched onto the tail of an enemy plane.

Shoot fast or it will circle and attack you.

The forward scanner shows planes which are in range and

will help you determine whether they are above or below you.

(The space bar toggles between forward and overhead scanners.)

Try your guided and heat seeking missiles.

(Press G or H to arm and the joystick button to launch.)

Succeed and you can re-launch against successively more planes.

Plane Training 2-

Launches you nose to nose with the enemy.

The slow don't live.

Plane Training 3-

Like tank training 2, but with planes.

High/Low Training-

Alternate waves first of tanks, then of planes.

You'll automatically be returned to base after each success.

Combo Training-

Like high/low but a wave consists of both tanks and planes.

You may fly through the cloud layer that separates air and ground wars.

Small Invasion-

1 Mothership to defeat, before it launches

enough planes and tanks to destroy your base.

Protect your base and the outlying installations

containing your friends and relatives.

Be sure to save some missiles to use against motherships.

When a mothership launches a plane on a bombing run to one of your installations, the

message "LAUNCH DETECTED" will appear on the radar

scanner display in your cockpit.

Full Invasion-

A 3 Mothership invasion. Massive onslaught-6 motherships.

Halo, Alamo, Advancing Wall, Chess And Cornered-

Each a multiple mothership invasion, each with its own shape and pressure.

To study enemy movement patterns in the scenarios, choose a scenario

and press the button to enter the base, then don't launch.

Just watch the enemy movement on the tactical map to understand the

IR strategies.

Using The SkyFox Weapons Systems

Press the main joystick button to fire the laser cannons.

Press H on the keyboard to arm a heat

seeking missile and G to arm a guided one.

Press again if you want to disarm an armed missile which you haven't yet fired. Press

the main button to send an armed missile against an enemy target.

You must be pointed toward a target visible on your on-board radar scanner

to fire a missile or you will get a 'no target' message on the scanner.

Using Automatic Pilot To Find More Enemy Targets

When no enemy targets are in view, press both joystick buttons simultaneously or press A on the keyboard to engage the automatic pilot. Your on-board computer will locate the nearest enemy targets and send you to their location.

Using The Base Computer

The base computer displays a tactical map which shows the location of all your installations and of all enemy vehicles. While flying the SkyFox, press C to bring up a visual display of that map, transmitted from your base computer. Use the arrow keys (or I,J,K and M) to move the cursor to the sector you want to fly to, then press A to engage the automatic pilot. You may also follow this procedure to choose your own target to launch against from the base. (And while you're in the base, you can use the base computer to play an old 20th century video game if you can find the control that brings it up.) Pressing C again disengages the base computer.

Flying Through The Clouds

There is a cloud barrier that stretches between 1,000 and 10,000 feet. You must fly through it each time you switch between ground and air combat. Flying up to 30,000 feet results in heavy fuel consumption. Look for enemy planes between 30,000 and 40,000 feet. They will only fly in that range. As you approach the cloud barrier the base computer will automatically be disengaged and moved out of your way.

Landing A SkyFox Fighter

You may land at home base to recharge your shields and take on fuel. You may not land at any installation other than your home base. (Your home base is shown on the tactical map as a white checkered square. All other installations are shown as solid white squares.)
To Land:
1) Enter the sector containing your base;
2) Reduce your speed to zero by pressing zero on the keyboard;
3) Reduce altitude to zero by pushing forward on the joystick.
Once you've successfully landed; the base computer will appear on the screen.

Link With Computer's Tactical Map.

- 'C' Brings up the computer map. Pressing C Again removes it.
- With the map up: I,J,K,M or the cursor keys move the cursor (blinking square).
- 'Z' zooms in on a square under cursor.
- 'A' Engages automatic pilot, targeting square under the cursor. If tactical map is not up when automatic pilot is engaged, computer will automatically select nearest enemy occupied square instead.
- 'R' Brings up an installation status report. Check the shields on each installation. When they reach zero the installation is destroyed.
- 'T' Brings back the tactical map.

Guided Missile Count-
Press G to arm and G again to disarm and the joystick button to fire. You must be facing a target on your radar scanner to fire.

Clock- shows elapsed time since invasion.

Fuel Indicator-
Fuel consumption increased with speed. Using afterburners for thrust boosts 9 with the second joystick button and climbing to fight planes are especially expensive. Land at home base to refuel. Running out of fuel in flight is fatal.

Speed Indicator-
In Miles Per Hour.
Press a number on the keyboard to set a new speed.
0 Stops, 1 Sets at 10% of maximum, 2 at 20%, etc.
Ground maximum is 1500 mph.
High altitude maximum is 3000 mph.

Control S- Toggles sound on and off.
Control B- Restarts The Game.
Control P- Pauses The Game.
Esc- Gets help when you are at the base or flying with the computer map up.

Radar Scanner Display-
The space bar toggles between overhead and forward radar screens. Overhead radar shows installations as well as enemy targets. Enemy targets blink. Watch for messages to appear here.

Heat Seeking Missile Count-
Press H to arm and H again to disarm and the joystick button to fire. You must be facing a target on your radar scanner to fire.

Auto Pilot Indicator-
Will show either auto or norm depending on your flying mode. Press A or both joystick buttons simultaneously to engage.

Shield Indicator-
When all the blue is gone so are you. Land at home base to recharge.

Altitude Indicator-
Be careful.
Above the rank of cadet, hitting the ground hard costs some shield strength.

These Docs Typed By: The Time Lord <-> Club X Rules!

Special Thanx To:

Disk Destroyer, Ghost Rider, And The Saint For Helping With The Dox, the title pages and keeping me awake so I could put this ware out the same day I got it.

Also I would like to thank Late Night With David Letterman, Budweiser, My Mom And Dad For Moral Support, Ronald Reagan, My Local Radio Channel, M-TV, My Dog And My Cat, And No Doze.

Special Thanx To Michael Jackson, My "HERO".

-WE DELIVER!-

When using the auto-pilot method if it says discharged, switch to map mode and look where your enemies are. Fly out of that sector and then auto pilot.

(Firing Techniques)

As soon as you hit a sector with some enemies, get ready to fire!

The tanks are by far the easiest, because they all come in a row. The smaller they are the more you should move the target up and fire, the larger they are the more you should move the target down and fire.

The planes are usually alone and hard to hit. Just keep on their tail and fire away.

I really see no need to use your 10 missiles (seekers & guided). Unless you get scared you really don't need to use them. I got to a score of 45,000 without using the missiles once on the corners scenario and found your missiles don't really do much good.

===== DOCUMENT smartboot =====

SmartBoot 1.1

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FREWARE -- This program is in the public domain. It may not be sold, but must include the copyright notice if uploaded to any information service or BBS.

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Required: Runs on any Apple II with a 65c02 or 65816 processor (//c, IIC+, enhanced //e, or IIGs).
UniDisk 3.5, Apple Disk 3.5, or Smartport/SCSI hard disk (such as Chinook)

Recommended: Program Selector (such as ProSel, Davex, ECP, Squirt, or EasyDrive)

Files : SMARTBOOT.DOCS (you're reading it)
SMARTBOOT (the full featured version)
SMARTBOOT.TINY (the tiny version, less than 256 bytes)
SB.INSTALL (Applesoft program to install SMARTBOOT or SMARTBOOT.TINY)

(For best appreciation of the following discussion, it is recommended that you as a potential user of SMARTBOOT read the books that came with your Apple to gain a background understanding of the various ways to "boot" a disk.)

PURPOSE

Allows an Apple II family computer to boot ProDOS 8 on a disk device other than the ordinary default one. This is helpful when it is inconvenient or impossible to switch the position of disk controller cards to change the boot disk drive. In addition, SMARTBOOT will boot to ANY device on a Smartport chain (not just the first one).

SMARTBOOT is MOST useful for a computer like the IIC+ where there is one internal Apple 3.5 drive and a hard disk (such as the superb Chinook CT-20c). That configuration is limited to booting from the internal Apple 3.5 drive, since that drive comes first in the slot 5 SmartPort chain. With SMARTBOOT, you can boot from the hard disk rather than the internal 3.5 disk.

On the //c (my computer), SMARTBOOT is also useful because it will wait for the secondary boot disk to come online. I can turn on my computer AND my Chinook CT-20c hard disk at the same time, and SMARTBOOT will not try to boot the hard disk until it is ready.

On a IIGs, SMARTBOOT is only good for booting ProDOS 8 from a disk other than the first in a Smartport chain. Since most IIGs users are heavily into ProDOS 16 or GS/OS, I doubt there will be much demand for this program from them; however, the program has been tested and will work on a IIGs. SMARTBOOT does not, unfortunately, work for GS/OS, the more sophisticated operating system for the IIGs, because of that its insistence on booting only from drive 1 on a slot.

GLOSSARY (for those experienced users, skip down to the next section)

 ProDOS 8 -- the disk operating system for 8-bit Apple computers
 Firmware -- built-in software that is present at all times in a computer; usually controls the hardware attached to the computer

Slots -- connectors in the //e,][+, or IIgs into which cards can be plugged that allow control of various devices, including disk drives, printers, and modems. In the //c or IIc+, these slots are simulated by the firmware.

Smartport -- the name Apple gave to the built-in software that controls any disk device (except for 5.25 drives) plugged into the disk port on the back of the //c, IIc+, or IIgs

Chaining -- attaching several disks to the same disk port by plugging one into another

Booting -- the process of starting up a disk operating system by reading progressively larger segments off of a disk into memory, until the entire system is loaded

Primary Boot Disk -- the disk usually used to startup the ProDOS 8 disk operating system; on a //c or IIc+, this would be the internal disk drive

Secondary Boot Disk -- the disk to which SMARTBOOT transfers control for the actual boot process. Like any ordinary ProDOS boot disk, it must have in the main directory the file PRODOS (the true one, not a renamed SMARTBOOT as goes on the Primary Boot Disk) and at least one SYS file whose name ends in ".SYSTEM" (such as BASIC.SYSTEM).

Unit -- the disk device at a particular position on a Smartport chain. The first disk device is Unit #1, and so on. On the IIc+, the internal 3.5 drive is Unit #1 on the Slot 5 Smartport.

Mirrored Disks -- disks that appear to be in a slot other than the one they are physically plugged in to. This is necessary when there are more than two devices attached to a slot, as ProDOS 8 can only understand two per slot. In these cases, the third and fourth are "mirrored" to an unused slot, usually slot 2.

Volume Name -- a unique name given to a disk by ProDOS, allowing it to tell the difference between disks. It is given a name that is preceded by "/" (such as /MYDISK).

Device Name -- a name given to specific devices on a Smartport chain

Block 0 -- the first block on any disk; for ProDOS disks, this contains a short program that looks for the file PRODOS, loads it, and transfers control to it (see "Booting")

WHAT IT DOES

 Let's take the examples of two Apple systems:

SYSTEM A: a fully loaded Apple //c with (ProDOS Disk Name)

```
Slot 4      = Ramdisk, 1 Meg      (/RAM4 )
Slot 5, Unit 1 = UniDisk 3.5 #1   (/DISK.A)
            Unit 2 = UniDisk 3.5 #2 (/DISK.B)
            Unit 3 = UniDisk 3.5 #3 (/DISK.C)
            Unit 4 = Chinook CT-20c hard drive (/CT )
Slot 6, Drive 1 = Internal 5.25 drive (/DISK.D)
```

SYSTEM B: a minimally loaded Apple IIc+ with

```
Slot 5, Unit 1 = Internal 3.5 drive (/DISK.E)
            Unit 2 = Chinook CT-20c hard drive (/CT2 )
```

With this setup, an ONLINE call to ProDOS will return the following:

SYSTEM A:

```
Slot 6, Drive 1 = (/DISK.D) Internal 5.25 drive
Slot 5, Drive 1 = (/DISK.A) UniDisk 3.5 #1
Slot 5, Drive 2 = (/DISK.B) UniDisk 3.5 #2
Slot 4, Drive 1 = (/RAM4 ) Ramdisk
Slot 2, Drive 1 = (/DISK.C) UniDisk 3.5 #3 (mirrored to this slot by ProDOS)
Slot 2, Drive 2 = (/CT ) Chinook CT-20c (mirrored to this slot by ProDOS)
```

SYSTEM B:

```
Slot 5, Drive 1 = (/DISK.E) Internal 3.5 drive
Slot 5, Drive 2 = (/CT2 ) Chinook CT-20c hard drive
```

Ordinarily, if you turned the computer on with ProDOS disks in all drives it would boot the 5.25 internal disk on System A, and the 3.5 internal disk on System B. If you removed the disk from the internal drive on System A, the computer would automatically try the first device in slot 5 (the UniDisk 3.5 #1, /DISK.A in this case). You would NOT be able to boot directly to the hard disk on either system.

Enter SMARTBOOT. Run the Basic program SB.INSTALL, and follow the instructions to install SMARTBOOT or SMARTBOOT.TINY. If you selected the Slot 5, Unit 4 device as the Secondary Boot Disk for System A, or the Slot 5, Unit 2 device as the Secondary Boot Disk for System B, you would be able to boot almost immediately to the hard disk when starting up the computer at power-on, or when restarting by pressing Control-Open-Apple-RESET.

PROGRAM DESCRIPTION

SMARTBOOT (SYS file)

This is the full-featured version of the program. It replaces the file PRODOS on the Primary Boot Disk. When executed, it transfers control to the slot and unit numbers specified at relative bytes 7 and 8 in the file.

If the slot contains a Disk II controller card, it will ignore the unit number and simply boot drive 1 on that card.

If the slot contains a Smartport card (such as slot 5 on the //c, IIc+, and IIgs), it will check to see if the disk device is online. If there is an error, it will continue checking that device until it IS online. For instance, if the selected device is a 3.5 disk drive, it will wait until a disk has been inserted. If the selected device is the Chinook CT-20c hard disk, SMARTBOOT will continue checking until the "NO DEVICE CONNECTED" (28 hex) error is gone (that is, until the drive has come up to speed and is ready to use.)

If the disk device is not ready to boot, the error message returned by the Smartport firmware is displayed. (The other bytes displayed refer to the place in the program where the Smartport call was made, and is primarily for error checking purposes.) A "clock" will be displayed that advances approximately once per second until the Secondary Boot Disk is ready.

If you manually patched the slot and unit numbers into SMARTBOOT (see "HOW TO USE SMARTBOOT" below) and selected a slot and/or unit that does not contain a disk device, an error message is displayed and the program halts with a "*" prompt and a cursor. From there you can switch to an ordinary boot disk and try again (and reconfigure your SMARTBOOT program to select a slot that really contains a disk device).

SMARTBOOT.TINY (BIN file)

This is the brief version that is loaded from Block 0 of the Primary Boot Disk. (It is less than 256 bytes long, so will load properly even from a 5.25 disk.) It does not do as much error checking as regular SMARTBOOT, and

will fail with almost any ordinary error that would cause a "Check Disk Drive" error on a //c. It is not sophisticated enough to wait for a hard disk to come up to speed (as SMARTBOOT will). If you don't need all the error checking, or don't want to replace the file PRODOS on the Primary Boot Disk, this is the version you should use.

SB.INSTALL (BAS file)

This is an Applesoft program that installs either of the two above programs, and makes a small alteration to Block 0 on the Secondary Boot Disk to ensure that the boot will work for Units 3 or 4 on a Smartport. This patch should not affect ordinary booting; however, should there be a reason that it needs to be removed, SB.INSTALL will remove the patch and restore the original code (as any good patch program should -- thanks for teaching that to me, John Link!) The patch to Block 0 DOES take into account the two different versions of the Block 0 boot code for ProDOS that exist.

HOW TO INSTALL SMARTBOOT

The Applesoft program, SB.INSTALL, expects to find itself running from the Primary Boot Disk. That disk can contain any files you wish it to, but must also contain SB.INSTALL and either SMARTBOOT or SMARTBOOT.TINY. These files must not be in a subdirectory.

Use FILER or the Apple System Utilities Disk to transfer the files SB.INSTALL and either SMARTBOOT or SMARTBOOT.TINY to the Primary Boot Disk.

If installing SMARTBOOT, you must manually change the name of the program to PRODOS. To do this, launch BASIC.SYSTEM and at the "J" prompt insert the Primary Boot Disk. If PRODOS already exists on this disk, type

```
DELETE PRODOS
```

or

```
RENAME PRODOS,PRODOS.OLD
```

Then, type

```
RENAME SMARTBOOT,PRODOS
```

If installing SMARTBOOT.TINY, just make sure that PRODOS is either absent from the disk or is the true PRODOS (and not a renamed SMARTBOOT).

Start the SB.INSTALL program by typing

```
RUN SB.INSTALL
```

and follow the prompts. You will need to have ProDOS disks in all online disk devices in order for the program to properly identify the disks in the Smartport devices.

HOW TO USE SMARTBOOT

SMARTBOOT.TINY can be used only by booting through a power-on (cold boot), by Control-Open-Apple-RESET (warm boot), or from Basic by PR#6 (if slot 6 drive 1 holds the Primary Boot Disk.)

SMARTBOOT can be used the same way, plus can be invoked from Basic by typing

```
-PRODOS
```

It can also be started from various program selectors:

PROSEL (by Glen Bredon)

Set up your menu entry like this:

```
Screen title: SmartBoot          (or whatever)
Prefix:      /PRIMARY           (use your Primary Boot Disk name)
Pathname:    PRODOS
Startup:     <empty -- but see below>
```

SMARTBOOT will support the ProDOS convention for accepting a startup string. If the startup position above contains the slot and unit numbers, SMARTBOOT will replace the default values set by SB.INSTALL and use the new numbers to do its booting. This would allow you to boot to several different devices on a Smartport chain with the same SMARTBOOT file (renamed, or course, as PRODOS). For example, to boot to Slot 5, Unit 3:

```
Screen title: SmartBoot
Prefix:      /PRIMARY
Pathname:    PRODOS
Startup:     53
```

Be sure if you want to do this for Unit 3 or 4 on a Smartport chain that you have a patched Block 0 on the disks in those drives. This could be done with SB.INSTALL; just run it once for each drive you want to patch, finishing with your usual Secondary Boot Drive. Also, you can do this with BLOCK.WARDEN by reading Block 0 off a patched disk and writing it to a non-patched disk.

Also notice that you may use BLOCK.WARDEN to change the startup slot and unit in SMARTBOOT (renamed as PRODOS, you recall) just as it can change a startup file name. (See BLOCK.WARDEN documentation for details.)

DAVEX (by Dave Lyons) / ECP-8 (by Don Elton)

SMARTBOOT can be started from DAVEX by typing:

```
/PRIMARY/PRODOS 53
```

at the prompt to boot the disk in slot 5, unit 3. I am not as familiar with ECP-8, but it should work the same from that ProDOS 8 shell program.

FOR THOSE INTERESTED...

After running SB.INSTALL, even if you don't actually install anything, exit to Basic by selecting [3] from the main menu. Then type

```
GOTO 20000
```

and you will see the full list of disk devices that are online when SB.INSTALL was run. "S" refers to Slot, "D" to Drive, "T" to the true (actual) slot, and "U" to Unit. "Dev" refers to the ProDOS device code.

FINAL COMMENTS

If you downloaded this file from Genie, it should be bug- and virus-free. If you got it from any other info service or BBS, there is a chance that it could have picked up a virus somewhere. If there is any doubt, as usual for downloaded software, MAKE SURE YOU HAVE A BACKUP before you commit your disks to it. As mentioned above, SB.INSTALL does do writing to Block 0 of the Secondary Boot Disk (and to the Primary Boot Disk if using SMARTBOOT.TINY). If that makes you nervous, make a backup before you commit yourself to using SMARTBOOT.

This program is FREeware. If you have any problems or suggestions for improvements, send me E-mail on Genie (S.WEYHRICH) or directly to the address below.

Steven Weyhrich
Zonker Programming
2715 N. 112th St.
Omaha, NE 68164

GEnie Mail: S.WEYHRICH

=====
DOCUMENT snake.byte
=====

SNAKE BYTE

OBJECTIVE: THE SNAKE IS TO EAT ALL THE APPLES IN THE ROOM (LEVELS) AND THEN EXIT THE DOOR AT THE TOP OF THE SCREEN. EACH TIME AN APPLE IS EATEN THE SNAKE GETS LONGER AND MOVES FASTER. IF THE SNAKE BUMPS A WALL YOU LOSE IT. THERE ARE 10 APPLES PER MAZE. 3 APPLES PENALTY IF YOU TAKE TOO LONG TO EAT AN APPLE.

SCORING: THERE ARE 28 LEVELS (ROOMS) PER GAME AND YOU START OUT WITH 3 SNAKES. GAME STARTS ASKING HOW MANY PLUMS. IF SNAKE HITS PLUM WITH ITS HEAD DEAD ON YOU LOSE IT. THE MORE PLUMS YOU PLAY WITH THE MORE XTRA POINTS YOU GET EACH TIME AN APPLE IS EATEN.

JOYSTICK:

SHIFT CTRL-P - SIRIUS JOYPORT
CTRL-K BACK TO KEYBOARD CONTROL

KEYBOARD:

(I) - UP
(J) - LEFT
(K) - RIGHT
(M) - DOWN
<- COUNTER CLOCKWISE
-> CLOCKWISE

===== DOCUMENT snoopy2rescue =====

Snoopy to the Rescue

(c) 1984 by Random House, Inc.

An Apple Mafia
Presentation

Cracked By:

Creative Cracker
and
High Technology

Call:

Sherwood Forest |[
[914][359][1517]

Sherwood Forest ///
(914) 352 - 6543

The Game:
=====

Woodstock is missing! Snoopy, the Super Sleuth, knows who's responsible. The feline fiend, Professor Morehairly, has kidnapped Woodstock.

Can the Super Sleuth rescue Woodstock from Morehairly's castle of danger? Can he escape from the traps and treacherous robots lurking in every room? Read on and become part of Snoopy's spell-binding tale of mystery!

<< THE CONNECTION >> is an action-packed, two-sided adventure game. There are six challenging levels to play on each side of the disk. Help Snoopy climb to the top of the castle on Side 1. Help him try to capture Morehairly on Side 2. You can begin with either side. But watch out! Side 2 is far more dangerous.

On every floor, challenges await you - flying carpets, magic lamps, trap doors, moving floors and, of course, Morehairly's robot guards!

Warm Up:
=====

To play SNOOPY TO THE RESCUE you need:

- * an Apple][+ or //e with 48k
- * one Apple Disk Drive
- * a monitor, (color monitor preferred)
- * a joystick (recommended)

To begin playing either side, follow these steps:

- * Make sure the computer is off and the monitor is on.
- * Lift the disk drive door.
- * Insert the disk. The side facing up is the side you will play.
- * Close the disk drive door.
- * Turn on the computer and the program loads.

```

!-----!
! All players using an Apple //e !
! must keep the caps lock key   !
! depressed at all times.       !
!-----!
    
```

Ready, Set, Go!:
=====

To guide Snoopy, you can use:

-JOYSTICK: Move the joystick in the direction you want Snoopy to go. Press the lower button to make him jump.

-KEYBOARD: Press the left and right arrow keys to guide Snoopy. To make him stop moving press the SPACE BAR. Press the Z key to make him jump.

Be on the look out for trap doors and drop-away bridges. Magic lamps shoot Snoopy to higher floors. Guide him carefully onto flying carpets and moving floors or he'll fall off.

A Special Tip about Jumps:
=====

When approaching a jump, guide Snoopy slowly and stop him when he reaches the edge. Then make him jump. Completing some jumps requires that a portion of Snoopy's foot hangs over the edge. Be careful and look before he leaps!

Here's the Strategy...:
=====

In order for Snoopy to escape safely from a level, he must:

* Select numbers from each of Morehairly's tricky number boxes to add up to the level's challenge number.

* Pass by the robot guards and deactivate them with one of Morehairly's magic keys.

* Avoid all other traps and snares.

Matching Morehairly's Challenge Number:
=====

Morehairly has booby-trapped his castle. Each level has a challenge number. Watch it appear at the top of your screen. Unless Snoopy matches it, he cannot leave the level.

Along the game path are 5 boxes. In each box, numbers appear and change. 1, 2, 3, 4... Snoopy's mission is to reach each box and choose a number from it. The chosen numbers must add up to the challenge number above. If Snoopy fails to freeze a number from each box or adds incorrectly, he must start the level over with one less chance to save his friend.

```

!-----!
! The challenge number is at the !
! top, middle of the game screen.!
!-----!
    
```

Freezing a number:
=====

-JOYSTICK: Position Snoopy over the box. When the number you want appears, press the top button on the joystick. The number freezes.

at the same time. Snoopy loses a chance and begins the level over.

-KEYBOARD: Use the arrow keys to guide Snoopy over a box. To stop Snoopy at the box, press the SPACE BAR key. To freeze a number, press the RETURN key.

Watch out for Green Robots:
=====

If Snoopy runs into a green robot, he loses a turn and must begin the level again. But if Snoopy reaches a magic key, the robot guard will turn red temporarily. Snoopy can safely deactivate the robot when it is red.

Count your Chances:
=====

Snoopy has only five chances in each game to climb to the top of or escape from the castle. He gains an extra chance after completing skill level one. You can keep track of how many chances he has left by counting the small figures at the top left of the screen.

Be careful! Snoopy loses a chance every time he meets a green robot, falls too far, slips into the moat, or fails to match Morehair's challenge number.

Practice Makes Perfect:
=====

You can practice a level before you play it in a game. Begin play and when the first level appears, press the CONTROL (CTRL) and N keys at the same time. Keep pressing the keys until you reach the level you want to practice.

Success is.. Beginning Again:
=====

What happens when you've completed all 6 levels on one side and Snoopy has some chances left? You get to begin again, but the play is harder and faster. The 6 levels on each side can be repeated as many as 4 times.

Special Features:
=====

Play ends when Snoopy runs out of chances or when you choose to end the game. To end the game, press the SHIFT and * keys at the same time.

The initials of the top 20 players can be added to the scoreboard along with their scores and the number of levels completed. To erase the scores, type 911 at the Score Frame.

-SOUND: You can play with or without sound. To play the entire game without sound, type 911 at the Random House screen before you press RETURN.

-PAUSE: To pause during play, press the ESC key. Press any key to resume play.

-EARLY OUT: To end the game early, press the SHIFT and * keys at the same time.

-PRACTICE LEVELS: Press the CONTROL (CTRL) key and the N key until you reach the level you want to practice.

-FAILING TO EQUAL THE CHALLENGE NUMBER: If you realize you cannot match the challenge number, press the CONTROL (CTRL) key and the Q key

electronic bulletin boards for other users to evaluate, as long as this documentation is included. Distribution of SnowTerm without this documentation and using SnowTerm after the 10 day trial period without becoming a registered user are considered copyright violations.

System Requirements

To run SnowTerm you must have an Apple IIGS computer with a minimum of 768K of system RAM. 1MB or more of RAM is recommended. A color RGB monitor is also recommended. This version of SnowTerm will work with an external modem connected to the built in GS Modem port, the GS Printer port, or to a Super Serial card compatible interface plugged into one of the slots. It also will work with internal modem cards that are Super Serial card compatible.

This version of SnowTerm requires GS/OS version 3.0 or higher (GS system disk version 5.0.2 or higher). It is recommended that you obtain and use System Disk 5.0.3. Since SnowTerm uses resources, a new feature of System Disk 5, SnowTerm will access the program disk more often during the operation of the program. For this reason, it is recommended that SnowTerm be used on systems with at least two disk drives or a hard drive.

Installation

WARNING: The SnowTerm executable file contains both a resource fork and a data fork. Many older copy utilities cannot copy such extended files. Therefore, you should only copy SnowTerm with copy utilities that you know work correctly with extended files, such as the System Disk 5.0.2 Finder. If the size of the SnowTerm file decreases when you copy it, the copy utility you used did not copy the resource fork.

If you downloaded SnowTerm from a communication service or BBS system then SnowTerm will be packed into a .BXY format file which must be processed with ShrinkIt or ShrinkIt/GS.

After processing with ShrinkIt, there will be several files, one of which is called SnowTerm.Single. This file must be processed further to obtain the SnowTerm executable file. There are two methods that may be used to process SnowTerm.Single. If you are using ShrinkIt/GS, you may Open the SnowTerm.Single file just like any other archive file and select the SnowTerm file that is packed in the archive and extract it.

If you are not using ShrinkIt/GS, then you must use the program UNSINGLEST (which is included in the SnowTerm archive) to convert SnowTerm.Single into an extended file. Make sure that UNSINGLEST and SnowTerm.Single are in the same directory (folder). You can launch UNSINGLEST with the Finder or other program launcher. You will need about 200 free blocks on the disk in order to unpack SnowTerm.

Again I emphasize, DO NOT copy the SnowTerm executable file with a copy utility that does not handle extended files.

Hardware Configuration

Important: If you are using the built in modem or printer port, you must use the Apple IIGS control panel to configure the port with the device connected parameter set to "Modem". Currently the desk top Control Panel does not allow you to set the device connected parameter. You must do this from the "Classic" control panel.

You may also need to set the following serial port parameters using the control panel.

Device Connected: Modem

===== DOCUMENT snowterm =====

SnowTerm
Version 2.05 16-Dec-90

Copyright 1990
By John F. Snow
Snow Software

Introduction

SnowTerm is a communications program for the Apple IIGS computer. Version 1 of SnowTerm was essentially just a VT100 terminal emulator. In the documentation for version 1 of SnowTerm, I promised that SnowTerm would be expanded to become a communications program. This release of SnowTerm, version 2, is the first step towards fulfilling that promise.

SnowTerm emulates the Digital Equipment (DEC) VT100 and VT52 terminals. SnowTerm runs in the super high resolution graphics mode of the Apple IIGS and uses the desktop user interface. SnowTerm uses the graphics and color capabilities of the Apple IIGS to accurately emulate the VT100 terminal including bold and blinking character attributes, the line drawing character set, and double high and double wide characters. Although the VT100 implements a subset of the ANSI standard, the VT100 and SnowTerm do not implement the (so-called) ANSI color graphics used by some IBM oriented bulletin boards.

SnowTerm is not free software and it is not in the public domain; it is shareware. You may try it free for 10 days after which you must either become a registered user or discontinue use of the software. To become a registered user, send a check for \$20 to:

Snow Software
PO Box 58621
Salt Lake City, UT 84158

In return, you will receive the latest version of SnowTerm on 3.5" disk, a manual, and technical support via email. Orders outside of North America please add \$5 per copy for shipping. Due to the increased size of the Apple IIGS system disk, the system disk is no longer shipped as part of SnowTerm unless you specifically request it. Add \$3 to receive the Apple IIGS system disks (two 3.5" disks).

The SnowTerm disk includes a font editor that allows you to customize the fonts used by SnowTerm. It also includes, by permission of the authors, several public domain and shareware programs that complement SnowTerm.

Once you are a registered user, you may download and use updated versions of SnowTerm for no charge or you may order updated versions for a minimal shipping and handling fee. Currently registered users of SnowTerm may order an update from Snow Software. Several upgrade options are available:

| | |
|--|------|
| SnowTerm v2, manual, and latest IIGS System Disk | \$10 |
| SnowTerm v2, manual, no System Disk | \$7 |
| SnowTerm v2 disk only, no manual or System Disk | \$3 |
| SnowTerm v2 manual only, no software | \$5 |

These prices are in US dollars and include all shipping and handling charges for destinations in North America.

You may give a copy of SnowTerm to other users or post it on

Line Length: Unlimited
 Delete first LF after CR: No
 Add LF after CR: No
 Echo: No

You may also need to set the DCD handshaking parameter and DSR/DTR handshaking parameter as required by your modem. One of the main questions about SnowTerm that I receive is that SnowTerm can't communicate with the modem connected to the built in serial port. This is almost always caused by incorrect settings of the DCD or DSR/DTR handshaking parameters. Experiment with these settings to find the setting that works with your modem. Remember that any change to the control panel settings will not take effect until you reboot your computer.

If you are using a Super Serial card or compatible internal modem, you must configure the card to enable interrupts. On the Super Serial card this means that switch 6 of switch bank 2 must be in the on or up position. You must also use the control panel to specify the "Your card" option for the slot the card is plugged into. SnowTerm works only with cards plugged into slot 1, 2, 6, or 7.

If your modem is Super Serial card compatible but does not contain a ROM (such as the Epic Classic modems), SnowTerm will complain that it can't find a SSC compatible card in the slot you specified. In this case, click on the "Proceed" button and SnowTerm will assume that the modem is ROMless.

The Hardware Configuration dialog also allows you to specify a driver for your printer. SnowTerm uses the GS/OS device driver to communicate with the printer. A list control in the hardware configuration dialog box allows you to select which GS/OS device the printer is attached to. Device drivers are listed by slot number and device type. Listed below are the more common devices for printers.

| | |
|--------------|--|
| No Printer | No printer is to be used. |
| Printer Port | Use the built in printer serial port. |
| Modem Port | Use the built in modem serial port. |
| Generic | Apple terminology for a general purpose serial interface card plugged into a slot. |
| AT RPM | Use the AppleTalk remote printer manager. |

Be sure to choose No Printer if no printer is to be used. SnowTerm may "freeze" up if you do not select the "No Printer" setting.

Several printer related features are controllable from the Hardware Configuration dialog. The "Generate LF after CR" option controls whether a line feed character is sent to the printer after each carriage return. If you get double spacing on your printer, turn this option off. If everything is printed on the same line, turn this option on.

The Line Length and Page Length option allow long lines to be wrapped around and printed on the next line and allow the perforation between sheets to be skipped. Setting either value to zero disables the corresponding feature.

NOTE: When SnowTerm starts up, it assumes that the printer is currently at the top of a page and at the left margin. If you want the printer formatting options to work correctly, you can make sure this is true by issuing a form feed character in the printer init string. However, this does cause a page to be ejected from the printer every time SnowTerm starts up.

The "Init every time" and "Init once" buttons specify when the printer init string is sent to the printer, every time a print command is executed or only once, when the SnowTerm first starts up. The "Init every time" option is useful if you want to start each print job at the top of a new page. Select "Init every time" and include a form feed character in the printer init string.

The modem init string is sent to the modem when SnowTerm first starts up.

The modem init string and the printer init string are "Control strings" -- a general purpose feature of SnowTerm which allows the user to enter an ASCII string with special sequences which specify control characters to be embedded within the string. When you are entering strings in dialog boxes, various control characters pressed on the keyboard perform editing operations and thus cannot be used to directly specify characters to be embedded in a string. Thus, a control character language of sorts has been developed.

Control strings allow control characters to be specified by two different means. Control characters can be specified by a two character sequence consisting of a caret (^) followed by an upper case character in the range @, A-Z, [, \,], ^, and _.

For example, the sequence ^A would result in a control-A character (\$01) being embedded in the control string.

The second method of entering control characters will be quite familiar to C language programmers because it is essentially the C escape sequence method of specifying character values. A C escape sequence begins with a back slash character (\). After the back slash there are several options for specifying the desired character.

First, you may use one of several single character mnemonics. For example, the \r sequence will generate a carriage return. SnowTerm recognizes the following mnemonic characters, most of which are the same as defined by C:

| | |
|----|--|
| \b | backspace (BS) - hex 08 |
| \e | escape (ESC) - hex 1B |
| \f | form feed (FF) - hex 0C |
| \l | line feed (LF) - hex 0A |
| \n | new line (NL) sequence (CR + LF) - hex 0D 0A |
| \r | carriage return (CR) - hex 0D |
| \t | horizontal tab (HT) - hex 09 |
| \v | vertical tab (VT) - hex 0B |
| \? | DEL character - hex 7F |
| \\ | back slash -- interpreted as a single back slash |
| \^ | caret -- allows a caret to be included |

Notice that a double back slash inserts one back slash character into the string and a \^ combination will insert a caret character which would otherwise be used to indicate a control character. For example, \^A would generate a caret character followed by an A instead of inserting a control-A.

Besides using a mnemonic character after the back slash, SnowTerm allows octal, hexadecimal, or decimal numbers to be used to specify the ASCII value of the control character (actually any ASCII value between 0 and 255 may be specified).

To specify the ASCII value with an octal number, a THREE digit octal number must follow the back slash. C programmers take note that, unlike C, you cannot specify the octal number with just one or two octal digits, you must use exactly three. For example, the sequence \123 would specify the ASCII character 'S'.

To specify the ASCII value with a decimal number, precede the THREE digit decimal number with a \d or \0d (both 'd' and 'D' are accepted). The decimal number must be exactly three digits long. For example, the sequence \d123 would specify the ASCII character '{'.

To specify the ASCII value with a hex number, you have two options. First, the standard C method which is to precede the TWO digit hex number with a \x or \0x (both 'x' and 'X' are accepted). The hex number

must be exactly two digits long. Optionally, you can precede the TWO digit hex number with a \\$. For example, the sequences \0X41, \x41 and \\$41 all specify the ASCII character 'A'.

Control strings may freely mix normal ASCII characters, caret prefixed control characters, and C style escape sequences together in one string. For example, the following sequence would set an ImageWriter II printer into 15 cpi printing mode and slashed zeros mode.

```
^[q\eD\000\$01
```

This sequence is interpreted as ESC q ESC D CTRL-@ CTRL-A. For illustration purposes, I used two methods of specifying the ESC character, ^[and \e.

Note that when mixing ^ symbols and \ symbols, the order in which they appear determine how they will be interpreted. For example, ^\ is interpreted as control-\ while \^ is interpreted as ^. ^^ is interpreted as control-\ ^.

NOTE: Any printable ASCII characters in the control string are sent with the MSB cleared (low ASCII). The only way to specify high ASCII characters is by using one of the numerical escape sequences with a value greater than 127.

Running SnowTerm

SnowTerm can be launched by the Finder or other program launcher.

Special Keys

SnowTerm treats the numeric keypad of the Apple II GS just like the VT100 keypad. Thus, under some conditions, the keypad keys will send escape sequences rather than the ASCII codes for the characters shown on the keypad. This allows SnowTerm to work correctly with the VMS operating system.

A break character can be sent using the Send Break menu command or its key equivalent, command-B. Previous versions of SnowTerm sent a break when option-B was pressed. This still works in version 2, but may not work in future versions as the option keys get assigned to other uses.

The DELETE key will send either a delete character (hex 7F) or a backspace character (hex 08), depending on the selection made in the terminal dialog box under the Setup menu. Holding down the option key and pressing the DELETE key will send the other character (backspace if the DELETE key normally sends the delete character).

SnowTerm files

REGFONT and SPECFONT are special font files for SnowTerm. These files MUST always be in the same directory (folder) as the SnowTerm file. These files must NOT be placed in the FONTS folder of the system disk.

If you use the Preferences command to save a defaults file, it will be called ST.DEFAULTS and will be located in the same directory as the SnowTerm file.

SnowTerm looks for a file called ST.DIALLIST in the directory where the SnowTerm program is located. If it finds this file, it reads the list of phone numbers stored in this file for use with the Dial command. The ST.DIALLIST file is a ProDOS text file and can be created with any text editor including AppleWorks. If you are using AppleWorks, you must not save the file as an AppleWorks file. Instead, use the print command to

print the phone numbers to a text file.

The format of the file is one phone number per line. The name comes first followed by the number with a colon (:) separating them. The name portion is what appears in the Dial dialog box list and can be up to 16 characters in length. The number portion can be up to 39 characters in length. A maximum of 20 phone numbers can be defined in the file. The following is an example of the contents of a ST.DIALLIST file that contains two phone numbers:

```
Work:5551212
A BBS system:18005559999
```

The first phone number defined in the phone list will be used as the initial default phone number in the dial dialog.

VT100 emulation differences

The VT100 terminal emulation provided by SnowTerm differs from an actual VT100 in the following ways:

SnowTerm does not support the 132 column mode of the VT100 due to lack of graphics resolution. A future version will provide horizontal scrolling to support 132 column mode.

SnowTerm does not transmit an ANSWERBACK message when CTRL-BREAK is pressed.

SnowTerm does not support the underline cursor mode. Only the block cursor is supported at this time.

SnowTerm does not support the margin bell.

SnowTerm does not support the VT100's smooth scroll mode.

SnowTerm does not respond to any of the VT100's self test escape sequences.

SnowTerm cannot correctly combine the bold and blink character attributes on the same character. Characters which have been assigned both the bold and blink attributes will appear as either bold or blinking, but not both. The user may select whether such characters appear as bold or blink using the Terminal dialog box.

SnowTerm does not contain a UK character set. The REGFONT and SPECFONT file contain only the US character set. Registered users also receive REGFONT.UK and SPECFONT.UK which can be used instead of the normal fonts to provide a UK character set. However, SnowTerm will not switch between the US and UK character sets like the VT100 will.

Recording buffer

The recording buffer is a facility that allows received text to be captured and then saved to disk, listed on the screen, or printed to the printer. The 0% display on the left side of the menu bar indicates how full the recording buffer is and whether it is currently capturing data or not. If it is RED, data is being captured. If it is black, data is not being captured.

The buffer preferences dialog allows you to specify features related to the recording buffer. It is recommended that you ALWAYS use the "Filter control chars" mode which prevents control characters from being captured. Since the printer port and the list window both get very upset by control characters, you should always leave the filtering on.

The "Expand tabs" mode will convert tab characters into enough space characters to move to the next tab stop. It is recommended that this mode be used as well.

If "Auto save" is on, the contents of the recording buffer will be automatically saved to disk when the buffer becomes full. Normally, this data is saved in a file called ST.CAPBUF in the same directory as the SnowTerm file. You may change the path and file name for the autosave file by using the "Set Autosave file..." command.

If "Auto save" is turned off and the buffer becomes full, recording will be disabled.

The "Recording at start" control specifies whether the recording buffer is on or off when SnowTerm first started.

The "% display on" and "% position" controls allow control over buffer status display in the menu bar. You can turn it on and off and position it within the menu bar. The position is relative to the right edge of the menu bar.

The scroll bar allows you adjust the size of the recording buffer. Note that you may set a size that can't be allocated due to memory fragmentation. In this case, SnowTerm will not resize the recording buffer.

When listing the recording buffer to the screen, a Text Edit control is used. This allows rapid scrolling through the data, but also uses lots of memory because the Text Edit control keeps its own copy of the recording buffer. If there is insufficient memory to create the Text Edit control, you may need to reduce the size of the recording buffer.

You may edit the text in the Text Edit control, however any editing done is not reflected back to the actual recording buffer contents. If you cut or copy data from the Text Edit control, it will be placed in the system clipboard and can be read by other programs such as AppleWorks GS. A Select All command in the Edit menu makes it easier to copy all of the text in a window into the clipboard.

Any font may be used to display the text in the Text Edit control. However, you may want to use a fixed width font rather than a proportional font. Since most computer terminals use fixed width fonts, most screens and listings produced by computers don't look right when viewed with a proportional font. The Monaco and Courier fonts are two fixed width fonts that work well in a Text Edit control. If find the Monaco font more readable and have made it the default font. You are free to choose whatever font you want to use by using the "Choose Font" button in the Buffer Preferences dialog box.

Sending Files

Currently SnowTerm can only send text files and receive text files (using the recording buffer facility). XMODEM and other protocols will be added in future releases.

After choosing a file to be sent, a "Text File Send Options" dialog box allows you to set several options. The Prompt Char option allows you to specify a single character that SnowTerm will look for before sending the next line. This prompt character is useful when uploading text to an editor on the remote machine. This allows the file transfer to be paced by the receiving machine so that the next line is not sent before the receiving machine is ready for it.

The prompt character is entered as a SnowTerm control string. Thus, you may directly enter an ASCII character or may use one of the control string escape sequences to enter any ASCII value from 0 to 255. Note that if the control string you enter evaluates to more than one ASCII character, only the first character is used as the prompt character.

If you are uploading to an editor that does not issue a prompt character but does echo the text back, you can use a carriage return as the prompt

character and SnowTerm will wait until the remote computer finishes echoing the line before sending the next line. I have found that some screen oriented editors, like LSE on VAX computers, do not issue a carriage return to move the cursor to the next line. Instead they send an escape sequence. I've found that setting the prompt character to ESC (^[or \e) works very well with such editors.

The Character Delay and Line Delay options allow you to specify a delay to be inserted between characters and lines so that text is not sent faster than the receiving machine can accept it. These delays are specified as numbers from 0 (no delay) to 9 (max delay).

The "Add SP to blank lines" option will add a space character to any blank line. Since some message editors on remote machines detect that you are finished entering text by the presence of a blank line, this option allows blank lines to be uploading without erroneously ending the upload.

You may abort the sending of a text file by pressing the command key (open Apple) and the period key ('.') simultaneously. You can tell if a file is still being transferred because the File menu will be highlighted in the menu bar during the file transfer. A "peep" will announce the successful completion of a text file transfer.

While a text file is being transferred, any characters received through the serial port will be displayed on the SnowTerm terminal screen. This allows you to watch the progress of the text file transfer if the remote computer is echoing the text back. If you have recording buffer enabled when you start sending a text file, recording is turned off while the file is transferred and turned back on when the transfer has been completed.

Listing and Printing Text Files

SnowTerm v2 contains commands to list and print text files. The list facility uses a Text Edit control just like the List Buffer command. All of the restrictions that apply to the List Buffer Text Edit control apply to the List File Text Edit Control. The same font is used.

The Open command in the file menu is used to list the contents of a file. Only one file may be listed at a time. If a file listing window is open when you select the Open command, the current window will be closed.

You may also print a text file to the printer.

The use of Text Edit controls will be expanded in future versions of SnowTerm to provide file editing, multiple file windows, etc.

Echo Received Characters to Printer

Received characters can be echoed to the printer. All control characters will be filtered. This features follows the printer options supplied in the Hardware Configuration dialog box. It also follows the "Expand Tabs" option in the Buffer Preferences dialog box to expand tab characters into spaces if the option is set.

Reset commands

SnowTerm provides two different reset commands. One resets the serial port and the other resets the terminal emulation. Both of these are provided mainly to recover from line noise which may cause problems with either the terminal emulation or the serial port.

One common error mode occurs when line noise causes the receipt of a

XOFF handshaking character when the remote computer did not send an XOFF character. The XOFF character will prevent any further transmissions from your computer to the host computer until the host sends a XON. Since the remote computer didn't send the XOFF, it won't send a XON. So there you sit, pressing keys and nothing happens. If you have a modem with transmit and receive lights, you will notice that pressing a key does not cause the transmit light to turn on.

The reset serial port command was made to solve this problem. It will reset the serial port software so that it no longer knows that a XOFF was received.

Another common failure mode is the erroneous receipt of the control character which switches the VT100 emulation into special graphics mode. All lower case characters received are displayed in special graphics mode. The reset terminal emulation command will reset the VT100 emulation to its normal state and solve this problem.

New Preferences

Version 2 has two new controls in the Preferences dialog. The first, Confirm Quit, specifies whether or not an Alert box will pop up to ask you to confirm that you really want to quit.

The second new control, Std Colors for NDAs, allows control over a new feature which will change the screen colors to the standard desktop colors whenever a NDA is the top window on the screen.

Snow Software electronic mail addresses:

GEnie: J.SNOW2 Compuserve: 71550,1152
MCI mail: 321-3461 America Online: JohnSnow
UUCP: ..!uunet!utah-cs!esunix!jsnow
INET: esunix!jsnow@cs.utah.edu

Revision History

Version 2.00

Initial release of version SnowTerm v2.

Version 2.01

Fixed a bug that caused the desktop colors to not change to the standard colors when a NDA was moved and activated.

Changed the hardware dialog box to select printers by GS/OS character device names rather than by slot number.

Version 2.02

Fixed a bug that caused the Recording On/Off to be in the wrong state if "Recording at Start" option was selected.

Version 2.03

Fixed several bugs dealing with serial port initialization. First, the modem init string was being sent to the modem before the baud rate specified in the defaults file was set. SnowTerm now correctly sets the serial port parameters before sending the modem init string. The "Reset Serial Port" command was resetting the serial port but not restoring the serial port parameters specified by the defaults file.

The modem init string has been expanded from a maximum of 14 characters to a maximum of 39 characters.

The control character filter for the capture buffer and the printer echo has been improved so that entire escape sequences are now filtered out. If the control character filter is turned on, all characters of any recognized escape sequence will be filtered. The recognized escape sequences will vary with the type of terminal being emulated (i.e. the VT52 emulation will not filter VT100 escape sequences). In addition, if the terminal wrap around mode is enabled, a carriage return is inserted into the capture buffer and/or sent to the printer when the terminal emulation wraps around to the next line.

Version 2.04

When SnowTerm was in half duplex mode, a keypress that generated an escape sequence was incorrectly echoed to the screen. Only the first character of the escape sequence (the ESC character) was being echoed.

Version 2.05

Fixed a bug which would sometimes cause SnowTerm to freeze. It would also cause other programs that would access the serial port to freeze after SnowTerm was run. This problem was happened more often if the Super Serial card driver was used.

=====

DOCUMENT solo.flight

=====

SOLO FLIGHT

Cracked by:
The Wombat / The Gonif / Dr. Micro
[THE PPG]

Doc file by The Wombat

IMPORTANT READ CAREFULLY

After completing your first landing since loading the game, you will be asked to enter a landing fee credit code (an attempt at piracy protection). To determine the correct response, read the account # displayed by the computer when it asks for authorization code. Then go to the authorization code table (found at the end of the doc file) and locate the account # given by the computer. Located directly beneath the account # is the authorization code response. Type the authorization code into the computer and press 'return'.

OPTIONS

Use the 1 key to select practice FLYING or the MAIL PILOT game. The 1 key also selects which of three states you wish to fly in. (Kansas, Washington, or Colorado). Use the 2 key to choose difficulty level. During flying practice you may select clear weather (for touch and go practice in the local area), landing practice (places the aircraft on short final for landing), windy conditions, or ifr (instrument flight rules-low clouds). When playing then mail run game, you may select from the student pilot, private pilot, senior pilot, or command pilot difficulty levels. Press 3 to continue.

BASIC FLYING

Two controls are used for the most basic flying - the control stick or yoke & the throttle. The joystick (yoke) changes the altitude and direction of your aircraft; the throttle affects your speed. Use the joystick to make your plane turn, climb and dive. Holding the stick to the right causes the plane to bank to the right; when the plane is banked right it will turn right. Note that when you center the joystick the plane will remain banked and continue turning. Bring the plane back level by pushing the stick in the opposite direction of bank. Pushing forward on the stick will cause your nose to go down and the plane will dive.

Pulling back on the stick will bring your nose up. The throttle controls the amount of power generated by your engine. Maximum power is required when taking off and climbing, somewhat less power is needed for cruising, and low power is generally sufficient for landing.

Remember that there is a relationship between the pitch altitude and the amount of power required for level flight. At low speeds, significantly more nose up is required for level flight.

VIEW

The top half of the flight screen shows your plane and local terrain highlights. If you are at a low altitude your shadow will be visible on the ground. Airports are black, VOR towers, farms and mountains are white. If you fly into or above the clouds, ground objects will not be visible. Generally the view is to the front; you may look to the side or behind you using the appropriate commands.

INSTRUMENTS

The bottom half of the flight screen contains your flight instrumentation. The large red dial on the left is your altimeter. Each mark on the dial is 1000 feet for the small hand and corresponds to a complete revolution of the large hand. The large dial on the right is your speed indicator which goes from 0 to 180 knots. The small circle in the middle is your artificial horizon/altitude indicator which indicates your altitude relative to the horizon. The vertical strip in the center is your throttle indicator. Maximum power is at the top, zero power is at the bottom. The four digital indicators at the lower left are very important. The first value is pitch, positive values indicate your nose is up, negative values means nose down. The next number is the degrees of flaps that are extended. The next value is a digital and alpha directional compass reading. Zero degrees is due North, 90 is East, 180 South, and 270 is West. The bottom indication is your Vertical Velocity Indicator (climb). Positive values indicate you are gaining altitude, negative values indicate you are losing altitude. Your fuel gauge is on the lower right. The indicator light center left is your temperature warning light. It will flash if your engine is overheating. The two status lamps center right indicate that your landing gear is down and your brakes are applied when illuminated. Your navigational instruments are at lower right. The two VOR readouts indicate the directional bearing from the VOR stations. The ILS system shows whether your landing approach is high, low, or on the runway. Your elapsed time is displayed at the upper right.

FLIGHT CONTROLS

In addition to control via the joystick, a number or commands may be entered through the keyboard.

THROTTLE: The numbers '0' to '9' control your throttle. Zero is no power, 9 is maximum power.

NOISE: Press 'N' to turn on/off the engine noise.

LANDING GEAR: Press 'L' to raise or lower the landing gear.

BRAKES: Press 'B' to apply or release the brakes.

FLAPS: Press 'F' to control the flaps. You may use 0, 20, or 40 degrees of flaps.

VIEW: Use the left and right arrow keys to look out the right and left windows. Use the down arrow to look behind you. To return to the front view, use the up arrow key. (for II/II+ users: W-front, A-left, S-right, Z-back)

PAUSE: Press 'P' to pause the game. Press any other key to continue.

RESTART: Press 'ESC' to restart.

EMERGENCY: If you wish to create an emergency equipment failure for practice purposes, press the 'E' key.

SLIP: Bank your aircraft and press joystick button to put your plane into a sideslip. This maneuver, usually performed by crossing the

rudder and ailerons, allows you to slip your plane into the wind to lose altitude without changing heading.

JOYSTICK ADJUST: Center your joystick and press 'J' to adjust the game to your joystick.

MAIL PILOT

The mail pilot game tests your flying skill and judgement. Your task is to deliver five bags of mail to their destinations in the least amount of time. Once you have selected the Mail Pilot game, a map will be displayed. Press START to continue to the Mail Pilot screen. On the mail pilot screen use the 1 key to load mail. The destination(s) will be displayed on the screen under 'MAIL FOR:' You may load up as much mail as you like. However, each bag adds to the weight of the plane and increases the difficulty of flying. One or two bags is recommended. You may load up on fuel by pressing the 2 key. Fuel also adds weight but be sure to load enough to make it to your destination. To begin your journey, press the 3 key. Then be sure to study the map to decide a flight plan. When you are ready to take off, press 3 again. If you wish to return to the main map at any time, press 1.

When you arrive at your destination airport and stop your aircraft, your landing points are calculated. Points are gained for slow landings with gentle touchdowns. Delivery points are also accumulated based on difficulty level. Next you will be shown a map and your route will be displayed. Press 3 to go on to the Mail Pilot screen. Any mail for this airport is automatically unloaded and added to your score. You may now load additional mail or fuel and continue the game. The game ends when five bags have been delivered or when you crash.

As the game progresses, the weather will gradually deteriorate. Winds will get stronger, clouds may come in, and turbulence may develop. At the higher difficulty levels your plane is also prone to mechanical and instrument failure. Your engine may overheat and various instruments may become inoperative. This is not due to a bad crack! All malfunctions are repaired when you land at an airport.

If the disk is not write protected, high scores will be recorded on the disk.

EMERGENCIES

At the more advanced difficulty levels your aircraft is prone to instrument and mechanical failure. If the temperature light begins to blink, your engine is overheating and will cut out shortly. Find a place to land. Your altimeter, airspeed indicator, and VOR indicators may also malfunction and register zero readings. The artificial horizon could also cease functioning. Landing at any airport will repair your aircraft. Multiple use of the 'E' key will cycle the program through all emergencies possible in the simulation.

WEATHER

The current weather conditions are displayed at the bottom of the screen: wind direction and speed, cloud ceiling in feet, and visibility in miles. Under windy conditions, landing your aircraft becomes tricky, especially if the wind is blowing across the runway. Use less flaps, higher airspeeds, and aircraft slips to compensate for winds. Low clouds often require instrument flying, although you may choose to fly above the clouds.

STATE MAPS

Kansas:

Kansas is a nice flat state, ideal for novice flyers. Wichita and Kansas City have airports with long, wide runways. There are also many nice cornfields and mysterious Indian pyramids to fly over. VOR 1/VOR2 bearings for Kansas are:

Wichita-222/001, Lyons-252/336, Emporia-225/022 Chanute-154/052, Salina-295/353, Topeka-330/016 Kansas City-065/036.

Washington/Oregon:

Washington has a mountain range separating the coastal cities from Chelan and Yakima. Some of the mountains are up to 4000 feet high, although the two mountain passes can be traversed at 2000-2500 feet. Three of the of the Washington airports are also elevated.

Portland-223/001, Salem-224/278, Kelso-251/350 Olympia-284/344, Seattle(500 feet elevation)-314/010 Chelan(1000 feet)-060/035, Yakima(500 feet)-142/059.

Colorado:

Flying between the small airstrips nestled in the Rocky Mountain Valleys of Colorado is the ultimate challenge for a mail pilot:

Aspen(2000 feet)-223/001, Pueblo(1000 feet)-143/074 Glenwood(2000 feet)-264/343, Vail(2500 feet)-184/030 Denver-098/050, Boulder(500 feet)-053/037 Steamboat(2000 feet)-334/008.

CAUTIONS

Take heed of the following cautions, especially at the advanced difficulty levels.

1. Don't make sharp or high speed turns while taxiing. Your landing gear struts are delicate and are liable to ground loop.
2. Don't lose your airspeed and stall when attempting a slow landing. Use your flaps to lower stall airspeed.
3. Plan your route on the map before taking off. A sudden lowering or an emergency may hide familiar landmarks or require immediate landing.
4. Don't run your engine at full power for too long; overheating is likely to occur.
5. Don't overload the aircraft. With a heavy mail and fuel load, your aircraft will be very sluggish. The aircraft will have a hard time taking off from elevated Colorado airports, and will require longer landing distances.

VOR NAVIGATION

VOR navigation is based on a series of ground stations that send out radio signals. These signals are received by instruments in the cockpit and decoded and read as bearing to a particular VOR station. There is no range information associated with VOR navigation. In Solo Flight, each airport is defined as a radial intersection. (A radial bearing is a number 0 to 360 that if the aircraft was turned and flown on a heading of 180 degrees from the radial bearing, the flight path would be inbound to the VOR station).

North of the VOR station is radial 360, East is 90, South is 180, and West is 270. To find a particular airport, the pilot should determine its radial intersection from both VORs. He should then intercept a radial outbound from one of the VORs and fly until the cross radial from the other radial is reached. For example, in the Kansas map, the Kansas City airport is located on the 36 degree radial of VOR 2 with

the end of the main runway on the end of 67 radial of VOR 1. To find the airport in the weather, the instrument pilot could establish himself on the 36 degree radial of VOR 2, heading 36, and descend to missed approach altitude until crossing the missed approach radial, the 67 of VOR 1.

ACCOUNT # TO AUTHORIZATION CODE TABLE

```

-----
Account #      Authorization code  Account #      Authorization
-----
 1             G                2             F
 3             C                4             G
 5             L                6             F
 7             C                8             K
 9             I                10            G
11            T                12            E
13            M                14            Y
15            R                16            N
17            R                18            R
19            Q                20            T
21            U                22            V
23            U                24            X
25            W                26            B
27            D

```

```

=====
DOCUMENT sourceror.siva
=====

```

Sorcerer of Siva
===== == ==

Movement
=====

```

1 - 9    forward 1-9 feet
R        turn right
L        turn left
V        turn around (volte-face)
^        ascend stairs

```

Major Spells

```

=====
T        teleport to next chamber
         or passage
B        cast a bolt of lightning
J        jump forward to the center
         (or edge) of the chamber or
         passage you're in
X        reveal distance to nearest
         stairway up
F        fireball
H        heal yourself
O        open door sealed by the
         sorcerer

```

Special Commands

```

=====
A        attack monster with your
         dagger
Y        drink healing elixir
0        rest (move 0 feet)
N        energy spell (magically
         refresh yourself)
E        examine wall for secret
         passage
S        search floor for trap door
G        get treasure
D<digit> drop indicated treasure
I        inventory
space    stop
C        continue
Q        quit

```

Treasures

```

=====
1        healing elixir
2        silver ring
3        amber talisman
4        hemamite talisman
5        gem encrusted brass scepter
6        ruby amulet
7        platinum ring
8        gold ring
9        a pair of old boots

```

```
=====
DOCUMENT space.ace
=====
```

```
-E-A-S-T -C-O-A-S-T -C-O-N-N-E-C-T-I-O-N
-E-A-S-T -C-O-A-S-T -C-O-N-N-E-C-T-I-O-N
-E-A-S-T -C-O-A-S-T -C-O-N-N-E-C-T-I-O-N
```

```
:+#+#+#+:
=#+#+#10/02/90#+#+# -proudly brings to YOU- =#+#+#10/02/90#+#+#
:#+#+#+#:
```

Don Bluth's

```

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```

Released by The Mercenary
Thanks to Star Gazer, Saint Silicon & Joe Hack

Docs typed up The Wanderer

: Official East Coast Connection Release Bases :

```
The Outer Limits ... (718) 492-3054 ... 9600bps / 255 Megs / HowieNet v1.2
Temple of Karnak ... (516) 361-4999 ... 9600bps / 85 Megs / ProTALK
Oblivion GS ... (516) 922-4312 ... 9600bps / 45 Megs / Exodus
```

*** NOTE ***

For some unknown reason Space Ace will crash if you let it go through the demo and then try to start the game, so just press " 0 " after you see the Space Ace title screen. After that will come a screen with credits for the guys that did Space Ace, just press " 0 " again.

There was no copy protection on this, so we don't understand why it is doing this. It also does this on the original copies that we have.

INTRODUCTION

The evil Commander Borf is attacking Earth! With the help of his dreaded weapon, the Infanto Ray, Borf will reduce all of humankind into infants and take over the planet.

Only two people have the courage and strength to stop Borf and save Earth, the beautiful Kimberly and the heroic Space Ace. But as they approach Borf's stronghold Ace is hit by the Infanto Ray, changing him into a weakling, and Kimberly is kidnapped by the evil madman!

Only you can guide Space Ace, and his weak alter-ego Dexter, to rescue Kimberly and defeat Borf. But watch out, many dangers and deadly beasts await as you travel throughout the galaxy chasing Borf from space station to planet and back again! Survive Borf's monsters, rescue Kimberly and finally confront Borf himself in deadly hand to hand combat all before the Earth is enslaved forever!

GAME INSTRUCTIONS

Before loading Space Ace, make a backup copy of each of the Space Ace disks (yeah, right!) and put them aside in case anything should happen to your original disks.

After booting your Apple IIGS with a system disk or autobooting from a hard drive, insert the Space Ace Disk One into the disk drive and double click on the "Space Ace" icon to begin the game.

Space Ace for the Apple IIGS is not hard drive installable. (It is now, haha!)

STARTING THE GAME

After the game has loaded the demo mode will automatically begin. The demo runs through scenes from the first disk and then returns to the title screen and credits. To start playing the game simply press the zero (0) on the keypad at any time. You will know the game has started when the player score screen appears. This screen shows your score and the number of lives you have remaining. The first scene will then load automatically.

PLAYING SPACE ACE

You do not directly control all of Ace's actions, rather you control his reactions to the events that happen around him. As you watch the animation, you must decide in which direction Ace should move on the screen and when.

To finish a scene successfully you must make a move or press the fire button (zero (0) on the numeric keypad) when Ace is in danger. Timing is very critical and often you may make the correct move but at the wrong time. Also, many scenes require more than one move. If you are having trouble, watch the animation carefully and move Ace in the safest direction or if no direction is safe press the fire button to use Ace's laser gun or laser staff.

If you're sure you have the correct move try varying the time when you make the move, a little sooner or a little later. Don't be surprised if Ace doesn't move immediately after you have made a move. You must wait for the animation to finish and if you made the correct move(s) you will continue on to the next scene.

Don't be surprised when you see Dexter in one scene and Ace in another. Ace has been hit by the Infanto Ray once already and he transforms back and forth between some of the scenes. You have three lives and the game will end if you lose all of your lives or when you have completed all of the scenes on the disks.

From time to time it will be necessary to change the disk in the drive. After you have finished all the animations on a disk you will be asked to insert the next disk so that the game can continue. NEVER eject one of the game disks while you are playing, unless you are prompted, or you may damage the disk!

CONTROLS

The way to control Ace is by using the numeric keypad on the keyboard. The directions you will need are UP (8), DOWN (2), LEFT (4), and RIGHT (6). To use Ace's laser gun or staff, press the '0' on the keypad.

You can pause the game at any time by pressing the 'P' key on the keyboard. To continue to play, press the 'P' key again and the game will resume.

You can toggle the audio off and on by press the 'A' key on the keyboard.

ENDING THE GAME

The game will come to and end after you have lost three lives. To stop playing the game simply click on "quit". You can then safely remove the disk in the drive.

PLAYING SCENE ONE

Borf will appear from his space station flying on an anti-gravity platform. He will fire his laser gun at the rocks around young Ace. Just before the third laser shot, move RIGHT and Dexter will jump behind the large rock on the right hand side of the screen. Borf will fire again hitting the top of the rock. Before Borf shoots at the rock again, move LEFT and Dexter will jump from behind the rock to the centre of the screen. Borf will follow and fire his gun again. Before Borf can shoot, move DOWN, Dexter will jump behind the rock again and you will have finished this scene.

SPACE ACE HINTS

Note: The scenes in Space Ace for the Macintosh and the Apple IIGS may not appear in the order listed below and for some versions, certain scenes will not appear at all. If the scene number does not match the scene, the scenes can be easily recognized by the individual descriptions provided below.

Scene 1

Borf flies out of his ship on an anti-gravity platform. As he approaches Dexter, Borf begins to fire his laser gun. Dexter must dodge the laser shots, hiding behind the rocks at his sides.

Scene 2

After getting away from Borf, Dexter runs towards his spaceship. But before he gets there he must cross the path of a floating robot who is tromping the ground beneath him. Dexter must dodge the stomping arms and make his way across the crumbling ground.

Scene 3

More floating robots come flying at Dexter and he must dodge laser shots to get to his spaceship.

Scene 4

Dexter has launched his ship and is flying towards Borf's Space Station. Dexter must slow the ship down without landing too hard on the station.

Scene 5

Inside the station a huge, green muck monster lurches out of the mud to try and eat Ace. Ace must kill the fuckin' monster before it kills him.

Scene 6

Dexter is standing on a section of broken bridge and a large stomping arm appears to crush the bridge. Dexter must jump from the bridge to safety.

Scene 7

Dexter must now jump onto a moving platform to get across the remaining piece of bridge.

Scene 8

Dexter is running along a rock path when suddenly a large purple monster appears. Dexter must jump through the monster's open jaws and run to safety.

Scene 9

Another purple monster appears along the path and again Dexter must dodge the monster's gaping mouth.

Scene 10

After escaping the purple path creatures, Dexter is grabbed by the tentacle of the largest of the purple monsters! Dexter must kill the monster before it devours him.

Scene 11

Dexter is dropped onto a rock bridge, in front of two caves. Beside the bridge two purple monsters appear bounding up and down waiting for him to move. Dexter must get into a cave before two blue cat people get him from behind.

Scene 12

Dexter is now in the centre of the station. He must make his way through the maze of corridors and buildings in order to find the evil Borf. But all around him are Borf's security dog creatures! As Dexter runs past an intersection, two of the dog creatures appear from the sides to try to stop him. Dexter must dodge the creatures as they jump towards him.

Scene 13

Dogs appear from in front, behind and the side of Dexter intent on killing him. Dexter must continue running down one of the corridors.

Scene 14

The dog creatures follow Dexter through a narrow corridor, between rows of energy conduits. Dexter must get out from between the conduits before they come to life or the dogs get him.

Scene 15

Ace is standing between two of Borf's security robots. They raise their laser blasters and fire! Ace must dodge the laser shots and run down another corridor.

Scene 16

Ace makes his way down a corridor and past several energy conduits. As he passes them, the conduits come to life! Ace must dodge the energy bolts before they fry him alive.

Scene 17

Dexter continues through the corridors and must dodge another laser blast.

Scene 18

Borf's stronghold is almost in sight but before Dexter can reach it he must stop and dodge another laser blast.

Scene 19

Dexter makes his way down the last corridor and must climb up to Borf's control

center.

Scene 20

Ace is now in the control center and Borf attacks swinging his staff before knocking Ace off his feet with a hard side-kick. Ace must block the staff swing before getting kicked.

Scene 21

Ace continues to grapple with Borf in hand to hand combat! Flaming staff in hand, Borf attacks. Ace must block Borf's staff before it knocks him unconscious.

Scene 22

Again Borf swings his staff down towards Ace's head. Ace must block the staff before it knocks him out.

Scene 23

Ace goes on the offensive! Borf blocks Ace's attack and counters with a round-house kick. Ace must duck under the kick before attacking again.

Scene 24

On his back Ace is vulnerable and Borf isn't waiting for him to get up! Borf swings his staff down to finish Ace off and Ace must block the staff.

Scene 25

Getting to his feet, Ace stands in front of Borf waiting for his next move. Borf swings his staff once and then again! Ace must jump over and duck under the staff.

Scene 26

Borf swings again! Ace must dodge the blow before jumping onto Borf's back.

Scene 27

Borf's little, blue goons come to help thier master! Ace can't stop them all, so he must jump from Borf's back.

Scene 28

Swinging down on the rope, Ace must jump onto the platform Kimberly is strapped to.

Scene 29

Kimberly in hand, Ace lands in a pool of lava, on top of the platform. As Ace waits, the lava slowly creeps over the edges of the platform. Ace must jump from the platform to safety.

Scene 30

Now that Kimberly is safe, Ace must get Borf before the Infanto Ray gets him. Running along a platform inside the station, Ace must dodge the ray without falling off the platform.

Scene 31

Borf fires his Infanto Ray again. Dexter must dodge the ray without falling off the bridge he's running on.

Scene 32

Ace turns down a bridge lined with mirrors as Borf fires again. The Infanto Ray destroys the bridge ahead of Ace.

Scene 33

Borf aims the Infanto Ray and fires! The only option is to push a mirror into the path of the ray. After that, the game should end. Kimberly awaits hot and horny for sex. Press the fire button to control Ace's penis.

end of file.

=====

DOCUMENT space.ace.solve

=====

10/08/90

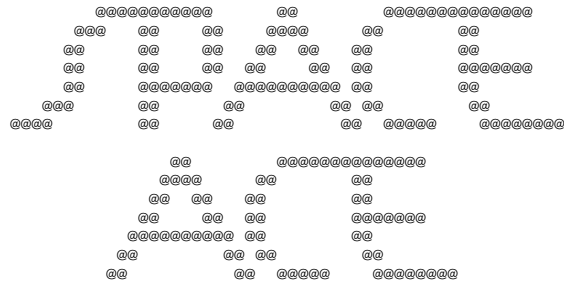
LUPUS

Presents

"A Slightly modified Ecc Dox"

for

Don Bluth's



BETTER KNOWN AS THE SPACE ACE SOLVE!!!

Thanks to

The Magnetic Field 708/498-5189

Silver Tongue 708/759-1916

Private Storage 215/745-0495

Apple Tree Midwest 816/826-4158

The Outer Limits 718/492-3054

Note: The Apple IIGS version is quite a bit different than the original arcade game. Many of the scenes have been shortened as you may already know. For example, Dexter changes back and forth to Space Ace for no apparent reason. The arcade game dramatized this a bit more but this by no means decreases the fun of the game, the Gs version in my opinion is of the best games of year. Even if it isn't your thing you must admit that it is extremely graphically impressive. This cheat will tell you all of the moves necessary to solve the game. The timing is all up to you, good luck. It's really just a matter of practice. Just so you know the first move seems to be the most difficult timing wise.

*** All spelling errors are by no means attributed to the author and should be directed to Frodo.

Scene 1 - Moves 6,4,2

Borf flies out of his ship on an anti-gravity platform. As he approaches Dexter, Borf begins to fire his laser gun. Dexter must dodge the laser shots, hiding behind the rocks at his sides.

Scene 2 - Moves 2,8

Floating robots come flying at Dexter and he must dodge laser shots to get to his spaceship.

Scene 3 - Moves 6,4,4,4

After getting away from Borf, Dexter runs towards his spaceship. But before he gets there he must cross the path of a floating robot who is tromping the ground beneath him. Dexter must dodge the stomping arms and make his way across the crumbling ground.

Scene 4 - Move 8

Dexter has launched his ship and is flying towards Borf's Space Station. Dexter must slow the ship down without landing too hard on the station.

Scene 5 - Move 0

Inside the station a huge, green muck monster lurches out of the mud to try and eat Ace. Ace must kill the fuckin' monster before it kills him.

Scene 6 - Moves 6,8

Dexter is standing on a section of broken bridge and a large stomping arm appears to crush the bridge. Dexter must jump from the bridge to safety.

Scene 7 - Moves 6,6

Dexter must now jump onto a moving platform to get across the remaining piece of bridge.

Scene 8 - Moves 2,6

Dexter is running along a rock path when suddenly a large purple monster appears. Dexter must jump through the monster's open jaws and run to safety.

Scene 9 - Moves 2,4

Another purple monster appears along the path and again Dexter must dodge the monster's gaping mouth.

Scene 10 - Move 0

After escaping the purple path creatures, Dexter is grabbed by the tentacle of the largest of the purple monsters! Dexter must kill the monster before it devours him.

Scene 11 - Move 8

Dexter is dropped onto a rock bridge, in front of two caves. Beside the bridge two purple monsters appear bounding up and down waiting for him to move. Dexter must get into a cave before two blue cat people get him from behind.

Scene 12 - Move 8

Dexter is now in the centre of the station. He must make his way through the maze of corridors and buildings in order to find the evil Borf. But all around him are Borf's security dog creatures! As Dexter runs past an intersection, two of the dog creatures appear from the sides to try to stop him. Dexter must dodge the creatures as they jump towards him.

Scene 13 - Move 6

Dogs appear from in front, behind and the side of Dexter intent on killing him. Dexter must continue running down one of the corridors.

Scene 14 - Move 8

The dog creatures follow Dexter through a narrow corridor, between rows of energy conduits. Dexter must get out from between the conduits before they come to life or the dogs get him.

Scene 15 - Move 6

Ace is standing between two of Borf's security robots. They raise their laser blasters and fire! Ace must dodge the laser shots and run down another corridor.

Scene 16 - Move 4

Ace makes his way down a corridor and past several energy conduits. As he passes them, the conduits come to life! Ace must dodge the energy bolts before they fry him alive.

Scene 17 - Move 4

Dexter continues through the corridors and must dodge another laser blast.

Scene 18 - Move 6

Borf's stronghold is almost in sight but before Dexter can reach it he must stop and dodge another laser blast.

Scene 19 - Move 8

Dexter makes his way down the last corridor and must climb up to Borf's control center.

Scene 20 - Move 0,6

Ace is now in the control center and Borf attacks swinging his staff before knocking Ace off his feet with a hard side-kick. Ace must block the staff swing before getting kicked.

Scene 21 - Move 0

Ace continues to grapple with Borf in hand to hand combat! Flaming staff in hand, Borf attacks. Ace must block Borf's staff before it knocks him unconscious.

Scene 22 - Move 0

Again Borf swings his staff down towards Ace's head. Ace must block the staff before it knocks him out.

Scene 23 - Move 0

Ace goes on the offensive! Borf blocks Ace's attack and counters with a round-house kick. Ace must duck under the kick before attacking again.

Scene 24 - Move 8,2

On his back Ace is vulnerable and Borf isn't waiting for him to get up! Borf swings his staff down to finish Ace off and Ace must block the staff.

Scene 25 - Move 0,2

Getting to his feet, Ace stands in front of Borf waiting for his next move. Borf swings his staff once and then again! Ace must jump over and duck under the staff.

Scene 26 - Move 6,2

Borf swings again! Ace must dodge the blow before jumping onto Borf's back.

Scene 27 - Move 4

Borf's little, blue goons come to help thier master! Ace can't stop them all, so he must jump from Borf's back, to the rope

Scene 28 - Move 6

Swinging down the rope, Ace takes Kimberly in hand, and lands in a pool of lava, on top of the platform. As Ace waits, the lava slowly creeps over the edges of the platform. Ace must jump from the platform to safety.

Scene 29 - Move 0

Ace grabs the staff to protect Kimberly and him from Borf's Henchmen

**** Note, the game will crash if you die here

Scene 30 - Move 6

Now that Kimberly is safe, Ace must get Borf before the Infanto Ray gets him. Running along a platform inside the station, Ace must dodge the ray without falling off the platform.

Scene 31 - Move 4

Borf fires his Infanto Ray again. Dexter must dodge the ray without falling off the bridge he's running on.

Scene 32 - Move 6

Ace turns down a bridge lined with mirrors as Borf fires again. The Infanto Ray destroys the bridge ahead of Ace.

Scene 33 - Move 4,6

Borf aims the Infanto Ray and fires! The only option is to push a mirror into the path of the ray. After that, it's automatic....

end of file.

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DOCUMENT space.rg
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43

RIPCO

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Practical Pirates Presents . . .

Space Rogue

Dox Typed By: Kid Slick

Magnetic Field.....312/966-0708
    
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Ok, now you have probably seen about 2 or 3 versions of the game Space Rogue...The one to have is the one that is: Space.RGL.WORKS. All the other versions of the game will crash on you. The Mad Meister found the problem and fixed it.

Player Reference Card

You begin the game in the deep space of the Karonus star system. Follow these steps to read the nearest star base.

- 1) Plot a course. Press N for navigation mode, then use the joystick or jeyboard to select the CHART command. Press RETURN or a joystick button. Move the cursor across the map of the Karonus star system until you find Hiathra Starbase: the green square symbol at coordinates 13,19. Press RETURN of joystick button.
- 2) Select the HELM command. Autopilot will guide your ship to the new coordinates.
- 3) If a ship attacks you on the way, the journey stops. Select COCKPIT to fight the battle. Press T to target the enemy, and the space bar or joystick buttons to fire a weapon. Consult the next section for other commands.
- 4) After your ship arrives at its destination, (sector 13,19), select COCKPIT to return to the space view. If you haven't done so already, press T to activate your targeting computer. It displays the range and direction to the star base. Move you ship so that the arrows on edge of your viewscreen are centered and point inward. The starbase should appear onscreen as two pyramids connected by a light-colored axle. To dock, slowly maneuver your ship to touch the axle.
- 5) At the base, walk around, talk to everyone you meet, and buy some cargo. To leave the base, return to your ship. You're on your way...

Commands Used in Space Flight

Joystick Movement and Attack Commands

To turn, push the stick in the direction you want to turn.
 To accelerate, press the first button.
 To slow down, press the second button.
 To fire a ready weapon, press both buttons at once.

Keyboard Movement

The keyboard allows full control of your Sunracer in flight. Either of the following keyboard commands provides the maneuverabilty you need for a heart-pounding dogflight or a delicate docking.

| | | | | | |
|---|---|---|---|---|---|
| | W | | | 8 | |
| A | S | D | 4 | 5 | 6 |
| Z | X | C | 1 | 2 | 3 |

Keyboard Number

W or 8 - Nose Down C or 3 - Roll ship clock wise
 X or 2 - Nose Up Z or 1 - Roll counterclockwise
 A or 4 - Left Turn = or + - Accelerate
 D or 6 - Right Turn (-) - Decelerate
 S or 5 - Stop Rotation Spc or 0 - Fire Ready Weapon

Additional Keyboard Commands

G -give up; try to surrender to attackers
 J -jettison all cargo
 L -toggle between manual and automatic laser fire
 N -go to Navigation Control screen
 R or . -ready a new weapon
 T -target base/ship with TAC
 V -toggle between camera views
 Ctrl-C -toggle between joystick and keyboard
 Ctrl-E -toggle between Cruise and Newtonian Flight
 Ctrl-F -adjust the animation rate
 Ctrl-S -save game
 Ctrl-T -toggle TAC display between graphics and data
 ESC -pause game

Commands Used When Docked at Bases

Moving with a Joystick

Push the stick in the direction you want to walk. To walk to someone or inspect something, stand next to it, push the stick in it direction, and press a button.

Pushing either button while the stick is centered brings up a command menu.

In conversations, move the cursor bar by pushing the stick up or down. Highlight your response and push a button. During some conversations, you may be given the "OTHER.." option. Selecting the "OTHER..." option allows you to type in messages, such as secret passwords (How neat).

Moving with the keyboard

To move, use one fo the following keyboard clusters. Pressing Return brings up a command menu. In conversation, use a keyboard cluster to move the cursor bar and press RETURN to select the highlighted choice.

| | | | | | |
|---|---|---|---|---|---|
| Q | W | E | 7 | 8 | 9 |
| A | S | D | 4 | 5 | 6 |
| Z | X | C | 1 | 2 | 3 |

Commands Used While Navigating

Use the keyboard or joystick to highlight a command from the onscreen menu. Press RETURN or joystick button to select the highlighted command.

Commands Used in Hive!

Use joystick or keyboard to move/change facing
 Use button or space bar to fire plasma rifle (Bang, bang!)

Game Speed

The game selects an animation rate for the 3-D display appropriate to the speed of your Apple. You can adjust this rate by pressing CTRL-F.

Saving the Game

During game play, press CTRL-S to save the game's current position onto a previously made backup copy of the DATA disk. You can only save the game while you are in space, not at a base or while using the Navigation computer.

Troubleshooting

If the game fails to load or save, make sure your computer and disk drive are plugged in, turned on, and connected properly (NO SHIT!). Re-insert the disk, in the proper drive. Try again.

If you are saving a game, read the section on "Saving the Game", dummy.

If nothing works, try getting another cracked copy of the game, and trying that, if that doesn't work, YOU'RE UP SHIT'S CREEK, WITHOUT A PADDLE!

This part 1 of the Dox, has been brought to you by: Practical Pirates...

where "Kracking isn't right, just practical!"

[SuperTac <?=help>/36]:

=====
DOCUMENT space.rg.help
=====

-- |Space Rouge Help| --

Brought To You By:

The WiseGuy/Micro World INCorporated

The following is the answers to the questions asked by the Imperium Representative when applying for a Pilot's License at the Star Base. The questions here, are not exactly what the game asks, but the answers are the same.

1.) How many light years in a parsec?

Answer: 3.26

2.) What is the spectrum type of the hottest blue stars?

Answer: TYPE O

3.) What is the mathematical expression for force?

Answer: F=ma

4.) To whom does a Star Pilot pledge his allegiance to?

Answer: IMPERIUM

Special Thanx To Kid Slick and the Practical Pirates for releasing this ware.

Note: Be sure to get the file "SPACE.RG1.WORKS" it is the bug-free copy.

...Call these wonderful boards...

The Magnetic Field_____ [312] 966-0708
The Cage_____ [312] 945-3665
FunTime GS_____ [305] 989-0181

-eof

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DOCUMENT space.shuttle.0

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SPACE SHUTTLE A VOYAGE INTO SPACE.

1. KEYBOARD CONTROLS

SELECT KEY SELECTS FLIGHT MODES

"L" INITIATES COUNTDOWN CLOCK

"E" PRESS TO START PRIMARY ENGINE ON LAUNCH PRESS AGAIN TO CUT ENGINE WHEN ORBIT IS ACHEIVED.

"C" CARGO DOORS OPEN/CLOSE TOGGLE

"ESC" PAUSE

"SPACE BAR" STATUS CHECK

JOYSTICKS PUSH UP AND DOWN FOR X-AXIS LEFT AND RIGHT ADJUSTS Y-AXIS. WITH FIRE DEPRESSED UP AND DOWN WILL ADJUST Z-AXIS.

2. LAUNCH SCREEN DESCRIPTION

* * *

* * *

* * *

* * *

* * *

* * *

* * *

* * *

*THRUST BAR-----

COMPUTER THRUST SUGGESTED LEVEL--

*STATUS BOX *

***** * * *

*SSME * * 3 * *RCS *

*PLBD * * 2/---/ * *RVZ *

*GEAR * * /-- * *C-W *

***** * * *

LAUNCH PATH

3. LAUNCH SEQUENCE

A.) SELECT LEVEL 2 OR 3 NOT 1. LEVEL 1 IS MERELY A DEMO MODE.

B.) PRESS START WAIT 8 SEC FOR SYS TO ACTIVATE

C.) WHEN CLOCK APPEARS PRESS L TO START COUNTDOWN.

D.) WHEN COUNT DOWN STARTS PRESS E TO ACTIVATE MAIN ENGINE.

E.) AT MET-004 PRESS RED BUTTON TO IGNITE MAIN ENGINE THEN USE

THIS BUTTON TO KEEP T AND C BARS LINED UP.

F.) KEEP ON FLIGHT PATH BELOW STAU BOX BY ADJUSTING JOYSTICK DIRECTIONS THEN AT 200 NAUT MILES ALT PRESS E TO DEACTIVATE MAIN E

G.) WHEN ORBIT IS REACHED IMMEDIATLEY OPEN CARGO BAY DOORS BY PRESSING C.

H.) PRESS R TO ACTIVATE OMS ROTATIONAL ENGINES MOVE JOYSTICK BACK AND FORTH TO ADJUST PITCH TO -28. THIS WILL ACHIEVE STABLE O

***** GOAL OF THE GAME *****

THE GOAL OF SPACE SHUTTLE IS TO DOCK WITH THE SATELLITE AS MANY TIME AS POSSIBLE AND THEN RETURN TO EARTH AND LAND.

1.) DOCKING SEQUENCE

MATCH THE POSITION OF THE SHUTTLE WITH THAT OF THE SATELLITES BY CORRECTING Z,Y AND X AXES INTHAT ORDER

A. PRESS T TO ACTIVATE RCS

B. CORRECT Z AXIS TO ZERO

C. CORRECT Y AXIS TO ZERO

D. CORRECT X AXIS POSITIVE MEANS SATELLITE IS IN FRONT NEGATIVE MEANS THAT THE SATELLITE IS BEHIND YOU. PUSH FORWARD TO INCREAS

E. WHEN YOU MEET THE SATELLITE, ALL AXES MUST BE ADJUSTED TO ZERO AND STABILIZED FOR 2 SECONDS YOU WILL THEN RECEIVE A RENDEVOUS

DEORBIT BURN MANEUVER

1. ADJUST Z AXIS UNITL ALTITUDE READS 210

2. PULL JOYSTICK BACK OR FORTH TO SED SPEED TO MACH 23.9

3. PRESS R TO ACTIVATE OMS

4. TURN SHUTTLE AROUND COMPLETELY BY JOSTICK LEFT/RIGHT TILL YAW=180.

5. SET PITCH AT -004

6. PRESS FIRE BUTTON TILL MACH REACHES 19.0

7 TURN SHUTTLE BACK AROUND BY SETTING YAW=0

REENTRY AND LANDING

1. PULL BACK JOYSTICK TO SET +24 PITCH FOR PROPER REENTRY ANGLE.

2. CLOSE CARGO BAY DOORS.

3. FOLOW REENTRY COURSE EXACTLY (THE GRAPH APPERING UNDER THE STAU BOX) BY JOYSTICK MOVEMENTS L/R AND U/D.

LANDING

1. WHEN YOU SEE MOUNTAINS MAKE A RIGHT TURN. LINE UP SHUTTLE WITH RUNWAY USING RADAR SCREEN.

2. FOLLOW GLIDE PATH INDICATORS AND STAY BETWEEN THE ARCHED LINES AGAIN BY USING JOYSTICK(THE GLIDEPATH INDICATOR AGAIN APPERS I
3. PRESS FIRE BUTON TO DISPLAY RANGE.
4. WHEN RANGE IS NEGATIVE DROP LANDING GEAR.
5. PUSH STICK FORWARD TO LOWER NOSE.
6. WHEN SHUTTLE HITS RUNWAY PUSH FORWARD AGAIN TO KEEP NOSE FROM POPPING UP.

LIST OF ACRONYMS

AX AXIS
 ALT ALTITUDE
 FLT FLIGHT
 MET MISSION ELAPSED TIME
 MECO MAIN ENGINE CUTOFF
 OMS ORBITAL MANEUVERING SYSTEMS
 RCS REACTION CONTROL SYSTEM
 RNG RANGE
 SRB SOLID ROCKET BOOSTER
 SP/M SPEED IN MACH
 SSME SPACE SHUTTLE MAIN ENGINE
 STS SPACE TRANSPORTATION SYSTEM
 TAEM TERMINAL AREA ENERGY MANAGEMENT
 DAP DIGITAL AUTO PILOT

=====

SOFTDOCS FOR SPACE SHUTTLE
 FILE VERSION KRAKED BY THE DISK JOCKEY.

COMMAND KEYS AS FOLLOWS:

 ESC = EXIT THIS PROGRAM
 CTRL P = PRINT LISTING
 CTRL L = VIEW/PRINT IN LOWER CASE

>>ANY OTHER KEY TO START DOCUMENTATION<<

COMMAND KEYS DURING LISTING:

 ESC = EXIT LISTING
 ARROW KEYS CONTROL LISTING SPEED

PRINTER IN WHICH SLOT? (1-7,ESC)

Space Shuttle Documentation by the Disk Jockey.

Special Control Features:

 Ctrl R: Aborts flight and returns to demo screen.
 Ctrl S: Turns sound on and off.
 Ctrl X: Reverses X axis control direction of Joystick.
 Ctrl Y: Reverses Y axis control direction of Joystick.
 Ctrl J: Changes control from keyboard to joystick.
 Ctrl K: Changes control from Joystick to keyboard.

| Key | Effect When TRN is on | Effect When ROT is on | Effect Before/ After Orbit Stage |
|-----|-----------------------|-----------------------|----------------------------------|
| <-- | (Z) Altitude decrease | OMS Burn | = button & joystick forw |
| --> | (Z) Altitude increase | OMS Burn | = button & joystick back |
| I | Speed increase | Pitch down | = joystick pushed forw |
| J | Y Axis to left | Yaw Left | = joystick to left |
| K | Y Axis to right | Yaw Right | = joystick to right |
| M | Speed decrease | Pitch up | = joystick pulled back |

Once a key is pressed, action will continue until you press the SPACEBAR to disengage.

Mission Profile.

 You are in control of the space shuttle, Discovery, on the 101st shuttle mission of the Space Transportation System. Your target is an orbiting satellite approximately 210 nautical miles above the Earth.

Your mission: To launch, rendezvous and dock with the satellite as many times as you can, using a minimum amount of fuel, then return safely to Earth. A word of caution: Each time you successfully dock, the satellite's orbit becomes more erratic.

Equipment Check.

Flight mode selection: Press Spacebar, 1, 2, 3 to cycle through flight mode options. Press RETURN once selection has been made.

Primary Engine/Countdown Key: Press "E" to start primary engine and initiate countdown clock. Press "E" again when orbit altitude is reached.

Cargo Door Key: Press "C" to open/close cargo bay doors when orbit altitude is reached.

Landing Gear Key: Press "G" to lower landing gear just prior to touchdown.

Joystick Controller: A realistic directional hand controller forward and back moves shuttle forward or back (x-axis). Left and right controls left/right movement (y-axis). With the fire button depressed, forward or back stick movement moves shuttle up or down (z-axis). Also the fire button has other uses in Launch, Orbit, and Reentry phases as described in those sections.

Status Check: Press SPACEBAR to cycle through readouts of this important information: Position, axes and pitch, mission elapsed time (MET), and remaining fuel (flight #3).

Flight Selection

There are 3 different flight modes. Spend time with training flights #1 and #2 before taking on all the challenge of a real, unassisted shuttle mission (flight #3). Flights can only be selected before countdown begins.

Flight #1 Autosimulator: This is a combination demonstration flight and autosimulator. The shuttle flies an abbreviated mission. You do not use any of the console controls. In this flight mode, most aborts are ignored. Whenever you touch the joystick, you can take control from that point until rendezvous. Then you can only use the joystick controller to correct your Y axis and land.

Flight 2 Simulator: Astronauts spend 1000's of hours practicing in ground-based simulators before flying an actual shuttle mission. In this mode, experience the challenge and demands of a real mission - with a couple of important exceptions. You don't use any fuel units, so you have all the time you need to complete the mission. Also, onboard computers will assist you during flight by compensating for less than perfect piloting skills. Most aborts are overridden, but your flight indicator display will alert you when you've erred.

Flight #3 STS 101: A full-fledged shuttle flight. All aborts are operative and flight conditions are quite realistic. Good luck!

Flight Evaluation

Abort Indicator: If critical problems occur at any time during a flight, you may receive a "Launch Scrub" or "Mission Abort" signal. If this happens, your flight has ended. Check and look up C/W number to find out what went wrong.

Ranking: If you safely land the shuttle at Edwards Air Force Base in flight #3, your performance will be computer evaluated. Your ranking will be determined by the number of successful dockings and the number of fuel units remaining at the end of the flight.

| Ranking | Description | docking | fuel |
|------------|---|---------|------|
| Commander. | Responsible for overall crew safety and | 6 or | 7500 |

| | | | |
|---------------------|--|----------------|------|
| Pilot. | flight execution. Second in command, assists in all flight functions. | greater
4.5 | 4500 |
| Mission Specialist. | Qualified to coordinate mission scientific objectives. | 2.3 | 3500 |
| Payload Specialist. | Qualified to operate specific payload and coordinate shuttle housekeeping. | 1.0 | 1 |

Launch

Objective: Launch your shuttle and attempt to arrive as close to the satellite's orbit as possible. Follow a roller coaster path, and continually match engine thrust with the computer indicator. Stay on the course shown on the trajectory display, and correct your plane as indicated in the small box. Each area is critical. Incorrect trajectory burns up extra fuel and may abort your flight. If your plane is far out of alignment at MECO (main engine shut off), it will be much more difficult to dock with the target.

Launch Checklist

Launch Phases: As you fire your main engines and lift off from the pad, you'll be going through 3 separate phases. The numbers 1, 2, 3 on your computer screen refer to points along the track where (1) SRB's (solid rocket booster) are fired, (2) the shuttle reaches maximum acceleration, (3) engine shutdown approaches. The X indicates MECO (main engine cut off).

Thrust: Notice the two long horizontal bars on the control panel. "T" means thrust, "C" for computer. The "C" arrow represents a signal from the onboard computer indicating the proper thrust needed during each phase of lift-off. You control thrust with the joystick button. Keep both "T" and "C" arrows aligned. If you don't, you will be alerted by an alarm which indicates you are wasting fuel. Immediately press the joystick button to increase or decrease thrust.

Hold Down Bolts: Though your engines are firing, you won't leave the launch pad until MET + 3. The Hold Down Bolts will keep your shuttle on the ground until your engines develop enough thrust to overcome the force of gravity.

Trajectory/Plane: In addition to regulating thrust, you also need to follow the correct trajectory (joystick forward/back) and adjust your plane (joystick left/right).

Line Horn: If you stray from the indicated launch trajectory, you will waste fuel. To alert you that this is happening, a warning horn will sound. This alarm can help you avoid an abort situation.

Separation: A yellow flash at about 26 nautical miles will indicate Solid Rocket Booster Separation (SRBSEP). Another flash shortly after MECO will alert you that the Main External Tank has fallen away into the Indian Ocean (ETSEP).

Launch Sequence

- 1) Select flight mode by pressing the SPACEBAR and keys 1, 2, or 3. Then press RETURN once selection has been made.
- 2) Wait approximately 5 seconds for all systems to become operational.
- 3) When digital countdown clock appears, press "E" to activate Main Engine and initiate countdown.
- 4) At MET-004, press the fire button to ignite main engines, then use this button to keep "T" and "C" arrows aligned until you reach orbit.
- 5) Watch Trajectory Tracking Screen and use the joystick to maintain

correct ascension track and left-right alignment (horn sounds to warn you reached orbit).

5) Watch Trajectory Tracking Screen and use the joystick to maintain correct ascension track and left-right alignment (horn sounds to warn you of trajectory variance).

- Move joystick forward or backwards to maintain correct trajectory course. Try to stay on or just below the plotted line.
- Move joystick left or right to keep dot centered in small "plane indicator" box.

6) At about 205 nautical miles, press "E" to shut off the main engine. The closer you come to the 210 mile altitude, the nearer you'll be to the target satellite's orbit. WARNING: If you shut off the main engine at less than 195 miles, the shuttle will fall to Earth!

Stablizing Orbit.

Objective: Establish a stable by opening Cargo Bay Doors for heat release and adjusting shuttle position to achieve visual contact with Earth.

Cargo Bay Doors: Your first task is to open the bay doors. This is vital and must be done during the first orbit. Radiators that shed excess heat generated during the launch are on the inner surfaces of these doors. If the doors remain closed, heat builds up inside the shuttle and the warning horn sounds. You then have just 15 seconds to open the doors. If you don't, the mission will be aborted.

Nose Down Maneuver: When the shuttle first achieves orbit, the nose of the craft is pointed up, out of the line of sight of the satellite. In order to dock, you must see the satellite. Adjust the pitch, as explained below to bring the shuttle's nose down. When you do this, you'll be able to see the blue Earth through the window. Cargo bay door opening and pitch adjustment must be performed on the first orbit before any further operations should be attempted.

Sequence to Stablize Orbit:

- 1) Press "C" to open cargo bay doors.
- 2) Press "R" to activate OMS Rotational Engines.
- 3) Move joystick forward or back to set pitch to -28.

Stable Orbit Summary: Cargo bay door opening and pitch adjustment must be performed on the first orbit before any further operations should be attempted.

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DOCUMENT space.shuttle.2

Docking: 210 Nautical Mile in Space.

Objective: You are attempting to dock with a satellite that is traveling at Mach 23.9, several hundred nautical miles above the Earth. You will have to slow down or speed up to reduce distance (X axis) to 0. Also you will have to be at the same altitude (Z axis) and position (Y axis). All of these movements are interrelated - changing one can affect the others. And in flight mode #3, time is important because the longer you take, the more fuel you consume. To save fuel, tap the joystick instead of holding it in a control position.

Docking Checklist.

Maneuvering in Space: There are 2 different ways to maneuver the shuttle in orbit. For major maneuvers (30 nautical miles or more), the Orbit Maneuvering System (OMS) can be used. This system takes some study and experience to use effectively. So when first starting out, use the Reaction Control System (RCS). Its clusters of rocket engines in the shuttle's nose and tail can move the shuttle about its three major axes (X, Y, Z).

- To use the OMS, press "R" to activate ROT (rotational engine). Lean joystick left or right to affect Yaw, forward or back to affect Pitch. Press fire button to fire engine.
- To use RCS, press "T" to activate TRH (transitional engine). Lean joystick left or right to affect Y axis, forward or back to affect speed (and X axis), forward or back while pressing fire button to affect altitude (Z axis).

Shuttle Speed and Position: Speed is just as important as position. Never allow your speed to drop below Mach 170 or your altitude to fall below 195 nautical miles, or you'll burn up in the atmosphere! Your X axis relationship to the satellite depends on your speed, which is affected by your engine. To overtake the satellite when it is ahead of you (when the X axis value is positive), your speed must be greater than 23.9. As you make your final approach to the satellite, keep speed close to Mach 23.9

Drifting: As you near the satellite, continually recheck all axes. The satellite's movement is erratic, settings will shift. When RCS is active (TRN is on), press "X", "Y", or "Z" to display current status of those axes. Press the SPACEBAR at any time to check position, remaining fuel, mission elapsed time, and pitch and yaw.

"S" Curve: On the Ground Track Screen, the "S" line indicates both the satellite's and the shuttle's ground track around the Earth. The shuttle's position is the solid dot, the flashing dot is the target satellite. Notice as you track the satellite, that your X axis (distance between shuttle and satellite) will suddenly change significantly as the satellite wraps around the tracking line. This is because the orbital tracking line wraps around the display as a real orbit would wrap around the earth.

Docking Screen: Use the "S" curve screen until you get fairly close to the satellite. Then 2 smaller radar screens will appear. The left screen shows your Z axis (up-down), and a wide view of your Y axis (left-right). The right screen, which you'll use more, shows the X axis and micro (close in) Y axis.

Satellite Sighting: When you see the satellite, prepare to conduct

close range maneuvers with the RCS (TRN engine on).

Multiple Docking: Every time you dock (in flight #3), you receive a "Rendezvous" signal and some additional fuel units. Each additional docking becomes more difficult, so the amount of fuel you get increases. After each rendezvous, the satellite moves away from the shuttle. Wait until it is at least 80 units (X axis) away before attempting to dock again, or the satellite will interfere with the shuttle's signals.

Docking Sequence: Match the position of the shuttle with that of the satellite by correcting Z, Y and X axes, preferably in that order.

- 1) Press "T" to activate RCS Transitional.
- 2) Correct Z axis to 0. Press button and move joystick forward or back. A negative number means the satellite is below you. A positive number means the satellite is above you. A zero reading means you altitude is the same as the satellites's.
- 3) Correct Y axis to 0. Move joystick to the right or left. A positive number means the satellite is right of you. A negative number means the satellite is to the left of you.
- 4) Correct X axis. Move the joystick forward or back. A positive number shows the distance, in units, that the satellite is ahead of you. A negative number shows units the satellite is behind you. To increase shuttle speed, move joystick. Likewise, move joystick back to decrease speed. The satellite's speed is Mach 23.9.
- 5) When you meet the satellite, all axes must be adjusted to 0 and stabilized for 2 seconds. Then you will receive a "Rendezvous" signal, indicating that you've docked.

Deorbit Burn.

Objective: To turn shuttle around, fire engines and decelerate to the correct speed for leaving orbit. This is one of the most critical phases of you flight.

During deorbit operations, the shuttle is oriented to a tail-first altitude, decelerating to reentry speed by the powerful OMS engine, then turned around to a nose-first altitude.

You begin to lose altitude when you've slowed the shuttle down below the speed needed to sustain orbit at 210 nautical miles.

Deorbit Burn Maneuver: First you must turn the shuttle around so this it is traveling tailfirst. Then in order to maintain the correct altitude, set your Z axis and pitch. Once this maneuver is completed, fire the engine to decelerate. If the Z axis and pitch are not set correctly, firing the engine will make you shuttle climb or dive. After the deorbit burn, the shuttle must then be reoriented nose-first to the correct altitude. Entering the atmosphere backwards will cause the shuttle to burn up!

Yaw: Left-right rotation of the nose of the shuttle.

Sequence for Deorbit Burn:

- 1) Adjust Z axis until altitude reads 210.
- 2) Pull joystick back or push forward to set speed to Mach 23.9.
- 3) Press "R" to activate OMS (rotational).
- 4) Turn shuttle around completely. Move joystick left or right to set Yaw at 180.
- 5) Set pitch at -004.
- 6) Press joystick button until speed is Mach 19.0.
- 7) Turn shuttle around nose-first be setting Yaw to 0.

Reentry.

Objective: To establish and maintain the correct pitch, yaw and speed, follow the correct trajectory, and properly manage heat build-up during reentry. There are 3 important stages to reentry: Entry interface, TAEM and LOS. Position, altitude, velocity, and heading must all be exact to both to manage the tremendous heat buildup and correctly position your shuttle for the final approach.

Entry Interface: This is the point in your flight where atmospheric entry officially begins. As the shuttle descends, atmospheric drag dissipates tremendous energy, generating a great deal of heat. This heat quickly builds up. Pitch and speed must be correct to utilize the shuttle's thermal protection system.

Terminal Area Energy Management: After entry interface, you must closely follow the proper descent trajectory in order to maintain enough altitude and speed to reach the final touchdown point. This process of conserving your energy by maintaining the correct position, altitude, velocity and heading is called Terminal Area Energy Management (TAEM).

Loss of Signal: During reentry, the shuttle superheats the gas of the upper atmosphere creating flashes of color outside your window. Heat strips electrons from the air around the shuttle., enveloping it in a sheath of ionized air that blocks all communications with the ground. So at 140 miles, you will experience a temporary partial loss of signal (LOS). Keep a close eye on your radar at this point. You will receive intermittent signals which you need to use to correct your course and plane.

Descent Screens: On your reentry screen, "X" indicates cut-off of your OMS engines (deorbit burn). "T" indicates the terminal area energy management phase. "L" indicates your transition to final landing approach. The small box at left is your plane indicator.

Reentry Sequence:

- 1) Pull back joystick to set +24 pitch for proper reentry altitude.
- 2) Close cargo bay doors.
- 3) Follow reentry course on computer screen. Pull stick back to go right. Push forward to go left. Left and right on the stick centers plane.

Landing: Edwards Air Force Base.

Landing Sequence:

- 1) Watch for the runway. Use the right radar screen to maintain alignment.
- 2) Follow final approach course on both computer screens. Left screen: keep dot centered between the two arched lines. Right screen: keep dot centered on straight runway approach line. Pull Joystick back to raise nose (slow decent). Push joystick left or right to keep dot centered.
- 3) When range become negative, you're over the runway, just seconds from touchdown, so drop landing gear now.
- 4) Push joystick forward to lower nose.
- 5) When the shuttle hits the runway, your nose will prop up, so keep your joystick pushed forward to keep nose down until you hear the

thud of the front landing gear.

Stat Messages.

```
-----
Message           Message or
Number           Action Needed
-----
100  Not lined up with runway on touchdown.
150  Touchdown too early (hit desert).
200  Touchdown too late (over-shot runway).
300  Nose gear not down at end of runway.
350  Off course at start of banking turn.
400  Landing gear not down at touchdown.
500  Cargo bay doors not closed at ascent or reentry.
550  Pitch is greater than +24 on reentry (skip into space).
600  Pitch less than +24 on reentry (burn up).
650  Yaw not 0 at reentry.
700  Altitude too low to sustain orbit (below 195).
750  Altitude too high (255 miles max).
800  Speed too low to sustain orbit (below mach 17.0).
850  Cargo bay doors not open during orbit (overheat).
900  Orbit insertion angle incorrect at MECO.
950  Speed/altitude too low to attain orbit at MECO.
990  Out of fuel.
1-99 Number of dockings. Also many appear as the last digit of a
mission abort stat.
```

Acronym List.

```
-----
AX      Axis
ALT     Altitude
FLT     Flight
MET     Mission Elapsed Time
MECO    Main Engine Cut Off
OMS     Orbital Maneuvering System
RCS     Reaction Control System
RNG     Range
SRB     Solid Rocket Booster
SP/M    Speed in Mach
SSME    Space Shuttle Main Engine
STS     Space Transportation System
TAEM    Terminal Area Energy Management
DAP     Digital Auto Pilot
```

-the Disk Jockey-

=====
DOCUMENT space.vikings
=====

SPACE VIKINGS DOCS

SPEED:

4 FAST ACCELERATION
3 RAPID DECELERATION
2 MINOR ACCELERATION
1 MINOR DECELERATION

ENERGY:

THE INDICATOR TELLS HOW MUCH ENERGY YOU HAVE. RESTORE ENERGY
AT ANY BASE PLANET(SOL)

TURN:

INDICATES HOW MUCH YOUR STARSHIP IS TURNING

VERT:

INDICATES ELEVATOR STATUS MANUAL/AUTO:AUTO JUST FLIES STRAIGHT
A KEY TOGGLES AUTO MISSILE/LASER:W KEY TOGGLES BETWEEN
MISSILES(DESTRUCTIVE) AND LASERS(NEXT TO USELESS)

ORBIT LIGHT:

TELLS IF YOU ARE IN ORBIT AROUND A PLANET

DAMAGE LIGHT:

LIGHTS WHEN YOUR SHIP HAS SUSTAINED DAMAGE

COND LIGHT:

USE B KEY TO CONTROLL BEST TO LEAVE IT ON RED

SHIELDS:

S KEY TOGGLES PUT YOUR SHIELDS ON AND LEAVE THEM ON

RADAR:

R KEY SHOWS WHERE YOU ARE IN RELATION TO THE PLANET

HYPERDRIVE:

H KEY TAKES YOU TO A PRESET STAR SYSTEM

COMPUTER:

C KEY THE COMPUTER SYSTEM HAS MOST OF THE CONTROLS IN LISTS
WHICH DO PRETTY MUCH WHAT THEY SAY

YOU HAVE A BETTER CHANCE OF TAKING OVER PLANET IF YOU KNOCK OUT THE
STARSHIP ORBITING IT FIRST. WHEN YOU HAVE CONQUERED A PLANET TAKE THE
LOOT BACK TO SOL TO SELL IT FOR CREDITS SO YOU CAN BY MORE TROOPS,
TANKS, MISSILES, TRANSPORTS, AND FIGHTERS.

=====

DOCUMENT spare.change

=====

! Spare Change !

<Ctrl> R = restart

<Ctrl> Z = user options -- change different parts of the

default settings. Fun cartoons in this section. <ESC> exits.

<Ctrl> C = configures keyboard. In this section, <Ctrl> R

resets high scores. <cr> exits.

<Ctrl> V = displays high scores. <cr> gets you back to the title page.

<ESC> = pauses game.

<Ctrl> S = sound toggle. Three settings:

 (1) normal

 (2) lower sound level

 (3) sound off. pressing <Ctrl> S again toggles it

 back to normal.

=====

DOCUMENT speedwayclassic

=====

=====

SPEEDWAY CLASSIC COMMANDS

=====

SPEEDWAY CLASSIC

Scoring-

Starting Bonus: +3000 points.

Time: +20 points each sec under 6 mins.

Position: +100 points each position above 21st.

Track Edge Penalty: -200 points per unit time on edge

Spark Contacts: -100 points each incident

Spinouts: -200 points each incident

Fire Collisions: -400 points each incident

Ctrl-R to restart race.

ESC to restart sign-up (Ctrl-R, ESC if race in progress).

Mode Commands- Enter in response to PLAYER'S NAME?

The first character of each command is a "."

| | |
|--------------|---------------------------|
| ".SOUND OFF" | Speaker off |
| ".SOUND ON" | Speaker on |
| ".DEMO" | Self-running mode |
| ".PLAY" | Normal mode |
| ".ERASE A" | Erases all Class A scores |
| ".ERASE B" | B |
| ".ERASE C" | C |
| ".ERASE D" | D |

SPELLPRUF
 SPELL
 SPELL.0
 SPELL.2
 SPELL.3
 BANKN.SP
 BANK1.SP
 NAME.SP
 LIST1.SP
 TRANSFER.SP
 TRANSFER.1
 SPELLPRUF.FIX

NOTE: At press time the author has developed a utility to merge several SPELLPRUF dictionaries into one. This will greatly reduce the time it takes to check a document. Watch for it in UpTime soon!

~~~

=====  
 DOCUMENT spellpruf  
 =====

+++

SPELLPRUF  
 By: Mark Murphy

SPELLPRUF is a program that will check your word processor documents for spelling errors. By comparing the words in your text against its dictionary, it will determine which words it does not recognize. You can then opt to add them to the dictionary, if you wish, or simply skip them. By comparing the screen to a printed copy, you can find and mark all spelling errors. Later, these can be changed using your word processor.

To use SPELLPRUF, you need a 64K Apple II (any version will do). If you don't know what this means, don't worry.

SPELLPRUF uses a lot of disk space, mainly because its dictionary can expand to any size you wish. For that reason, it needs to create a disk for itself, which is called the SPELLPRUF Master disk. Follow the screen prompts. Once all is correct, SPELLPRUF will create the Master disk.

To check a word processor document, you must first prepare it for use with SPELLPRUF. It must be in the form of a DOS 3.3 text (or ASCII) file. Some word processors (like Write Away) save their files as text files in DOS 3.3--these are ready to go as is. Some word processors have a menu option to save or print a file as a text file. You must use this feature to translate your files to text (consult your word processor manual for help). In short, to determine if a file is ready for use by SPELLPRUF, put the disk with the file in question on it in drive 1 and type CATALOG from the Applesoft prompt (]). If an I/O error occurs, your word processor more than likely using ProDOS to use SPELLPRUF just convert the file to DOS 3.3 using your System Master or Copy II+ from Central Point Software. If the file appears like this:

T 014 FILE.WP

then it is ready to be spell-checked (the T stands for text file). If the file appears with a B (for binary file) instead of a T, you must use the word processor to create a text file for the document.

Once your file is ready for checking, place the SPELLPRUF Master disk in drive 1, and turn on your computer (or press [Control]-[Open-Apple]-[Reset] if it's already on). SPELLPRUF will show a catalog of your word processor files disk. Enter the name of the file to be checked. SPELLPRUF will then compare the file against its first dictionary, showing you a total word count and an error count as it goes. If there is more than one dictionary (meaning if this is not the first time you've used the program), it will then check the errors against those dictionaries, keeping you informed of its progress through the file.

Once all errors have been found and determined to be absent from all the dictionaries, SPELLPRUF will display your file, highlighting each error as it comes to it. "Errors" may be either true spelling errors or words simply not in any dictionary. If the word is spelled incorrectly, mark it down on a printed copy of your document for later editing. If it is correct, and you want it to be remembered for future documents, press the [SPACEBAR]. If you want it to skip that word, press [Return]. Once it has shown you all the errors, it will sort and index the words that you told it to remember. It will then save these words in a new dictionary. You can then either check another document or reboot your system.

The author suggests that you print a copy of these instructions, as you may need to refer to them in the future.

Files Needed:

INSTALL.SP  
 INSTALL.1





- + The Spooler.DA will only work under GS/OS. You cannot enter the CDA from ProDOS 8.
- + The Spooler.DA should continue background printing even if a ProDOS 8 program is run...but this has not been tested.
- + You CANNOT print to slot 1 while the spooler is running.
- + The spooler only works with Txt and Src files. Merlin Txt files will be expanded, as will tab characters. Any other control characters in the text are simply ignored.
- + You cannot disable VBL IRQ's while the spooler is running.
- + You MUST have enough free RAM to hold ALL of the files in the print queue.
- + Avoid the use of IRQ intensive programs (like communication programs) while the Spooler.DA is active.
- + Spooler \_may\_ have problems with programs that disable interrupts often or when running during large amounts of disk access.
- + Spooler will not work if the host program destroys background task queue.

## 1. Overview: =====

The Spooler.DA remains dormant in memory until a print session is active. You can tell that a session is active by either observing the action of your printer or listening for periodic 'clicks' of the IIgs speaker. When the Spooler is active, it sends a line of text to the printer about once every half-second. You may continue to use your IIgs normally while the spooler sends information to the printer. When the print job is complete, the spooler places itself back in a dormant state until it is again activated via the CDA menu.

## 2. Getting Started. =====

Simply copy the Spooler.DA to your \*:System:Desk.Accts folder on the system disk and re-boot the computer.

## 2. Setting up the Print Queue. =====

Enter the IIgs CDA menu by pressing <command-control-esc> and select the CDA called "Print Spooler". You will be presented with a main menu screen. The menu lists all the files currently in the print queue, and provides options for left margin, line numbers, adding a file to the queue, and deleting the queue. The options are described below.

### A. Adding a file to the queue [Option 1] -----

- Selecting option [1] will cause the Print Spooler CDA to first prompt you for the path of the file you wish to add to the print queue. Select the DIRECTORY (folder) that contains the file you wish to print. After the directory has been established, you will be asked to select the filename. You can press <ESC> at any time to return to the main menu.

The following command are available  
when selecting the PATH (Directory):

Note: Only files of type  
---- DIR are shown.

#### Path Selection Commands: -----

|                                    |                                   |
|------------------------------------|-----------------------------------|
| Escape = abort; return to menu     | oa-Period = abort; return to menu |
| Up Arrow = change last directory   | Left Arrow = drop dir. from path  |
| Down Arrow = change last directory | Right Arrow = append dir. to path |

|                            |                           |
|----------------------------|---------------------------|
| Tab = change disk drive    | Clear = clear entire path |
| Return = accept path as is |                           |

The following commands are available  
when selecting the FILE:

Note: Only files of type  
---- Src or Txt are shown.

#### File Selection Commands: -----

|                                      |
|--------------------------------------|
| Escape = abort; return to menu       |
| oa-Period = abort; return to menu    |
| Up Arrow = change filename           |
| Down Arrow = change filename         |
| Return = accept the current filename |

### B. Deleting the print queue [Option 2] -----

- select option [2] to delete the entire print queue and start the file selection process from the beginning again.

### C. Printing line numbers [Option 3] -----

- select option [3] to toggle printing of line numbers on/off. If line number printing is set to ON, all of the files in the print queue will be printing with a line number at the beginning of each line.

### D. Left Margin [Option 4] -----

- Selecting option [4] will increase the left margin by 1 character at a time up to a maximum of 8 characters. If this option is selected when the left margin is already at 8 characters, the left margin value wraps back to 0.

### E. Quitting [Escape ] -----

- Press ESCAPE to exit the Print Spooler CDA. If there are ANY files listed in the print queue, background printing will begin. Printing continues until all of the files in the queue are printed. You will here a click in the Apple IIgs speaker every time the Spooler finishes a line (about every 0.5 seconds).

## 3. Cancelling a print job. =====

If the Print Spooler CDA is entered while a print job is currently in session, you will be asked if you want to cancel the print job. Selecting "Y" will abort the current print job and allow you to setup a new print file queue. Note that you may have to manually eject the final page from the printer. Selecting "N" will exit the CDA and allow the current print job to finish up.

You CANNOT use the Print Spooler CDA while a print job is in session.

Enjoy!

=====  
DOCUMENT spy.hunter  
=====

-----  
= Spy Hunter Docs =  
-----  
= Typed in by =  
-- The Minuteman --  
-----

Spy Hunter, the incredible game known from the arcade, is here for the Apple at last. Many people, upon BRUNing SPY HUNTER find that it does not work... And if they BRUN SPY.0, it screws up. The fix is simple... Boot wit 64k dos. This means you have to have dos in the language card for Spy Hunter to work. Diversi-Dos has an option to do this by pressing D when putting dos on a disk. Also on most AE disks there is a file called DDMOVER, this, when BRUN, will move standard Diversi-Dos to the ramcard. So boot with Diversi-Dos, and Brun DDMOVER. Any way you do it, BRUN SPY HUNTER and it will work.

## The Game

In the game there are ten different moving objects. Here are their descriptions.

- 1) Dark blue car -- shoot to kill, or ram off road. Sometimes has razors coming out of its tires that it will kill you with.
- 2) Wide blue car -- impermiabile to machine gun fire. You must ram him off the road.
- 3) Light blue small cars -- these cars are civilins. You get no points for them, but they're fun to hit anyways.
- 4) Motorcycles -- same as Light blue small cars.
- 5) Helicopter -- Travels overhead, to kill it you must use your missles (more on that later). Occasionally drops...
- 6) Bombs -- dropped by the helicopter, when they land they produce a small crater that will kill you if you run over it.
- 7) Blue boats -- these boats appear when you turn into a ship. They drop red bombs that will kill you if you hit them.
- 8) Wide blue boats -- these babies will shoot thick missiles at you if they get right behind you, or else they will attempt to ram you off the road.
- 9) Utility van -- the big red mac that lets you off when you die, and appears once in a while to give you new weapons. When it appears, get in back of it and press the top button, and it will let you in. Your weapons are displayed on the bottem of the screen. The bottom button fires guns & missles, the top is the slick and smoke screen. The computer will fire a missile instead of the machine guns when a chopper is on the screen, and releases the oil slick until you run out and then you release the smoke.
- 10) Old, big, blue, mafia car -- this car comes down from the top of the screen, and occasionally a window opens and a gun gets pointed out, and fires across the road.

Change of scenery

Spy hunter has four scenes.

- 1) Road -- what you start out on. You can go all the way over into the dark green but the light green is a no-no.
- 2) Water -- after driving for a while, you will lose control and the road will narrow until you run into a small shed... you will come out the other side as a small speedboat. If you stick with it long enough, you come out as a car again.
- 3) Bridge -- a common occurance, this in no way affects play.
- 4) Icy road -- the background goes white, and the car is a little more difficult to control.

## Cheating

Hit P while playing to have unlimited cars, and all the weapons. Be warned -- I have seen the utility van come along and then keep going, after playing with the cheat for a while... You'll have to start over again if that happens.

Happy motoring!

The Minuteman

room can be opened or lifted and may reveal one of the hidden items you are looking for. If you're not so lucky, it will activate a BOOBY TRAP, blowing you to smithereens....

OPENING DOORS:  
Again, move within range of any closed door. Press the JOYSTICK button and the door will open.

## KEYS AND THEIR FUNCTIONS

K  
Move left

L  
Move right

A  
Move back or up

Z  
Move forward or down

Q  
Access trapulator

S  
Toggle music on/off

SPACE  
Press to open or close a door To pick up or drop an object Select or activate a booby trap Start game Press once to stop your man, again to drop an object.

ESC  
Pause game play

CTRL-R  
Return to option screen

In Hand-to-Hand combat, use the K, L, A, and Z Keys to move the arm with the club: in, out, up, or down, while depressing the CONTROL Key.

## GAME ELEMENTS

SIMULVISION:  
The top half monitors the actions of the White Spy, the bottom half depicts the Black Spy (either player 2 or the computer). The activities of both Spies are revealed to both players in the rooms shown on the left side of the screen. The right side is reserved for the Trapulator and its six icons.

SIMULPLAY:  
With the clock running at all times, we didn't think it was fair to make players wait to take turns. So, voila! Simulplay. Since both Spies' activities take place out in the open, the challenge becomes watching and remembering what the other Spy does while you go about your business. Simulplay allows players to engage in club-to-club combat, place booby-traps, chase each other and generally get in the way.

HAND-TO-HAND COMBAT:  
The combat mode exists only when both spies are in the same room. SIMULVISION ends, and the spy that entered the common room appears on the same screen as the Spy that was already there. Both spies have the options of attacking, leaving, or avoiding the other Spy.

=====

DOCUMENT spy.vs.spy.2

=====

## SPY vs SPY

-----

WRITTEN BY: ??????

UPLOADED BY: THE BLIND THIEF

SIMULVISION utilizes a revolutionary split-screen display depicting both players activities simultaneously! Even while playing alone against the computer, you get to see what the other wise-SPY is up to.

SIMULPLAY lets both players play... you guessed it! Simultaneously. No more need to wait your turn as you travel throughout a selectable, yet randomly generated maze of interconnection rooms. While setting and defusing booby-traps, engaging in hand-to-hand combat, searching for the Top Secret briefcase (guess its not secret anymore) and looking for the only way out, you must collect your passport, secret plans, money, and a key in order to escape from the foreign embassy before your plane take off without you. Like alfred E. Neuman says, "If at first you don't succeed at first... SPY, SPY again."

## GAME OPTIONS:

When SPY vs SPY has finished loading into your computer, you will be presented with OPTION screen.

Located inside the top room you will be able to select and modify the following options:

1. Number of players
2. Difficulty level
3. 'Intelligence Quotient' of the computer (one player version only)
4. Airport exit revealed or until the end.

## STARTING:

With your joystick or appropriate keys, move your cursor, up and down, to any of the options. By moving the joystick right or left you can select one or two player mode, difficulty level, and I.Q. of the computer (only available in one player mode.)

## CONTROLS

### MOVEMENT:

The rooms that you are in are three dimensional. Pushing the JOYSTICK forward will move you towards the rear of the room. Pulling the JOYSTICK right or left will move you right or left. If you move from room to room, you will notice that a Movement Status Indicator bar (located below your room) is scrolling from right to left and being updated with each new room you have entered. These symbols can show you how to go back to where you've come from. For examples, if you move one room to the right and two rooms back, you will see, reading from right to left, two "down" arrows and one "left" arrow. To find your way back, follow the arrows reading from left to right, deleting each arrow until you return to the room in which you started. See "Bread Crumbs"

### OBJECT MANIPULATION:

First, move within range of any object (you will hear a short tone and see a flash). Then press the Joysrick button. Any object within a

In the combat mode, spies cannot search objects, or use the Trapulator (no map or traps). Doors, however, still work, and so do any traps that might be connected with them. If spies are not within range of any object when pushing the JOYSTICK BUTTON, they wield their clubs with which they can hit the other Spy on the head or jab him in the stomach. To smash him on the head, the button is held down while the JOYSTICK is moved from the Up position to the Down position (swinging the club downward). To jab, move the JOYSTICK from left to right (or right to left, depending on which way the Spy is facing). When the JOYSTICK BUTTON is first pushed down, the Spy will automatically face his opponent, regardless of which way he was facing or moving. To move your Spy during combat, release the button and move as normal. Hitting the other spy weakens him, and about 7 solid blows are needed to "Kill" him. However, Spies will recover strength over a period of time.

If a Spy is carrying anything when he enters a common room, the object is lost or hidden in the common room, depending on the type of object. Traps and remedies are lost, while inventory items and the briefcase are hidden somewhere in the room. The winner of the combat sequence can search the object out, and either regain or gain possession.

NOTE: At the beginning of each new game, both Spies will start out in the same room only a few steps from each other. Soooo, don't become the victim of SAP-otage... keep your guard up.

TIME:  
Both players start out with equal time to travel the maze, collect required objects, search for the briefcase and exit the embassy before their plane takes off. However, there are several time penalties. You lose time when you set a booby-trap, when setting a trap, you will hear several beeps. This will tell you that the trap was properly set and it reminds you to watch your trapulator, which will be deducting the appropriate time. However, if you are the victim of a booby-trap or the loser in a hand-to-hand combat the clock will continue to count down even though you are 'unconscious'. These losses of time can never be regained. When time is about to run out the red button on top of the TRAPULATOR will flash and sound its warning. Both players can never run out of time at the same time. Therefore, one player will outlive the other. The surviving player will continue his search for the briefcase required objects and the exit. If you are playing against the computer and the computer has time remaining, you can abort the mission by typing CTRL-R. Even after your spy's demise, the traps he has set remain. The game is by no means over just because one player's time has run out. To stop the game or pause, press the ESC key.

BOOBY TRAPS:  
As players move through the maze of rooms, they may select any of the five booby-traps. The booby-trap arsenal contains: Bombs, Springs, Buckets of Water, Guns with Strings tied to the Trigger and Time Bombs. The Time Bomb needn't be hidden. In fact, it is activated immediately and is the only booby-trap that cannot be carried or neutralized! The Gun with a string and the bucket of water can only be attached to a closed door. All other traps may be placed behind or in anything found in any room.

Spies can carry traps in and out of rooms, placing them where they wish when they are ready. Booby-traps are depicted in black while the remedies are shown in color.

TO PLACE AND SET A TRAP:

1. Press the JOYSTICK button... TWICE! You have just accessed the TRAPULATOR. Observe the large arrow.

2. Move the large arrow about the Trapulator using the JOYSTICK or KEYBOARD arrows.

3. Position the arrow of the booby-trap of your choice.

4. Press the JOYSTICK or if you are using the keyboard, the SPACEBAR. The booby-trap is now held by your spy.

5. Position the Spy in front of the hiding place you have selected.

6. Watch for a brief flash in your Spy's room. This flash indicates the Spy is properly positioned.

7. Press the JOYSTICK/SPACEBAR. The booby-trap will disappear\* and you will hear the short 'beeps'. These indicate that the trap has been set AND that time is being deducted from the time remaining before your flight leaves.

\*NOTE:

In the case of the Gun with a String trap, only the gun will no longer be visible. As you move your Spy about the room, the string will stretch and follow the Spy Position him in front of a closed door, watch for the flash, press the Joystick/Spacebar and the trap is set.

Once a trap has been set, EITHER Spy has can set it off! A Time Bomb will go off in 15 seconds once selected. Any Spy(s) in the room at the time of detonation will be zapped. Unlike other traps, the Time Bomb is not set off by the searching of the Spies. Listen carefully for them. They come in handy if you are being chased. The unfortunate Spy will lose 7 seconds of actual time. Also, 20 seconds will be deducted from his game time, for a total penalty of 27 gaming seconds. The other player will be awarded bonus points for each trap set off by the opposition. If the booby trap has been in possession of the briefcase, the other Spy can use this time to attempt to locate the victim and grab the briefcase.

To add insult to injury, when a player sets off a trap, he gets zapped while the other Spy laughs hysterically.

REMEDIES:

Except for the Time Bomb, each of the traps has a disarming remedy hidden throughout the maze. Each type of remedy is always hidden in the same type of location. For example, the scissors are used to disarm the Gun with string. Scissors are only found in the First Aid kits hanging on the back walls. As with traps, remedies can be picked up and carried from room to room. Spies can NOT carry more than one thing at a time except inside the briefcase.

BOOBY-TRAPS AND REMEDIES

| TRAP            | USEABLE       | REMEDY       | LOCATION                     |
|-----------------|---------------|--------------|------------------------------|
| Bomb            | All but Door. | Water Bucket | Red fire box on left wall.   |
| Spring          | All but Door. | Wire Cutters | White tool box on right wall |
| Water Bucket    | Door ONLY     | Umbrella     | Coat Rack                    |
| Gun with String | Door ONLY     | Scissors     | First Aid Kit on back wall.  |
| Time Bomb       | ANYWHERE      | None!        | N/A                          |

### TRAPULATOR:

Located to the right of each of the rooms is a calculator-like, state of the art, Trapulator. It serves four basic functions. You can use it to SELECT BOOBY TRAPS; ponpoint your LOCATION, gauge your TIME remaining and check INVENTORY.

Across the top of the Trapulator is a digital clock which indicates the time left until your plane takes off (with or without you)! Below the clock are six buttons. On the first 5, selectable booby-traps are indicated. However, the sixth button in the lower righthand corner calls up a map of the embassy you have broken into. The map will appear in the room that your spy is occupying. The room your Spy is in will be the one blinking on and off. Rooms filled in with a color indicate that your Spy has been in that room at least once. Any required inventory items are represented by a dot. The map does NOT tell you what item or how many are in a particular room, just that something you are looking for is there. Finally, the Trapulator displays items you have successfully collected as you ready your escape. Its also indicates if an item has been taken from you. The item will now appear on th opposition's Trapulator. Across the bottom, left to right, should be your passport, money, key and the secret plans. The map does NOT show the location of the other Spy, nor does it reveal anything about te other floor of the embassy (if there is one).

### INVENTORY:

Your mission being to escape the embassy, Top Secret briefcase in hand, it is important to remember that all else is but a mere distraction. Before time runs out you must manage to find, fill, and keep the briefcase, locate the only exit and board your plane with ALL of the following: PASSPORT, traveling MONEY, the KEY, and the secret PLANS.

It is helpful to know that these items are never found in any of the remedy locations. Use the briefcase to hold all these items. Carry them with you or hide them. There is only on of each in any game. Protect the briefcase at all costs. If an item is found and you do not posses the briefcase your spy will be carrying a white satchel and the item contained will be flashing on the Trapulator.

### EXIT:

There is only one way out of each embassy building. The exit door is marked. You can NOT leave without all of the required inventory. The airport guard will see to that!

### SPLIT LEVEL EMBASSIES:

Some of the embassy buildings are two stories high. Your Spy can climb from floor to flloor by using the ladders. Holes in the floors are often hidden by carpets. Use the JOYSTICK or SPACEBAR to cover/uncover such an opening. Use the JOYSTICK OR KEYBOARD to move up or down.

### LADDERS AND RUGS:

If you enter a room with a lader, you can activate it by moving within range and pressing the JOYSTICK button. Pressing the JOYSTICK button once will lower the ladder to ground level, enabling you to move your Spy up the ladder to the upper floor. If you do not push your spy up the ladder but push the JOYSTICK button a second time, the ladder will raise back up. To climb up or down, tap your JOYSTICK once in the appropriate direction. The spy will move by himself. Do NOT keep the JOYSTICK forward or back. If you enter a room with a rug, standing within range of the rug, pressing the JOYSTICK button will lift the rug and reveal a hole. Move your player over the hole and he will climb down the ladder to a lower floor. You can cover a hold by standing near it and again pressing the JOYSTICK button.

### "BREAD CRUMBS":

You can re-trace your steps by using the small character indicators

just below the front edge of your room. These guides (not available in the higher levels) actually point the way back to where you have just come from!

### SCORING:

Points are awarded or deducted for the following:

+80 winning at hand-to-hand

-20 losing at hand-to-hand

+30 for placing a booby-trap

-80 for being the victim of a trap or airport security guard's boot

+60 only for stealing other player's inventory item

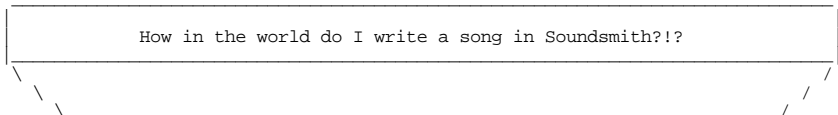
-70 calling up the help MAP

+40 using a remedy sucessfully

### RANKING:

At the conclusion of each game, players will be awarded the title or rank they have earned. Bonus points and time penalties are calculated by the computer.

```
=====
DOCUMENT ss.songwriting
=====
```



Before we start our lesson, please make sure that you are using Soundsmith version 0.9 or higher. If you do not have this, please download it in the Music and Sound area of America Online(keyword AMS). If you think you're gonna write a song with 0.7, heh..well, get real and get 0.9. 'Nuff said, let's get started....

After booting Soundsmith and get past the title screen(does ZZ Top care?), Title song and the send-me-\$20 screen, you are presented with a small, empty box with 4 buttons. The only button you can use at this point is Load Instrument. Put simply, this is how you load instruments. You can load instruments from any disk and use them, but if your song uses instruments from more than one disk, make sure you copy all these instruments onto one disk/folder or else you won't be able to load all your instruments when you load the song again. The author was gracious enough to include a plythera(I like this word) of instruments for our use, all of which sound better than any of Music Studio's sounds(but SS sounds may be saved into MS Wave-files. If you do this, make sure you change the envelope form in the Design Instrument section of Music Studio). To change the default volume of an instrument, highlight the instrument and use the scrollbar to set the volume. The Vibrato Speed and Vibrato 'Depht' are apparently inoperative. You can test the notes on the keyboard below(on later versions of SS, what you play on a keyboard will be recorded into your song).

Now that you have selected all your instruments(you can still select more later on if you do not have enough), go to the file menu and select 'New Song.' This will give you the familiar spreadsheet that you usually see littered with 'D#5's and stuff, except that it is empty. You are now ready to begin composition. First of all, select MUSIC from the pull down menu. You should get a screen with 'Number of Positions', 'Position', 'Block' and 'Tempo'. Set the number of positions to about 10 or so, and then set POSITION #0 to BLOCK #0 and Position #1 to Block #1 and so on and so forth and then set Tempo to whatever you want. 1 is the fastest and 16 is the slowest. The Position bar and the Block bar are vital. The program plays the blocks according to how you tell it to: for example, SS starts at position zero and at position zero, you have instructed SS to play Block #0. After playing Block #0, SS moves on to the next position. At position #1, you have instructed SS to play block #1. But, let's say you want to repeat a block. Set position #10(or whatever) to block #10 and Position #11 to block #10. This will repeat the 10th block. Hit the 'OK' button to get back to the Spreadsheet.

What I usually do at this point is put any note on the screen and save it to /RAM5 and then close the spreadsheet and load the song back up(but 'Cancel' the loading of new instruments). Although I'm not sure about 0.9, SS had a bug that made the graphic player display garbage when you started a new song unless you loaded it. This way, you have loaded a song and are modifying it. Delete the dummy note oyu have placed on the screen and now you are REALLY ready to begin.

On the other songs, you may have noticed the way the notes were arranged:

```

Note Instrument
|||
| D#5 | 4000 |
|||
Octave Effect

```

Note: This is the note. The musical alphabet is CDEFGAB and that is how SS looks at it's notes. Sometimes a note has a # after it. This denotes a 'Sharp' or an increase in the notes pitch. Since SS doesn't recognize flats, only sharps may be used, such as G# instead of Ab(these are both the same note). Sometimes, though, notes cannot be sharpened. These notes are B and E. This is because B# is C and E# is F. Keep that in mind. (The following is an example of a musical staff. If you'll notice, they are in alphabetical order from bottom to top, counting spaces and lines)

```

Spaces                               Lines(Treble)
_____                               _____
E                                     F(line)
C                                     D(oes)
A                                     B(oy)
F                                     G(ood)
-                                     E(very)
_____                               _____
G                                     A(lways)
E                                     F(line)
C                                     D(o)      (Bass)
A                                     B(oys)
_____                               _____
                                     G(ood)

```

Octave: This is what pitch the note will be played at. Each new octave starts at C(ex: A4 B4 C5 D5). I usually use the C in the Treble Cleff as C5, the C in between the two cleffs(middle C) as C4 and the C in the Bass Cleff as C3. Your octave may range from a low 2 to a high 7.

Instrument: This is the instrument number to play. They range from 1 to F(a Hex number{0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F}). You can use any instrument in any row. Effect: A very useful tool. This affects the way a note preforms. Although I think 0.9 has some bugs in the Effect Area(some of the Effects listed in the docs don't work). The most useful effects I use are Volume and Tempo. To change the volume of your score, go up to the effect box and type 3(this says 'I'm changing volume, you dummy!' to SS) followed by any number from 00 to FF(again, this is Hex). 00 is no volume at all and FF is full blast. This type of volume only affects the current note. To change the Tempo, go to the Effect box and type F(again, "I'm changing Tempo now!!") followed by any number from 01 to 0F(WARNING-WARNING: Under NO circumstances type F00 and play it as it will shut off the speed of your song. There is no way out of this(the Tempo Bar in the pull-down is now all solid, and you can't change Tempo again in your song because your song isn't moving!), except to re-load the song).

Ok, now that that's settled, the first question everyone asks me is "How do you set the Time Signature?" Forget this. There are no time signatures in Soundsmith. If you want to make a whole note, put down a note and leave 3 blank spaces after it. If you want to make an eight note, put down a note and leave no spaces after it(if you aren't adding anything after it, that's fine. The note will play to it's full extent, but it won't mess anything up. If your pickey, place 'STP' in place of the note/octave. This should stop the note,but I havn't have much luck with that. Let's say you have sixteenth notes in your song: to make a whole note, put down the note and leave 7 blank spaces after it. To make a quarter note, put down a note with 1 blank space. As you can see, I've doubled the distance between all notes, and with this, you may also need to half the tempo.

Usually, however, duration doesn't mean didly in SS. What is important is when each note starts since that is all that is really heard.

Shortcuts: INstead of typing in each note, octave, instrument, and effect, you can simply highlight the square you want to work on by clicking on it. Then, typing any number on the jeypad will set the octave, and any number on the top-number-row will set the instrument(apparently, 5 on the keypad and 5 on the keyboard are different!). Typing the keys between [G] and [:] on the keyboard will produce the notes C though A(unfortunately, I cannot get a B note to work). The letters on the row above will produce the sharp notes. Ex:

```

[Y][U]                                [C#][D#]
[G][H]                                [C ][D ]

```

Of course, all the OpenApple- commands work as well.

Cut and Paste is vital to a song writer. If you want to copy part of your song, take your little mousie, click and hold at the top part of your segment and drag the mouse all the way to the bottom part of your segment. You may also drag it across several rows. Now that it is all highlighted, release the mouse and select Cut or Copy(cut removes the piece and puts it into memory, copy copies the piece into memory). Now take the mousie and move it to the top corner of where you want your segment to end up and then select paste(or hit OpenApple-V). Voila, there it is.

You may notice Fade IN and Fade Out in the menu(OA+ and OA-). This is a really Kick-Butt item. I just found out how to use it tonight. All you do is select the area of the song(for example, the last block) and then select Fade Out or Fade IN.

## Apple II Computer Info

SS automatically calculates the variables needed for a nice, even fade in/out. Nice for ending songs with. I'm gonna use this one extensively!!

Change Sample. If, for some reason, you decide you hate the instrument you wrote your song in, select the portion of the song with the instrument (you can select whole rows, columns, and blocks by clicking on the heading), and go to change sample. Put simply, it's asking: You want me to change all the Instrument Number x to Instrument Number y. This is useful.

Set Octave. This is rather useful. Sometimes, you make a really great Drum Beat, and when you listen to it, you discover it sounds like your supper is attacking you from the inside because the octave is way too low. Select the area and then pick Change Octave from the Menu. This will set everything in the selected area to Octave x. A drawback of this is when you have multiple octaves such as B3 C4 D4, it will change them all to the same octave, such as B5 C5 D5 (which will produce 1 high note and 2 low notes instead of 3 low notes).

Never forget about the UNDO item. If you make a bad mistake (such as fading a part of a song you don't want to) go up and select Undo and it will undo it.

Another Warning: Never use Select All or anything that uses more than 64k. If you do something, such as change the octave of a whole song, the program will sit there for an unmeasured amount of time. Although this might work, I have never seen it work.

DOC. This is pretty neat. It shows exactly what memory specifically designated for your DOC (Digital Oscillator Chip (the sound chip!)) is used up by the instrument data.

Play and Graphic Play are used to listen to your music. Continue and Graphic Continue doesn't continue the song from where you stopped it, like I previously thought, it merely acts as a loop so it will play forever. Stop Sound stops it from playing. (You can do Continue and listen to the song while you're writing it. It'll play the notes after you add them.)

After you have a song all written out, go back to MUSIC in the Pull-down and make set the Total Positions to the greatest position+1. This will cause the song to end right after the last position. (+1 because Number of Positions starts with 1 and Position Number starts with 0). Clicking on the LOOP box will make the song start over after the last position.

### A few Hints:

To give your song a weird hollow type sound, copy all the tracks and fill up all 14 tracks with your music. I have done this in my song 'Drums.a.Plenty' in the 5th block (I think). Sounds spiffy.

Make your song fun to watch, as well as listen to. In my arrangement of 'Funky.Town', I improvised an ending. I made all 14 tracks light up in descending order for a super-freaky-neato wave effect. This is fun to watch, but boring to listen to.

The lower the octave of a note, the longer it gets. To make a long fuzzy sound, use C2 with the instrument 'BLAST(Axel.F)'. I have done this for the very last note in my song 'Drums.a.Plenty'.

If you're just starting out, I recommend adding a drum beat to a classic song such as 5th Symphony, Blue Danube or something. See my example of Pachelbel's Canon in D under the name 'New.Cannon'.

To give that BassDrum2 more bass, play 2 or 3 notes at the exact same time. Boom.

To improve overall sound, connect your GS to your Stereo. This is very simple to do and will cost you maybe \$8 at Radio Shack and will require no extra equipment, except some wires. I'm telling you, the sound is UNREAL! It'll get rid of that Internal Rattle and also wake the neighbors.

After writing and uploading the song, ask people to leave you mail. The amount of mail you receive (however minimal) will make you feel absolutely great! I know it kept me going!!

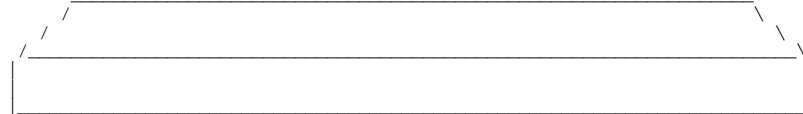
Hmm...don't you wonder what Beethoven, Bach, Brahms or any other great composer would have done with a GS and SoundSmith?????

Well, that concludes this lesson. If there are any questions at all, please, feel free to leave mail to me, Cappy, or AFA Gene (if he's in a good mood, he'll forward the message to me, otherwise, he'll revoke your password. hehe :-).

Mark Young (real name)  
aka  
Cappy (America Online)

aka  
Captain R/C (Local BBS's)

(Huibert Aalbers (Spelling?!)): I would like to help you write the manual for SoundSmith. If you are reading this, try and contact me. I am on America Online)





The effects are composed by an effect number and an effect value. They modify the way a note is played (except the set tempo effect which modifies the tempo for all the following notes).

At this time, the following effects have been defined:

```
Effect:0 = Arpeggiatto
Value: 0 = no Arpeggiatto    nm = Increment 1=n, Increment 2=m
3 = Set Volume              nm = New Volume (0-$FF)
5 = Decrease Volume         nm = Volume to subtract from Instrument Volume.
6 = Increase Volume         nm = Volume to add to Instrument Volume.
F = Set Tempo               nm = New tempo.
```

You can now start to compose by using the New Music File option from the File menu, but before you have to know the way SoundSmith plays the music. You can use up to 14 tracks simultaneously, and you can use any instrument in any track but you can only play one instrument at a time in one track. Lets see how this works with an example:

Track 00

```
00.  C#3  1000
01.  E3   2000
02.  ---   0000
03.  C#3  1000
04.  STP   0000
```

SoundSmith will first play line 00. This means that it will play a C#3 note using the first sample. Then it will play line 01. To do this, it will first stop to play the C#3 note and then play the E3 note, using the second sample. This means that if the first sample is long, you will not hear it completely. If you want to continue to play a note, you must do what I have done on line 02. You can repeat this many times if your sample is very long. The instrument will continue to be played until the end of the wave is reached or a new note is played. If you want to stop a note without having to play another one, you must enter a STP command instead of a note (line 04).

SoundSmith gives you total control over the stereo effects. There are two different ways to select on which channel a note will be played. The first one is used by all the IIgs music programs. Each instrument has a stereo parameter that indicates on which channel it will be played. To use this method you must select for each instrument on the Instrument data Window the stereo channel that you want to assign to that particular instrument. Then you must go to the Tracks option from the Information menu and click on the Use Instrument data button.

The other way to use the stereo is much more powerful. You assign a stereo channel to each track. This means that an instrument will play on the right or left channel depending on which track it is played. This is very interesting because it allows to create incredible effects. This option is activated by clicking on the Use Channel/Track data button on the Tracks dialogue box.

The Music option from the Information menu allows to set some important parameters like the length of the music, the tempo, etc. The length of the music is given in number of blocks. If the music is for example four blocks long, you must tell the program which four blocks to play. This is necessary because you may want to repeat some blocks. You can play blocks 0,1,2 and 3 or 0,1,0,1 or 2,4,6,8, etc. Imagine that you want to play the following sequence: 0,1,2,2. Set position to 0 and then block number to 0. Then set position to 1 and block number to 1. Repeat the same steps for positions 2 and 3, setting the block number to 2. On the Music data dialogue box there is also a check button. If you click on it, the music will loop.

The Preferences option from the Information menu lets you set some important parameters. The volume scroll bar sets the main volume (this is the same value that you set on the control panel). The Keyboard translation scroll bar is used to set the keyboard octave (if the keyboard translation is 2, the first note of the keyboard will be C2).

=====
DOCUMENT ssmith.ref
=====

## SoundSmith Reference:

SoundSmith is a program designed to create easily music for the IIgs and allow to include them in your programs.

The instruments used by SoundSmith must be standard ASIF instrument files (Electronic Art's Instant Synthesizer and Instant Music use this type of files) or PSWV instrument files (created with the french public domain program Poly-sons). I am writing a small utility program to convert sounds digitized with the Sonic Blaster or Future Sound card to ASIF instruments. It will be included in the SoundSmith package as soon as it is finished.

When SoundSmith is booted, the desktop appears with one open window. This window contains the list of the loaded instruments and four buttons to load/ remove instruments and save sound files (not music files). It is possible to load up to 15 instruments at once.

You can see how much memory is available by looking the size of the largest free block at the bottom of the window. However, this value does not represent always the size of the largest loadable instrument because the IIgs handles his DOC Memory in a very special way (that is why other music programs don't allow you to use more than four instruments at once, like Instant Music or don't allow you to choose your instruments like Music Studio to avoid problems). I cannot explain here how everything works but you can find more information in the Apple IIgs Hardware Reference. Using the DOC Memory option from the Information menu lets you see a map of the DOC Memory.

When an instrument has been loaded, two other windows appear. The first one gives you some information about the instrument selected in the instrument list. The vibrato speed and vibrato depth parameters are not used by SoundSmith (but the user may want to change the values of these parameters before saving a Music Studio sound file). The keyboard window allows to hear the selected instrument. In the next version of SoundSmith, playing on the keyboard while the music is running will record the notes.

The Open Music option of the File Menu allows you to load a music. After loading the instruments and the music, a new window will appear. This window should look familiar to everyone used to work with Appleworks GS spreadsheet.

You can edit the music by selecting any zone (clicking the mouse on the block number selects the whole block, on a line number selects a line, on a track number selects the track) and using the Cut, Paste, Copy and Clear commands. The selected zone can be extended by holding the Shift key down while pressing the mouse button. When a single case is hi-lighted, you can move around by using the arrow keys. These commands are identical to the ones used by AppleWorks GS to make them easy to learn.

To enter a new note, you can enter the values in the three editable boxes on the music window (a single case must be selected) and pressing RETURN or use the keyboard short-cuts:

To change the Octave press 1-7 on the numeric keypad.

To change the instrument press 1-F on the main keyboard.

To enter a note using the current instrument, effect and octave press:

```
G for C , Y for C#
H for D , U for D#
J for E
K for F , O for F#
L for G , P for G#
; for A , [ for A#
' for B
```

The sound file format buttons allow you to select the type of file that will be used when saving a sound file (not a music file !). When the sound file format is set to Music Studio, SoundSmith will save two files, a wavebank and a sound file. These files can be loaded by Music Studio. This allows to use new instruments with this popular program (even if I believe that SoundSmith is much better...).

The SoundSmith binary file has the following structure:

```

Number of instruments: 2 bytes
DOC Memory: 64k
Instrument Definition: 92 bytes * Number of instruments
    
```

The Play options from the Play menu does not need to be explained. When using the Graphic Player option you will see that you can move a cursor that looks like an electric guitar. Use it to select the active tracks and the ones that are displayed on the screen. Attention, since no more than four tracks can be displayed at once, you must first unselect a track to be able to select another one. The Continue and Graphic Continue options use the value of the Position scroll bar (on the music data dialogue box) to know where to start to play the music.

Now, I think that this should help you to understand how SoundSmith works and how to compose music. I am really sorry for my bad english but I am doing my best. This manual covers all the important functions of this program but I know that some points could have been better explained. However, since I had to send you this manual, I could not spend more time on it. I will rewrite it and include it on the next version of SoundSmith.

```

=====
DOCUMENT standing.stones
=====
    
```

```

*==*==*==*==*==*==*==*==*==*==*==*==*==*
*
*      THE STANDING STONES DOCS      *
*
*              BY                      *
*
*              THE PENGUIN            *
*
*              WRITTEN FOR            *
*
* THE SOUTH POLE   [312] 677-7140    *
* THE SAFEHOUSE   [612] 724-7066    *
* THE OUTPOST     [312] 441-6957    *
*
*==*==*==*==*==*==*==*==*==*==*
    
```

CREATING A NEW KNIGHT

The five traits - virility, intellect, holiness, agility, and initial hits - describe a basic character. They signify as follows:

**VIRILITY:**  
fighting strength, ability to carry gold and perform tasks that require strength

**INTELLECT:**  
effectiveness in casting magical spells and performing other magic.

**HOLINESS:**  
your ability to use clerical spells for such matters as examining objects that are unrecognizable.

**AGILITY:**  
quickness and cleverness in getting out of the way of danger, skill at picking locks and other actions that require nimble feet and fingers.

**INITIAL HITS:**  
your life index. As you are injured, your hit index declines until it hits 0. At 0 you will die. These points can be restored by finding your way out of the dungeon or using spells.

COMMANDS USED WHILE EXPLORING

**D)rop:**  
Allows you to drop anything you do not want or need. Most things will stay where you dropped them except for gold, which everyone knows, will most likely be taken by monsters and others that inhabit the dungeon.

**E)nd and save game:**  
If you wish to end the game at any point in the dungeon, do so with this feature. Note: If the machine is turned off your knight will perish. Perished knights may be reincarnated but at a heavy cost in gold, magic and experience points. Make sure to end the game with this command and not the "OFF" switch!

**R)est:**  
Allows your knight to breathe easy for a while, to recover from temporary blindness or the like. Beware though, monsters do not rest and will still attack you if you are resting.

## T)hrow a spell:

This command allows you to use a magic spell, whether it be in combat or just travelling along. If there is any doubt of what spells you have at your disposal, press [RETURN] to see what spells you can use, then T)hrow the correct one.

## U)se a scroll or potion:

This command allows you to use any magical items that you possess. Such items may be used but once and if the magic they have is not used before you come up from the dungeon, it will vanish uselessly.

## MOTION COMMANDS

-----  
I - move forward  
J - turn left  
K - turn right  
L - turn around

[CONTROL] Combines with any of the above keys will move you through a door. Be certain to use this command to go through doors; otherwise you will hit your nose on the wood and weaken you a small amount. You can test for hidden doors by using this command on what seem to be walls.

## COMMANDS WHEN ENCOUNTERED BY MONSTERS

-----  
[ESC]:  
Reminds you of the commands at your disposal.

## G)reet:

This command shows the monsters that you are friendly and do not want to fight. It's similar to waving or smiling. A small gift also may help to avoid an encounter.

## B)ribe:

Monster may be bribed with gold or magical items (potions, scrolls...). Monsters on the higher (upper) levels usually are satisfied with gold, but as you trek deeper into the dungeon, the monsters demand more.

## F)ight:

When greetings or bribes fail you must fight. Be victorious!!

You have one more option at your disposal and that is to try and run. Since you cannot run forward (the monster is blocking your path) you must turn around or left or right.

## COMBAT SPELLS

-----

Remember, spells may kill an entire group of monsters or do sufficient damage to easily kill them with a swordstroke, but some spells can also backfire.

## 1) Fireburst and 2) Lightning Bolt:

These spells inflict damage in proportion to your experience points. The fireball is rather potent but can be used but once during a single adventure trip. Lightning Bolts are weaker than firebursts but may be used whenever magic spells are available to you. Beware: these bolts have a good chance of backfiring! The more experienced you are, the less chance there is of the spell backfiring.

3) Sleep, 4) Kitchen Sink, 5) Charm, 6) Flaming Arrow, 7) Light Candle, 8) Pray, 9) Hold, 10) Dispell, and 11) Datspell:

Each of these spells inflict varying amounts of damage depending on the nature of the enemy.

## PEACEFUL SPELLS

-----

## P)asswall:

allows you to pass a wall in front of you, but be careful: if there is not a corridor or room beyond the wall, you will be embedded in solid rock!

## L)ight:

This spell cures blindness. The more severe the blinding, the more L)ight spells will need to be cast before you are cured.

## S)trength:

This spell temporarily increases your strength. This can be good for carrying more gold or fighting better.

## I)nvisibility:

This spell allows you to make yourself invisible to most monsters. Eventually this spell wears off. More than one may be cast if longer I)nvisibility is desired.

## C)ure Paralysis:

This spell makes your limbs healthy again.

## H)eal wounds:

Restores some of your hit points each time this spell is used.

## D)ivine Guidance:

Similar to praying. When this spell is invoked, the gods may help you or they may not.

## N)eutralize Poison:

Removes the effects of poison.

## T)eleport:

This spell will transport you from any one location on a level to another. Tell the gods exactly where you wish to go. Make sure you do not teleport into a stone wall.

## J)ump Plane:

Allows you to move up or down through levels in the dungeon. You are placed randomly on the new level. Also there is a 10% chance that this spell will put you where you do not want to go.

## E)therealness:

With this spell you can move through walls and monsters cannot find you. Unfortunately you cannot carry any gold with you. And it wears off gradually.

## B)less:

If this spell is successful, you are given the blessing of the gods for a short period of time. With the blessing, you are harder to hurt and more powerful.

## MAGICAL OBJECTS

-----

## Potions:

Potions can perform a variety of actions such as curing poison or imparting strength. You have the option to taste it first. The effects of the liquids wear off gradually, so don't place too much faith in their long-range power.

## Scrolls:

Scrolls allow you to cast spells during the dungeon trip in which they

are used.

Chests:

Though a chest is not magical itself, it is almost always protected by magic. Chests should be ransacked for their gold and other magical items.

Books:

Books are rare but they have the incredible ability to change your basic characteristics or may give you experience points. Books cannot be carried. They must be used or not. If you do find one and not decide to use it, it will stay where it's at unless some other adventurer finds it. Books may be used but once.

Rings:

You can only wear 2 rings at once. If a third ring is found and you wish to pick it up, one of the other rings must be Dropped. Rings bring many things.

Helmets and Shields:

These are always lucky finds, for they are never cursed and always protect the wearer.

Swords and Armor:

These can help you in attacking monsters and defending yourself, but if they are cursed they shall weaken you sorely. Cursed items may not be dropped but they may be exorcised at an Oasis. No expense should be spared in removing a cursed item from yourself. Be alert for the famous sword Excalibur and the wondrous Mithril Armor. They would be lucky finds for your quest.

OASES

-----

Oases are refuges for weary knights. Here you can heal your wounds without using precious spells (very costly) or you may decide to participate in a game of chance or bet on some races.

EXORCISING A CURSED WEAPON

-----

Whatever the price is, a weapon that is cursed should be exorcised at any price. Exorcising is also done at an Oasis.

THE GOAL: THE GRAIL

-----

Your ultimate goal is to discover the Grail that the evil Kormath has stolen.

DUNGEON MASTER OPTIONS

-----

From the main menu, choose P)lay the Dungeon Master and observe your choices:

C)lean Up the Knight File:  
Allows you to remove unwanted characters.

R)e-initialize the Dungeon:  
Completely clean the labyrinth and redistribute magic and monsters as it cleans.

E)dit Password:  
Allows the Dungeon Master to keep his/her own password safe from prying eyes.

P)urge Old Messages:

destroy all old notes that are scattered about the labyrinth which are not addressed to living characters.

\*\*\* NOTE \*\*\* TAKE SPECIAL CARE NOT TO ELIMINATE A KNIGHT CARRYING THE GRAIL. IF THIS HAPPENS THE GRAIL WILL BE LOST COMPLETELY. REINITIALIZING THE DUNGEON WILL BE THE ONLY RECOURSE.

OTHER OPTIONS

-----

From the main menu:

L)ist all the characters:  
useful for recalling who exists and how many experience points each knight has required. Hall of Fame members will be displayed in inverse video. The list may contain up to 16 knights at once.

D)isplay the Hall of Fame:  
Shows Kormath's Hall of Fame, containing all who have successfully retrieved the Grail.

FROM THE SPECIAL OPTIONS MENU

-----

Before you enter the dungeon, certain things can be changed:

R)ename:  
change your character's name

U)update password:  
re-disguise your password.

E)xtterminate:  
If the shame of failure has overwhelmed you, you may remove your character here.

S)ound:  
toggle on/off, either play in silence or with the pleasure of hearing groans and wails.

C)ontinuous Update:  
toggle on/off; unless you wish to venture forth in ignorance of your condition, do not use this option.

K)ey:  
changes the I-J-K-M cluster to the W-A-S-Z cluster.

-----  
DON'T FORGET---> THE SOUTH POLE

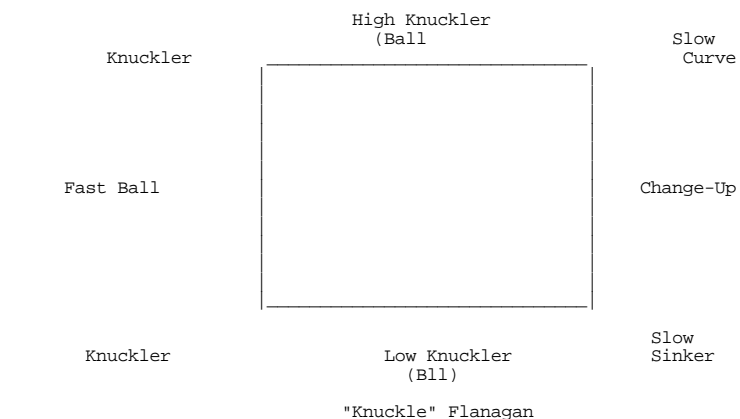
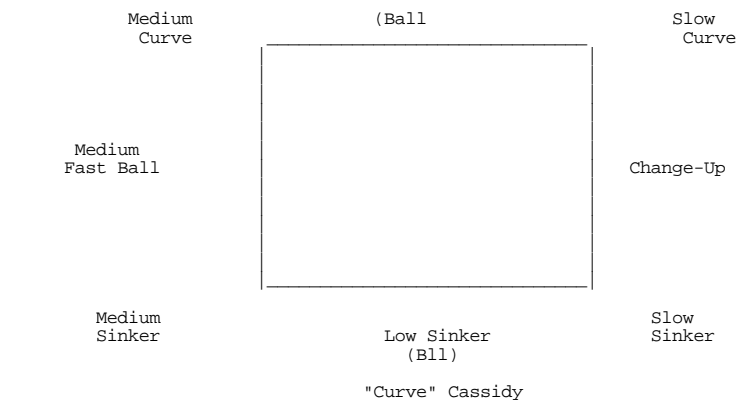
-----  
STANDING STONES BY ELECTRONIC ARTS

-----  
WRITTEN BY P. SCHMUCKAL & DAN SOMMERS

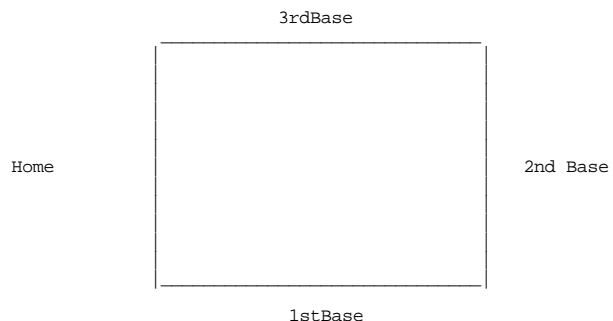
-----  
MORE SOFTDOCS SOON FROM THE PENGUIN!

-----  
THE PENGUIN  
-----





4. To get out of PITCHING MODE to pick off a runner, just RELEASE Button #0 BEFORE moving the joystick. You can then throw to any base as follows:



5. Press button #0 TWICE to return the ball to the pitcher from any

player. Press Button #0 TWICE again to go back into PITCHING MODE. The pitcher will now bend over and look to the catcher for a sign. YOU MUST BE IN THE PITCHING MODE FOR A NEW BATTER TO COME UP AFTER A HIT OR AN OUT.

Batting

-----

1. Press an HOLD Button #0 on the joystick right BEFORE the pitch is thrown to BUNT Release the Button BEFORE the ball reaches the plate to "take" the pitch - if you try to bunt and miss, it's a strike.

2. Press the red button AFTER the pitch is thrown to SWING AWAY

\*Note\*

The joystick is used for all functions when playing against the computer. When playing against another person, the joystick is used for fielding and pitching only. Batting and base running are controlled by the keyboard. Players should alternate between keyboard and joystick depending upon whom is at bat.

| KEY   | FUNCION     |
|-------|-------------|
| ---   | -----       |
| X     | Swing       |
| Z     | Stop Swing  |
| ->    | Run ahead   |
| <-    | Run back    |
| Space | Stop Runner |

Running

-----

1. Once the ball is hit fair, the batter automatically runs to 1st base.

2. To move him AHEAD, push and hold the joystick to the LEFT. To STOP the runner on or between bases, return the joystick to the CENTER position (just release it).

3. If there are runners on base, you control the LEAD runner; the other runners will run automatically if forced. As soon as your LEAD runner scores or is put out, control QUICKLY shifts to the next LEAD runner. Don't daydream or your new LEAD runner may wander off base and be tagged out.

Fielding

-----

1. After the ball is hit FOUL or a HOMERUN is hit, the ball is returned to the catcher. You must throw it back to the pitcher (Press Button#0 twice) and go into the PITCHING MODE (Press button again TWICE to continue pitching).

2. When the ball is hit FAIR, the player nearest the ball's PATH becomes eligible to field it.

3. Use the joystick to move your eigible fielder to the ball.

4. A ball with a shadow is a FLY ball; a ball without a shadow is a GROUNDER. FLY balls can be CAUGHT for an out; GROUNDERS require you to take some action to force an out (throw to base, tag runner, etc.).

5. To catch a FLY ball, keep your eye on the ball's SHADOW. As the ball descends. position you outfielder so he'll collide with the ball's SHADOW. If you miss the ball, move your fielder to pick it up.

Throwing



=====
   
DOCUMENT star.thief
   
=====

```

+++:+:++:++:++:++:++:++:++:++:++:++:++
+++          STAR THIEF          +++
+++:+:++:++:++:++:++:++:++:++:++:++
    
```

=====
   
:MOVING:
   
=====

RIGHT TURN - F
   
LEFT TURN - D
   
THRUST - LEFT ARROW

=====
   
:MISC:
   
=====

FIRING - RIGHT ARROW
   
START OVER - ESC
   
INVERSE - CTRL/C
   
STOP ACTION - CONTROL/R
   
HITTING ESC TWICE SHOULD REBOOT DISK.

ALSO USES PADDLES.

=====
   
DOCUMENT star.warrior
   
=====

You have a choice of two missions, diversion or assault. In the diversion scenario you attack units for a specified time period and then exit the map to the south at recall. In the assault scenario you must locate and destroy your objective. At present, I don't know how to end this scenario.

You also may select one of three standard suits or have one made up to order. For a custom suit, you are given a certain number of points and each option costs a varying number of points. The leftover points are used for powering the suit.

\*-----\*
   
\*STAR WARRIOR COMMANDS\*
   
\*-----\*

TABLE 1: MOVEMENT COMMANDS

| WHAT TO ENTER | MEANING                              |
|---------------|--------------------------------------|
| 0-9           | MOVE FORWARD ON GROUND 0 TO 9 SPACES |
| J             | JUMP FORWARD OVER SOMETHING          |
| T             | TAKE OFF/ LAND                       |
| R             | TURN RIGHT 45 DEGREES                |
| L             | TURN LEFT 45 DEGREES                 |
| V             | TURN AROUND (ABOUT-FACE) 180 DEGREES |

TABLE 2: COMBAT COMMANDS

| WHAT TO ENTER         | MEANING                                |
|-----------------------|----------------------------------------|
| M + DIRECTION + RANGE | LAUNCH MISSILE                         |
| F                     | FIRE POWERGUN                          |
| P                     | SET POWERGUN (1-9)                     |
| B                     | FIRE BLASTER                           |
| S                     | FORCE SHIELD ON/OFF (LOW POWER)        |
| X                     | FORCE SHIELD ON, EXTRA POWER/LOW POWER |

TABLE 3: SPECIAL COMMANDS

| WHAT TO ENTER | MEANING                                                                                                             |
|---------------|---------------------------------------------------------------------------------------------------------------------|
| I             | INFRAVISIBILITY ON/OFF ONLY WITH NINJA SUIT)                                                                        |
| D             | RELEASE DECOY (ONLY WITH MARAUDER SUIT)                                                                             |
| H             | HIDE                                                                                                                |
| E             | ACTIVATE RADAR (EMISSIONS SENSOR)                                                                                   |
| C             | CHECK SYSTEM STATUS                                                                                                 |
| A             | ACTIVATE REPAIR SYSTEM                                                                                              |
| W             | CHECK SCORE                                                                                                         |
| O             | OBJECTIVE? (EITHER DIRECTION TO OBJECTIVE FOR ASSULT MISSION OR NATURE OF INSTALLATION, I.E. CIVILIAN OR MILITARY.) |



=====
   
DOCUMENT stevie.doc
   
=====

STEVIE - Simply Try this Editor for VI Enthusiasts

Quick Reference Card

by

Tony Andrews And G. R. (Fred) Walter

STEVIE may be freely distributed. The source isn't copyrighted or restricted in any way. If you pass the program along, please include all the documentation and, if practical, the source as well.

STEVIE used to stand for 'ST Editor for VI Enthusiasts', however since this editor is used on more machines than just ST's the acronym was changed.

Starting the Editor

The following command line forms are supported:

- vi [file ...]               Edit the specified file(s)
- vi -t tag                    Start at location of the given tag
- vi + file                    Edit file starting at end
- vi +n file                   Edit file starting a line number 'n'
- vi +/pat file                Edit file starting at pattern 'pat'

If multiple files are given on the command line (using the first form), the ":n" command goes to the next file, "p" goes backward in the list, and ":rew" can be used to rewind back to the start of the file list.

Set Command Options

The ":set" command works as usual to set parameters. Each parameter has a long and an abbreviated name, either of which may be used. Boolean parameters are set as in:

set showmatch

or cleared by:

set noshowmatch

Numeric parameters are set as in:

set scroll=5

Several parameters may be set with a single command:

set novb sm report=1

To see the status of all parameters use ":set all". Typing ":set" with no arguments will show only those parameters that have been changed. The supported parameters, their names, defaults, and descriptions are shown below:

| Full Name | Short | Default | Description                             |
|-----------|-------|---------|-----------------------------------------|
| vbell     | vb    | vb      | Use visual bell (novb for audible bell) |

|            |        |        |                                          |
|------------|--------|--------|------------------------------------------|
| showmatch  | sm     | nosm   | Showmatch mode                           |
| wrapscan   | ws     | ws     | Wrapscan (searches cross file start/end) |
| errorbells | eb     | noeb   | Ring bell when error messages are shown  |
| showmode   | mo     | nomo   | Show on status line when in insert mode  |
| backup     | bk     | nobk   | Leave backup in *.bak on file writes     |
| return     | cr     | cr     | End lines with cr-lf when writing        |
| list       | list   | nolist | Show tabs and newlines graphically       |
| autoindent | ai     | noai   | Start new line at same col as prior line |
| ignorecase | ic     | noic   | Ignore case in search strings            |
| number     | nu     | nonu   | Display lines with their line numbers    |
| scroll     | scroll | 12     | Number of lines to scroll for ^D and ^U  |
| tabstop    | ts     | 8      | Number of spaces in a tab                |
| report     | report | 5      | Min # of lines to report operations on   |
| lines      | lines  | 25     | Number of lines on the screen            |

The EXINIT environment variable can be used to modify the default values on startup as in:

setenv EXINIT="set sm ts=4"

The 'backup' parameter, if set, causes the editor to retain a backup of any files that are written. During file writes, a backup is always kept for safety until the write is completed. At that point, the 'backup' parameter determines whether the backup file is deleted.

In environments (e.g. OS/2 or TOS) where lines are normally terminated by CR-LF, the 'return' parameter allows files to be written with only a LF terminator (if the parameter is cleared).

The 'lines' parameter tells the editor how many lines there are on the screen. This is useful on systems like the ST where various screen resolutions may be used. By using the 'lines' parameter, different screen sizes can be easily handled. On the Amiga system window resizes are automatically detected and acted upon. It is suggested that one's window be larger than 2 rows and 5 columns.

Colon Commands

Several of the normal 'vi' colon commands are supported by STEVIE. Some commands may be preceded by a line range specification. For commands that accept a range of lines, the following address forms are supported:

- addr
- addr + number
- addr - number

where 'addr' may be one of the following:

- a line number
- a mark (as in 'a' or 'b')
- % (entire file)
- . (the current line)
- \$ (the last line)

The Global Command

A limited form of the global command is supported, accepting the following command form:

g/pattern/X

where X may be either 'd' or 'p' to delete or print lines that match the given pattern. If a line range is given, only those lines are checked for a match with the pattern. If no range is given, all lines are checked.

If the trailing command character is omitted, 'p' is assumed. In this case, the

trailing slash is also optional. The current version of the editor does not support the undo operation following the deletion of lines with the global command.

## The Substitute Command

The substitute command provides a powerful mechanism for making more complex substitutions than can be done directly from visual mode. The general form of the command is:

```
s/pattern/replacement/g
```

Each line in the given range (or the current line, if no range was given) is scanned for the given regular expression. When found, the string that matched the pattern is replaced with the given replacement string. If the replacement string is null, each matching pattern string is deleted.

The trailing 'g' is optional and, if present, indicates that multiple occurrences of 'pattern' on a line should all be replaced.

Some special sequences are recognized in the replacement string. The ampersand character is replaced by the entire pattern that was matched. For example, the following command could be used to put all occurrences of 'foo' or 'bar' within double quotes:

```
1,$s/foo|bar/&/g
```

The special sequence "\n" where 'n' is a digit from 1 to 9, is replaced by the string the matched the corresponding parenthesized expression in the pattern. The following command could be used to swap the first two parameters in calls to the C function "foo":

```
1,$s/foo\(((^,]*)\),([,]*)/,foo(\2,\1)/g
```

Like the global command, substitutions can't be undone with this version of the editor.

## The Delete Command

```
:[range]d will delete the range of lines.
```

## File Manipulation Commands

```
:w          write the current file
:wq         write and quit
:x          write (if necessary) and quit
ZZ         same as ":x"

:e file     edit the named file
:e!        re-edit the current file, discarding any changes
:e #       edit the alternate file

:w file     write the buffer to the named file
:x,y w file write lines x through y to the named file
:r file     read the named file into the buffer

:n          edit the next file
:p          edit the previous file
:rew       rewind the file list

:f          show the current file name
:f name    change the current file name

:ta tag    go to the named tag
^]        like ":ta" using the current word as the tag
```

```
:help      display a command summary
```

```
!:cmd      execute the 'cmd' via a system() call
```

The ":help" command can also be invoke with the <HELP> key on the Atari ST or the Amiga. This actually displays a pretty complete summary of the real vi with unsupported features indicated appropriately.

The commands above work pretty much like they do in 'vi'. Most of the commands support a '!' suffix (if appropriate) to discard any pending changes.

## String Searches

String searches are supported, as in vi, accepting the usual regular expression syntax. This was done using Henry Spencer's regular expression library without modification. Tony Andrews added code outside the library to support the '<' and '>' extensions and code inside the library to support the ignorecase option.

## Operators

The vi operators (d, c, y, <, and >) work as true operators.

## Tags

Tags are implemented.

## System-Specific Comments

The following sections provide additional relevant information for the systems to which STEVIE has been ported.

### Atari ST

The editor has been tested in all three resolutions, although low and high res. are less tested than medium. The 50-line high res. mode can be used by setting the 'lines' parameter to 50. Alternatively, the environment variable 'LINES' can be set. The editor doesn't actively set the number of lines on the screen. It just operates using the number of lines it was told.

The arrow keys, as well as the <INSERT>, <HELP>, and <UNDO> keys are all mapped appropriately.

### UNIX

The editor has been ported to UNIX System V release 3. It's hard-coded for ansi-style escape sequences and doesn't use the termcap/terminfo routines at all.

### OS9

The editor has been ported to OS9 version 2.2.

### OS/2

Make sure 'ansi' mode is on (using the 'ansi' command). The OS/2 console driver doesn't support insert/delete line, so STEVIE

bypasses the driver and makes the appropriate system calls directly. This is all done in the system-specific part of the editor so the kludge is at least localized.

The arrow keys, page up/down and home/end all do what you'd expect. The function keys are hard-coded to some useful macros until I can get true support for macros into the editor. The current mappings are:

```
F1      :p <RETURN>
F2      :n <RETURN>
F3      :e # <RETURN>
F4      :rew <RETURN>
F5      [[
F6      ]]
F7      <<
F8      >>
F9      :x <RETURN>
F10     :help <RETURN>
```

```
S-F1    :p! <RETURN>
S-F2    :n! <RETURN>
```

MSDOS  
-----

STEVIE has been ported to MSDOS 3.3 on an AT using the Microsoft C compiler, version 5.10. The keyboard mappings are the same as for OS/2. The only problem with the PC version is that the inefficiency of the screen update code becomes painfully apparent on slower machines.

BSD 4.3  
-----

This port was done so it could be worked on in a main-frame environment.

Amiga  
-----

The arrow keys and the help key are supported, as is window re-sizing. It is strongly suggested that you not try to type in console commands (alt-esc in some keymaps, plus the appropriate other keys) since STEVIE captures all console input. If you do type alt-esc then typing '|' will return you to STEVIE. If you have ARP installed, then you can use wildcards on the command line, in the :e command and in the :r command. If you 'run stevie' it will first attempt to open a window that is 640x200; if this doesn't work then it tries to open a window that is 480x200; if this fails it gives up. NOTE: that you can't use !:cmd on BCPL programs.

Missing Features  
-----

1. Macros with support for function keys.
2. More "set" options.
3. Many others...

Known Bugs and Problems  
-----

1. The yank buffer uses statically allocated memory, so yanks of more than 5K of text will fail. If a delete spans more than 5K, the program asks for confirmation before proceeding. That way, if you were moving text, you don't get screwed by the limited yank buffer. You just have to move smaller chunks at a time. All the internal buffers (yank, redo, etc.) need to be reworked to allocate memory dynamically.

2. If you stay in insert mode for a long time (around 5K's worth of characters, including newlines) the insert buffer can overflow. When this happens you lose your ability to automatically undo the text just inserted and the redo/undo/(undo of undo) buffers are reset to the current position.
3. Several other less bothersome glitches...

Character Function Summary  
-----

The following list describes the meaning of each character that's used by the editor. In some cases characters have meaning in both command and insert mode; these are all described.

- ^@ The null character. Not used in any mode. This character may not be present in the file, as is the case with vi.
- ^B Backward one screen.
- ^D Scroll the window down one half screen.
- ^E Scroll the screen up one line.
- ^F Forward one screen.
- ^G Same as ":f" command. Displays file information.
- ^H (BS) Moves cursor left one space in command mode. In insert mode, erases the last character typed.
- ^J Move the cursor down one line.
- ^L Clear and redraw the screen.
- ^M (CR) Move to the first non-white character in the next line. In insert mode, a carriage return opens a new line for input.
- ^N Move the cursor down a line.
- ^P Move the cursor up a line.
- ^U Scroll the window up one half screen.
- ^V Indicates that the next character is should be treated as entered and not modified (used to enter control characters, etc.).
- ^Y Scroll the screen down one line.
- ^[ Escape cancels a pending command in command mode, and is used to terminate insert mode.
- ^] Moves to the tag whose name is given by the word in which the cursor resides.
- ^` Same as ":e #" if supported (system-dependent).
- SPACE Move the cursor right on column.
- \$ Move to the end of the current line.
- % If the cursor rests on a paren '()', brace '{}', or bracket '[]', move to the matching one.
- ' Used to move the cursor to a previously marked position, as in 'a or 'b. The cursor moves to the start of the marked line. The special mark '' refers to the "previous context".

|     |                                                                                                                                                                   |    |                                                                                                                                                                                                                                       |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| +   | Same as carriage return, in command mode.                                                                                                                         | ]] | Move forward one C function.                                                                                                                                                                                                          |
| ,   | Reverse of the last t, T, f, or F command.                                                                                                                        | ^  | Move to the first non-white on the current line.                                                                                                                                                                                      |
| -   | Move to the first non-white character in the previous line.                                                                                                       | `  | Move to the given mark, as with '. The distinction between the two commands is important when used with operators. I support the difference correctly. If you don't know what I'm talking about, don't worry, it won't matter to you. |
| .   | Repeat the last edit command.                                                                                                                                     | ~  | Switch case of character under cursor.                                                                                                                                                                                                |
| /   | Start of a forward string search command. String searches may be optionally terminated with a closing slash. To search for a slash use '\/' in the search string. | a  | Append text after the cursor.                                                                                                                                                                                                         |
| 0   | Move to the start of the current line. Also used within counts.                                                                                                   | b  | Back one word.                                                                                                                                                                                                                        |
| 1-9 | Used to add 'count' prefixes to commands.                                                                                                                         | c  | The change operator.                                                                                                                                                                                                                  |
| :   | Prefix character for "ex" commands.                                                                                                                               | d  | The delete operator.                                                                                                                                                                                                                  |
| ;   | Repeat last t, T, f, or F command.                                                                                                                                | e  | Move to the end of a word.                                                                                                                                                                                                            |
| <   | The 'left shift' operator.                                                                                                                                        | f  | Find a character on the current line.                                                                                                                                                                                                 |
| >   | The 'right shift' operator.                                                                                                                                       | h  | Move left one column.                                                                                                                                                                                                                 |
| ?   | Same as '/', but search backward.                                                                                                                                 | i  | Insert text before the cursor.                                                                                                                                                                                                        |
| A   | Append at the end of the current line.                                                                                                                            | j  | Move down one line.                                                                                                                                                                                                                   |
| B   | Backward one blank-delimited word.                                                                                                                                | k  | Move up one line.                                                                                                                                                                                                                     |
| C   | Change the rest of the current line.                                                                                                                              | l  | Move right one column.                                                                                                                                                                                                                |
| D   | Delete the rest of the current line.                                                                                                                              | m  | Set a mark at the current position (e.g. ma or mb).                                                                                                                                                                                   |
| E   | End of the end of a blank-delimited word.                                                                                                                         | n  | Repeat the last string search.                                                                                                                                                                                                        |
| F   | Find a character backward on the current line.                                                                                                                    | o  | Open a new line and start inserting text.                                                                                                                                                                                             |
| G   | Go to the given line number (end of file, by default).                                                                                                            | p  | Put the yank/delete buffer after the cursor.                                                                                                                                                                                          |
| H   | Move to the first non-white char. on the top screen line.                                                                                                         | r  | Replace a character.                                                                                                                                                                                                                  |
| I   | Insert before the first non-white char. on the current line.                                                                                                      | s  | Replace characters.                                                                                                                                                                                                                   |
| J   | Join two lines.                                                                                                                                                   | t  | Move forward 'upto' the given character on the current line.                                                                                                                                                                          |
| L   | Move to the first non-white char. on the bottom screen line.                                                                                                      | u  | Undo the last edit.                                                                                                                                                                                                                   |
| M   | Move to the first non-white char. on the middle screen line.                                                                                                      | w  | Move forward one word.                                                                                                                                                                                                                |
| N   | Reverse the last string search.                                                                                                                                   | x  | Delete the character under the cursor.                                                                                                                                                                                                |
| O   | Open a new line above the current line, and start inserting.                                                                                                      | y  | The yank operator.                                                                                                                                                                                                                    |
| P   | Put the yank/delete buffer before the current cursor position.                                                                                                    | z  | Redraw the screen with the current line at the top (zRETURN), the middle (z.), or the bottom (z-).                                                                                                                                    |
| T   | Reverse search 'upto' the given character. | \| | Move to the column given by the preceding count.                                                                                                                                                                                      |
| W   | Move forward one blank-delimited word.                                                                                                                            |    |                                                                                                                                                                                                                                       |
| X   | Delete one character before the cursor.                                                                                                                           |    |                                                                                                                                                                                                                                       |
| Y   | Yank the current line. Same as 'yy'.                                                                                                                              |    |                                                                                                                                                                                                                                       |
| ZZ  | Exit from the editor, saving changes if necessary.                                                                                                                |    |                                                                                                                                                                                                                                       |
| []  | Move backward one C function.                                                                                                                                     |    |                                                                                                                                                                                                                                       |

normal-DOS disk in your drive. Beagle Menu will take over your Apple, first scanning the catalog and then displaying certain files for menu display and execution. BEAGLE MENU WILL PROBABLY NOT WORK IF YOU HAVE NON-STANDARD DOS IN MEMORY. To get standard DOS in memory, boot a normal disk like Beagle Bag or the System Master.

PROGRAM LINE 100 determines which file names will be displayed in the menu. Load Beagle Menu by typing "LOAD BEAGLE MENU" (return). Then type "LIST 100" (return). You might see-

```
100 S=1: B=0: A=1: T=0: U=0
```

S,B,A,I,T and U stand for Sector-numbers and Binary, Applesoft, Integer, Text and Unlocked files. The number 1 means DISPLAY that file-type; a value of 0 (zero) means DON'T DISPLAY it. In the example above, Sector-numbers to the left of each file name WILL be displayed (S=1); Applesoft files WILL be displayed (A=1); Binary, Integer and Text files will NOT be displayed (B=0, I=0 and T=0), and Unlocked files will NOT be displayed (U=0). For almost ALL practical purposes, you should LEAVE VARIABLES B AND T SET EQUAL TO ZERO.

Change Line 100 to fit your needs, and SAVE the program before you run it by typing "SAVE BEAGLE MENU" (return). Of course, if you want, save it under the name "HELLO" or "N" or even "VISI CALC"; I don't care. "N" is nice, because you can simply type "RUNN" to run it. There is a handy program called "Master Create" (on your System Master disk) that you can BRUN to change the name of a disk's "Greeting Program", the program that automatically runs when you boot that disk.

When Beagle Menu is Run, it will first "read" the disk that is in the drive and then "catalog" it. If and when the screen is full (every 20 names), the program will "take a picture" of that "page" and store it in memory, then proceed to the next page of 20 file names.

You will then see Page 1 on the screen with an inverse "cursor" to the left of the top file name. To move the cursor, use the Left and Right Arrow keys. If you move the cursor beyond the first or last file name on the screen, Beagle Menu will look for another page to display. Play with it and you'll see what I mean.

Pressing Return will execute the program at the cursor. Applesoft or Integer files at the cursor will be RUN; Text files will be EXEC'd (probably inappropriate from a menu program, come to think of it.); and Binary files will be BRUN. You must remember (or learn now) that many Binary files are NOT MEANT to be BRUN, but BLOADED instead. If your BRUN a stored picture-file, for example, you will "crash" into the monitor, giving you an asterisk-prompt and a flashing cursor.

Typing "L" will LOAD an Applesoft or Integer file (wiping out Beagle Menu, of course), or BLOAD a Binary file. A BLOAD won't necessarily be obvious; for example, BLOADING a hi-res picture won't SHOW you the picture, it will just load it into memory. But then that's another subject.

Typing "H" will display the HELP Page. "Help" pretty much explains the rest of Beagle Menu's functions, so I won't cover them here.

In response to the comments I have had so far on this

```
=====
DOCUMENT t.beagle.bag
=====
```

BEAGLE BAG INSTRUCTIONS

GENERAL INFORMATION

Beagle Bag is a disk full of games for your Apple computer. You may be surprised to find that it is a NORMAL DISK, just like ones you have initialized yourself. Most other game disks on the market are "locked up" and won't respond to everyday DOS commands. Not Beagle Bag - you can CATALOG it, LOAD from it, SAVE to it, DELETE and RENAME programs...ALL that good stuff. Even ctrl-Reset works "normally" (almost) instead of causing a memory-scrambling reboot. Most software manufacturers lock their disks to (try to) prevent piracy. Beagle Bros trusts you and leaves programs unlocked to make them more friendly and more usable. We appreciate your support; don't pirate our disks, and we won't pirate yours.

The first thing you should do with Beagle Bag is BACK THE DISK UP using one of the "Copy" Programs from your System Master disk (or any other Apple copy program). Store the copy or master in a safe place, away from prying magnetic fields.

If you're not using one of the two Menu programs on the disk, you can RUN a Beagle Bag game just like any other Applesoft program- Type "RUN" followed by the program name and hit Return. ENDING programs follows standard procedures too- type CTRL-C (sometimes ctrl-C/Return) or hit ctrl-RESET. You will usually be given the option of re-running the program or returning to Short Menu.

SHORT MENU

BOOTING\* the Beagle Bag disk is a good idea, because it installs Apple's normal Disk Operating System in your Apple and runs "Short Menu", a streamlined version of the more all-purpose "Beagle Menu" (see next page). After Short Menu displays the game names, use the Arrow keys to move the flashing cursors to the game you want. Hit Return to run the game or Esc to quit the Menu. Selecting the "(Catalog Disk)" option does just what it says. Some Beagle Bag games don't appear in the Menu, but will be seen in the catalog.

You may adapt Short Menu to any normal disk. Type your applesoft (and integer) program names, 16 maximum, separated by commas, into a Data statement similar to Short Menu's last program line (which you must DELETE). END YOUR DATA STATEMENT WITH A COMMA, and SAVE your new menu BEFORE you run it. If you are having problems, you may want to temporarily delete the "Onerr Goto" command near the start of the listing.

\*If you're new around here- to "boot" a disk, type "PR#6" and hit Return. If this fails, turn the power off, insert the disk in the drive, and power-up again.

BEAGLE MENU

The Beagle Bag disk contains a multi-purpose program called "Beagle Menu" that will display only the file names you want in a text screen menu. Go ahead and run it with any

program-

Q. Why don't you display Free Sectors all of the time?  
 A. Because free sectors are a fact you don't usually need to know when you are running a menu program. The less information on the screen, the better, especially for beginners or non-computerers ( a good reason not to display sector-numbers).  
 Q. Why not include other "housekeeping" commands, like Lock, Unlock and Rename?  
 A. I'll leave that for you to do. It kind of seemed like over-engineering to me, maybe best included in some other program.  
 Q. Is this a Public Domain program?  
 A. Heck NO!

BUZZWORD

-----  
 BUZZWORD is a word substitution game that's good for at least a few laughs. Running it will produce a menu with Options 1-6.

Options 1-5, "Computer's Stories": Buzzword places five stories in memory. Select one of them and read along. The story will be automatically typed except for the missing "buzz words". You select the word by pressing any letter key, A-Z. The computer will then supply a word that begins with the letter you typed. Try any letters you like. Use different sequences (for example, your name, A-B-C...,etc.) for different results.

Option 6, "Type Your Own Story": Select 6 from the menu and you can type your own Buzzword story. The computer will supply a buzzword whenever you press a NUMBER key. If you want a number as part of your story, you'll have to spell it out. The chart at the top of the screen indicates the part-of-speech of the buzzword. If you don't like the word the computer gives you, back-space over it and request a new one. You must save or load a story to or from disk by typing an "@". To erase your story and go back to the menu, type two asterisks.

To Put your own computer stories (for Options 1-5) in memory, look at program Lines 9000-9600. All text is entered as an A\$ string. When a NUMBER is encountered in A\$, a buzz word is inserted-

- |              |                    |
|--------------|--------------------|
| 1: PERSON    | 5: VERB            |
| 2: PLACE     | 6: PAST-TENSE VERB |
| 3: THING     | 7: ING VERB        |
| 4: ADJECTIVE |                    |

0: Repeat the last buzz word whose number was followed by a slash.

To view Buzzword's vocabulary by category, exit the program and List Lines 10000-10100. For alphabetical listing, Run the program, exit, turn on your printer (probably with "PR#1"), and type "GOTO 22222" (return). Change any words you want in Lines 10000-10100 (keep the NUMBER of words the SAME), and "Save Buzzword Version #2".

ELEVATORS

-----  
 ELEVATORS is a real-time action game played with 12 keys plus the Space Bar. When you run the game, you will see a lo-res building with four elevators, the numbers "00" on the left and "5:00" on the right. To start the game, press Return.

Three keys operate each elevator car. Car #1, the car on the left, is controlled by the 1, Q & A keys; Car #2 by 2, W & S; Car #3 by 3, E & D, and Car #4 by 4, R & F. Notice that these four groups of keys are in four vertical columns on the keyboard. The TOP row of keys (1,2,3,4) make elevator cars 1,2,3 and 4 go UP. The BOTTOM row of keys (A,S,D,F) make cars 1,2,3 and 4 go DOWN. And the MIDDLE row of keys (Q,W,E,R) make the cars STOP and pick up passengers.

The object of the game is to pick up as many carloads of passengers as possible between 5:00 (game starts) and 5:30 (game ends). The number of passengers you have delivered is indicated by the graphics number on the left of the screen. The time is shown on the right.

Random lights will appear on various floors of the building. These lights represent passengers wanting to get out of the building. Any elevator car may respond to any light. To pick up the passengers, simply send any elevator car UP (1,2,3 or 4 key) to the lit floor and STOP (Q,W,E or R). Passengers will get in the car ONLY if it is UNOCCUPIED. If you stop an empty car at a lit floor, the floor light will go off and the car itself will light up. It is now FULL. You must now send the elevator DOWN (A,S,D or F) to the ground floor. Once the car is there, passengers will automatically get off, and you will be credited with a carload of passengers on the scoreboard.

Plan-ahead strategy is necessary for high scores. Don't wait for floor lights before sending a car up. Instead, send cars up in anticipation, and position them apart from each other ready to respond to nearby floors. This is the way real elevators work. If a car is stopped at a floor, and a light comes on, passengers will automatically get aboard. It is also advisable to keep one of the cars near the bottom floor, because lower-floor passengers can be handled in the fastest time. In this building, it could be a real disadvantage to be on an upper floor, but WINNING is what counts, RIGHT!?

You may speed things up by pressing the Space Bar to cut the power to one or more cars, thereby putting all energy into the remaining ones. The text below each car will indicate whether or not it is on. If your time is about to run out, and you're trying to get that last carload of passengers down, Car #1 may be speeded up greatly by turning off the power to Cars 2, 3 and 4.

Variations:

- Beginners often like to learn using only one elevator car for an entire game, then two, etc.
- One player takes Cars 1 and 2; another takes 3 and 4. This makes it easier to concentrate on what's happening, and higher scores are often possible.
- Try using one, two, three and four cars and compare scores with other players using the same set. You may be surprised!
- If you own a compiler, compile Elevators and stand back!

GAS CRUNCH

-----  
 GAS CRUNCH needs only one instruction: It is possible to win, so don't give up.

HANG PERSON

-----  
 You don't need instructions for Hang Person do you? I

didn't think so. For two players or more, one player can enter a secret word or words for others to guess. For one player, hit Return-only and the computer will "think" of a word or words for you to guess. To change the computer's words in the program, List Lines 10000-10140 and replace any words you want, but keep the total at 150. The program decides which of the 150 words to pick in Line 9000.

## MAGIC PACK

MAGIC PACK consists of four tricks: PLENTY QUESTIONS, 21 NUMBERS, NEXTWORD and CARD SCANNER. Select them all from Magic Pack's menu. Plenty Questions and Card Scanner are not meant to be run by anyone other than a "magician" (you?) who has PRACTICED with these tricks.

### 1. PLENTY QUESTIONS

PLENTY QUESTIONS involves some "computer magic", and you are the magician. YOU MUST PRACTICE THIS TRICK several times to get the hang of it (it's worth it; audiences really enjoy a slick presentation of this trick).

The object of Plenty Questions is for the computer to guess the audience's secret word by asking certain "Yes or No" questions.

Tell someone to think of an object (in this case, any word or words that can follow the word "a" or "an"). you must be sure that the secret word is 16 characters in length or less (12-or-less is better), containing only the letters A through Z, spaces, hyphens and/or apostrophes. NO PERIODS allowed.

When you see "Hit Any Key When Ready", pretend as though you are hitting just ANY key, and casually (but carefully) hit ctrl-A ( the CTRL key, then the A key; holding both down at the same time). You are now in the "Magic Mode". If any key OTHER than ctrl-A is hit first, the trick WILL NOT WORK (see "Non-Magic Mode" below). The computer will now ask a random question and wait for a Yes or No answer.

The first character you type before each answer WILL NOT APPEAR on the screen. This is the big secret of Plenty Questions! Your job as the magician is to carefully spell the secret the secret word, one letter at a time, one question at a time, with an INVISIBLE SECRET LETTER before each answer.

The computer's questions and your answers are irrelevant. You should type mostly "Yes" and "No" answers with an occasional "Sometimes" or "???" to make the trick more believable. Other answers such as "Never" or "No Way!" are appropriate too.

The best time to type the secret letter (remember, no one must know you are doing it!) is WHILE the computer is typing out its question. At this time, all eyes will be on the screen and not on you or the keyboard. you can even read the question out loud to distract everyone from any sound or movement from the keyboard. After you type your secret letter and your Yes or No answer, press the Return key. you will know each secret letter has been entered into the computer's memory when the letter "I" in "PLENTY QUESTIONS" at the top of the screen changes to a number 1 (one).

To finish a secret word, type a PERIOD as your invisible secret letter. For example, if the secret word is "Cow",

your answers could be "(C)Yes", "(O)No", "(W)Maybe" and "(.)Sometimes" (invisible characters in parentheses). After you type an invisible period and a Yes or No answer and hit Return, the computer will finish with an "I've Got It!", followed by "It's a Cow!" or whatever the secret word is.

If you make a mistake and have not yet typed your Yes or No answer, hit Return, and type a new secret letter. If you have already typed an incorrect secret letter and answer AND hit Return, enter a Left Arrow (backspace) as your next secret letter. This will ERASE the previous secret letter. In the confusion, you may wonder if you are misspelling the secret word. Don't worry too much; who says a computer is supposed to be able to spell?

If you want to start the secret word over, type a Slash, and all of your previous secret letters will be erased from memory.

To delay the computer's guess, enter a Right Arrow as your secret letter. The computer will ignore this character and let you answer another question. This is a handy feature when the secret word is very short and you want to see a few more questions.

If you don't know the secret word or if you need an escape because you are confused, type an invisible Comma before your answer, and the game will end with the computer guessing a random word. It doesn't hurt to have the computer guess wrong occasionally. After all, he (she) is only human...

There are two built-in default words. The computer will guess "LIGHT BULB" whenever you type a secret Semi-Colon. It will guess "TUNA SANDWICH" if you enter a secret Period after only one question. You can set the audience up with one of these two words if you think they have figured things out. You can change these default words in program Lines 1460 and 1500. Be sure to include a period at the end of the words, like this: S\$="WORDS."

Non-Magic Mode: Sooner or later, one of your audience members will insist on typing th answers themselves, or they will refuse to tell you the secret word. If this happens, you have shown the trick once too often. Let the skeptic take over anyway. He will hit "any key" (not ctrl-A) when asked to do so, and now the computer will NOT look for secret characters. Instead, it will ask 17 questions and then make a random (and undoubtedly incorrect) guess. Explain that the computer is probably tired, and go on to the next trick. If you are experimenting with the Non-Magic Mode and wish to end before 17 questions, end any Yes or No answer with a Period, and the questions will stop.

### PLENTY QUESTIONS COMMAND SUMMARY

MAGIC MODE (invisible):

Secret Letters: Enter one per question before answering the question. The letter "I" in "Plenty Questions" at the top of the screen changes to a number "1" when the secret letter is entered.

Period: End secret word. Computer will guess secret word.

Comma: End questions. Computer will guess random word.

Slash: Erase all previous secret letters. Continue questions.

Left Arrow: Erase previous secret character.

Continue.

Right Arrow: Delay secret letter input until next question.

Semi Colon: End questions. Computer will guess "Light Bulb".

Period (as first secret letter): End questions. Computer will guess "Tuna Sandwich".

NON-MAGIC MODE:

After 17 questions: Questions end. Computer will guess a random word.

Period (visible after answer): Questions end. Computer guesses a random word.

## 2. 21 NUMBERS

-----

21 NUMBERS is another trick where an audience member can control the keyboard. Just follow the instructions on the screen.

## 3. NEXTWORD

-----

Just follow the instructions on the screen. Hit Return after each word. The secret? We're not telling...

Well, I suppose we could tell YOU. The computer starts his next word with the LAST LETTER of your word and expects you to do the same. If you're into reprogramming this, you could make his word start with the SECOND letter of your word, or the next-to-last letter, etc., etc.

## 4. CARD SCANNER

-----

You're the magician again. Your Apple, with some help from its "Advanced Video Scanner" (people really BELIEVE this!), will read a randomly-selected playing card through the video monitor. The trick here is, first of all, to know what the card is yourself. Then, when the computer says to type "RUN", you pretend to, but you DON'T. Instead, you type the initials of the card's identity, and NO MATTER WHAT YOU TYPE, the letters R-U-N- WILL APPEAR ON THE SCREEN. Here are the code letters for the playing cards:

First key ("R" appears)-  
 A or 1: ACE  
 2 through 9: NUMBER-CARD, 2 through 9  
 0 (zero): 10-CARD  
 J,Q or K: JACK, QUEEN OR KING

Second key ("U" appears)-  
 C,D,H or S: CLUBS, DIAMONDS, HEARTS or SPADES  
 Third key ("N" appears)-  
 N: (insignificant).

For example, to indicate King of Spades, type "KSN", and hit Return. For Eight of Diamonds, type "8DN"; for Ace of Clubs, "ACN" or "1CN"; for Ten of Hearts, "OCN", etc.

If you type an illegal code or "Run", the computer's answer will be "Playing Card", which is indeed a correct answer!

As with any magic trick, don't overdo it! On about the third performance, people will be watching your fingers, and it's probably then time to switch to another trick where THEY control the keyboard (21 Numbers or Nextword).

NAME GAME

-----

NAME GAME is a real crack-up at parties. The instructions, however, are a bore, so I omitted them.

OINK!

-----

OINK! is an easy-to-play two-key game. Enter two players' names (come on, be imaginative with those names!). Press Return after each. The computer will decide who goes first.

Type "R" to roll the dice. You will be awarded points equal to the number you roll. Roll as many times as you want, EXCEPT if you roll DOUBLES (both dice the same), your turn will end, and you will lose your points for that turn.

Type "Q" to quit your turn and keep all of your points. Bonus points are offered as incentive not to quit. First player to 200 points and type a "Q" wins the game.

PICK-A-PAIR

-----

PICK-A-PAIR is a great party game that will alleviate "Computer Phobia" (a common disease these days) in almost anyone. Try Pick-a-Pair with your non-typing or non-computer friends. It's easy to play and they'll like it.

Follow the screen prompts and enter two players' names. The Apple will decide who goes first. Each player in turn will be asked to select two numbers from 0-15. Pressing return is not necessary. Each number selected will reveal a color symbol. If the symbols match, you will be rewarded with points TOTALING THE TWO NUMBERS SELECTED. Therefore, it is wise to pick high numbers first. The first player with 68 or more points wins the game!

QUICK-DRAW!

-----

QUICK-DRAW is a battle between two video gunmen who never miss. They are controlled by two keys; the left man by the Z key, and the right man by the /? key. You will probably need two players to play Quick-Draw, although our Uncle Louie has been known to spend hours up in the attic pitting his left hand against his right!

Press Return to start each turn. Several color symbols will flash on the screen. One will stay for a couple of seconds with the words "FIRING SYMBOL" under it. You must remember this symbol! The next time you see it, you must press your key, (Z or /?), as quickly as possible, before your opponent presses his.

The first shooter to press his key while the firing symbol is on the screen shoots his opponent. If you press your key first while any other symbol is visible, your opponent gets a free shot at you (and he won't miss!). All bullets will bounce into the bullet bucket and trigger the score accumulator. Point totals for each shot are determined by the time on the screen when the shot was fired. The faster you shoot, the larger your score for that turn. First player to 10 points wins. A rounded-off score appears on each player's hat. The exact scores appear on the text screen below each shooter.

SLIPPERY DIGITS

-----

SLIPPERY DIGITS works just like your old 15-number game. Try the "Visible" version first to get the hang of it. The



Arrow Keys move the numbers Left and Right, and the A and Z Keys move them Up and Down. When a number enters its proper location, you will hear a musical "beep" (if you haven't turned off the sound).

In the Invisible Mode, each number will become visible ONLY WHEN IN THE CORRECT POSITION. Look at the horizontal color (or grey) bars at the top of the screen. These indicate the color of the number blocks that should be in each vertical row. This feature is especially helpful in the Invisible Mode.

The "Black & White or Color TV?" choice at the beginning of the game simply gives the number colors more contrast in Black & White, and more color in Color. Both ways, the game works the same.

The shuffle before each new game will take longer on some games. The computer checks after each shuffle to see if it is physically POSSIBLE to achieve numerical order. Half of the time it isn't so it re-shuffles.

### SUB SEARCH

SUB SEARCH is a real-time search for a group of invisible enemy "submarines". Your job is to seek out these subs and capture their fuel supplies before your fuel and oxygen run out.

When you run Sub Search, your Apple will decide how many subs you are to find and determine your oxygen and fuel supplies. Press return when ready to begin your search.

Five keys control the movement of your sensor on the screen:  
To move UP & DOWN, press the A & Z keys.  
To move LEFT & RIGHT, press the Arrow keys.  
To JUMP 15 SPACES (at a cost of only 10 units of fuel), press the Space Bar.

Each of these five direction keys only needs to be pressed once to cause movement in the appropriate direction. It's a good idea to keep your fingers on these keys during the game.

Data regarding fuel supply, oxygen supply and number of subs will be updated on the lower section of the screen.

The SCANNER is activated with an S keypress. Missing subs will be temporarily reveals with "blips" in the horizontal and vertical bars on the screen. Using the scanner will cost you 40 units of fuel, so activate it sparingly. After the scanner is used, press a direction key to continue searching.

The EQUALIZER converts fuel to oxygen and vice versa. Hitting Q will trigger the equalizer and prolong your search.

OXYGEN: Your oxygen will decrease at an erratic rate whether you are moving or not. The only way to obtain more oxygen is to use the Equalizer (Q).

FUEL: Your fuel supply will decrease one unit for every unit you move on the screen. Locating an enemy sub WILL INCREASE your fuel supply by 40 units. Using the scanner (S) will COST you 40 units.

FINDING SUBS: Besides using the scanner (S), invisible subs may be found by searching with your sensor, using the

direction keys (A,Z, and Arrows). Your sensor will leave a trace pattern so you can tell where you have searched. This trail will be erased if you use the scanner. If you encounter a sub, you will notice it in your trace pattern. You will also notice your trace pattern slowly disintegrating as you move. Do not confuse the "holes" in the pattern with the subs you are looking for.

You must land PRECISELY on a sub to capture it. Once captured, a sub will become visible, and you will hear one or more beeps. The number of beeps tell you how many subs you have NOT yet been located. This information also appears on the lower right of the screen.

The game ends when you have found all of the subs OR when you have run out of fuel or oxygen. you will be given a final score based on the percentage of subs found times 1000, plus the amount of fuel and oxygen you have left.

### TEXTTRAIN

-----  
by Bert Kersey & Jack Cassidy

TEXTTRAIN is a real-time race against a "train-time" clock. you will keyboard-control a text-format "freight train" whose "engine" and "cars" appear on your monitor as text characters- The engine is an inverse asterisk/plus, and the cars are inverse and normal letters. You control the motion of the train (Forward and Reverse); the five turnouts or track Switches; and the Coupling and uncoupling of the cars.

The object of TextTrain is to couple together a pre-defined series of freight cars and pull them to the Check Station at the top of the track layout in the fastest possible time.

At the start of the game, you will be asked to type a word. This word must be from one to nine letters in length and contain no non-alphabetical characters and no letter "P" (explanation later). This word or series of letters will be the "train" you must create during the game. If you're a beginner, start with a two-or-three-letter word. After you type the word, hit Return, and the game will start.

Your Apple will draw a track layout, scramble the letters of your word, and place them, along with several random letters on the layout as freight cars. Notice that the clock starts running immediately from time 0:00. The clock runs quite fast to make up for the small scale of the train (as good an explanation as any!). Above the clock is a representation of the train you must create. On the track, you will see the engine, always an inverse two-character car. The front (asterisk) of the engine flashes while it is idling. The plus-sign is the back of the engine onto which are coupled a few cars (letters). The Freight On Board (F.O.B) Chart at the left shows what's in the cars.

While the train is idling, you are in the "Command Mode". The commands available to you are displayed at the bottom of the screen. The F, R, C and S keys are the only keys that will do anything in this mode, except the asterisk option is not displayed on the screen.

FORWARD and REVERSE motion is initiated by pressing F and R. Try it. To STOP the train, hit any key except F and R. The SPACE BAR is the most easy-to-find "brake" key. It is permissible (and often very efficient) to hit ANY of the Command Mode keys (F, R, S or C) to stop the train.

As the train travels around the track to the top straightaway, its string of cars will read backwards. The order of cars you will be concerned with is FROM THE ENGINE BACK. Notice that the trains "\*\*HARVEY" and "YEVRAH\*" are the same.

SWITCHES are thrown by first pressing the S key. When you hit S, all five switches will light up with numbers. To throw a switch, simply press the appropriate number key. If the switch is "open", it will "close" and vice versa. Any key other than 1,2,3,4 or 5 will put you back in the Command Mode. If a car is on or near a selected switch, you will be warned and returned to the Command Mode. Keep an eye on the switches as your train moves. Your train will DERAIL, thus ending the game, if it encounters a closed switch!

COUPLING and UNCOUPLING are initiated with a C keypress. After hitting C, you will be asked how many cars you want behind your engine. This must be a number from 0 (engine-only, no cars) to 9. No train longer than nine cars (plus engine) is allowed. You MUST enter a proper one-digit number to get out of the Coupling Mode. To couple cars onto your train, you must BACK YOUR TRAIN into them. Your train will automatically stop, and you will be put in the Couple Mode.

YOU CANNOT COUPLE CARS ONTO THE FRONT OF THE ENGINE. An attempt to do so will derail the train and end the game! The same misfortune will occur if you forward OR reverse into the siding bumper (just under the clock). You must stop BEFORE you reach the bumper, or you crash!

The Freight-On-Board (F.O.B) Chart identifies the cars the engine is coupled to. Each car's letter stands for the cargo of the car- B for Boxes, K for Kites, etc. If the cargo word on the F.O.B. Chart. If you want, change the set of words in the TextTrain listing (Lines 2070-2110) to suit yourself.

To successfully finish a game, you must drive your completed train COMPLETELY INSIDE the Check Station and STOP. (NOTE: You also may drive THROUGH the Check Station or stop there anytime you want.) If you do stop, your train will automatically be inspected for a modest fee. If your train consists of the correct freight cars IN THE CORRECT ORDER, your time will be noted and compared with the best time so far for the current set-up. From the second repeat game on, the best time so far will be posted under the clock. When a game ends, you will be given three options. An asterisk will end the game. ESC will let you type a new word and clear previous times from memory. Any other key will start a new game with the same set-up as the previous game.

Why no P's in TextTrain trains? It's pretty technical, but if you're interested, the program uses Applesoft's SCRNI() function to look for clear track (spaces) in front of the engine as it moves ahead. If no space is found, it's derail time. The letter "P" just happens to be the same lo-res color (O-Black) in it's upper half as the space character. To distinguish a "P" from a space, the engine would have to look at the bottom color of each character in front of it as it traveled (space's bottom half is 10-Grey and P's is 13-Yellow), but this would slow things down considerably (I know; I tried!). So no P's, o.k? One Beagle Bros Tip Books (I can't remember which One) explains more about colors and Apple text characters. The "Railroad Regulations" explanation in the game (if you try to enter a "P") might make more sense.

Strategy is important for fast TextTrain times. Think ahead and look for pairs or other groups of cars that can stay coupled together. You can save time by going directly to Switch or Couple Modes by hitting S or C while the train is moving. Experiment with different methods, and have fun!

## TRIPLE DIGITS

-----  
TRIPLE DIGITS is for two players. Each is dealt the same thirteen digits (0,0,0,0,1,2,3,4,5,6,7 and 8). One player plays black numbers, the other plays white. The numbers are to be placed one at a time in an UNOCCUPIED SQUARE on the screen. Follow the computer's instructions for playing numbers.

You will notice approximately 20 squares blocked with ...'s. These squares are NOT usable unless they become unblocked. The computer blocks and unblocks squares at random between turns.

Scoring is done by placing 3 OR MORE of YOUR digits in a row-

HORIZONTALLY, reading Left to Right, or...  
VERTICALLY, reading Top to Bottom, or...  
DIAGONALLY-UP, reading Left to Right, or...  
DIAGONALLY-DOWN, reading Left to Right.

For example, a 9-3-2 will give you 932 points; 0-5-0 will give you 50, etc. Use your numbers strategically for highest scores or to block your opponent from scoring. It is desirable (and profitable) to score in two or more directions on the same turn.

Every score will contain the digit you just played and two adjacent digits (THREE-TOTAL, no more). If there is more than one way to add a score in any one direction, the computer will pick the HIGHEST POSSIBLE combination. Say you added a 3 to make a 4-1-3-2 string of numbers. You will get 413 points, not 132.

The game ends when all numbers have been played, OR if a player gives up and types a "Q" at the start of a turn. The player with the higher score wins.

## WOWZO

-----

WOWZO is for two players, but don't let that stop you from playing against yourself! Before the game starts, some probing questions will be asked of you. Type your answers and hit Return after each.

NAMES OF PLAYERS: If your name is FRANK and you prefer DARTH or PRUNEFACE, by all means, use it. The second player's name will be rejected if it has the same first three letters as the first player's name. You'll see why later.

LEVEL OF DIFFICULTY: Selecting 1,2 or 3 will control the speed of the game clock and the time limit between moves. Beginners should use 3. Give 1 a try too; it's fun!

KEYWORD: Enter any 5-letter word or series of letters with NO REPEAT CHARACTERS. Then hit Return.

The object of Wowzo is to move your "man" (the first three letters of your name) through the maze and land on ALL FIVE of the keyword letters before your opponent. There is no

"beginning" and no "end" to the maze. After you enter a legal keyword, the Apple will place its letters in random maze positions and place the first three letters of each player's name in the upper left corner. These three letters are the player's "men".

The computer will decide who goes first- let's say George. "GEO" will flash in the maze, and the computer will print "George's Turn-Which Direction?", or "Which Gate?". You, George, must respond accordingly before the timer reaches zero. Assuming time doesn't run out, on each turn you will move at least one gate AND move your piece at least once, but NOT NECESSARILY IN THAT ORDER.

WHICH DIRECTION? To move your man in the Wowzo maze when you are asked "Which Direction?", press a key-

To move Left or Right, press an Arrow key.  
To move Up or Down, press the A or Z key.

Your man will move in the direction chosen until it encounters a maze wall OR keyword letter. In either case, it will automatically stop. If you land on a letter, whether you need the letter or not, you get another turn. If you hit a wall without encountering a letter, your turn is over unless you haven't moved a gate...

WHICH GATE? Any gate may be moved on any turn. When the computer asks "Which Gate?", press a gate letter. The appropriate gate will pivot 90-degrees. Don't press Return.

COMPUTER GATES: After each player's turn, just to make things more interesting, the computer will move two randomly-selected gates.

When you land on a letter, the following happens: a. You will be credited with the letter on the scoreboard (if you don't already have the letter) b. The computer will replace the letter somewhere else in the maze. c. You will get a BONUS TURN; another GATE and MOVE.

If time runs out during your turn, you will be sent, via Air Mail, to the upper left corner of the maze, and your turn will end. Period.

Wowzo Strategy: The most obvious defensive strategy is to use the gates to seal off your opponent about ten miles from the nearest letter that he needs. Also, use already-landed on letters for extra mileage via bonus turns AND to remove a letter from your opponent's path. Try to line up with several letters and grab them all in one turn. A game of Wowzo can end abruptly this way!

PLUS  
----

Some of these programs have been gathering dust around here for years (a couple of them probably should have STAYED here). Some of these relics won't appear in the Short Menu until you catalog the disk.

DATE SEARCH is my favorite, I suppose. Even though it isn't really a game, people get a kick out of it. The only good thing I can say for CROSS WORD is that it lives up to its name. OINK is explained fully on page 13. If you use one of the names from BABY NAMES for your kid, please contact our lawyers (Legal Brothers) concerning royalty fees.

PACK MY BOX is a challenge that will probably never be met,

but let us know if you do! POLY-DICE is fun if you're a statistics nut- You may want to expand it to roll more dice (how about all night long?). I can't BELIEVE how long people will play NAME GAME. See page 13 for more details. Every Apple owner should have a copy of TEST PATTERNS (although it could get expensive). And PLEEEEEEEASE don't phone the Beagle Building saying your copy of NAKED CITY doesn't work; it's SUPPOSED to do that! Secretly load it into a friend's Apple, and stand back and watch...

]RUN TASC

THE NEXT TWO PROMPTS ASK YOU FOR THE NAMES OF THE SOURCE AND OBJECT FILES:

]SOURCE FILE BALL  
]OBJECT CODE FILE: (DEFAULT BALL.OBJ) <RETURN>

THE SOURCE FILE IS A APLSOFT PGM NAMED BALL THAT EXISTS ON THE DISK. THE OBJECT FILE IS THE MACHINE LANGUAGE BINARY FILE THAT IS CREATED BY THE COMPILER. THE OBJECT FILE NAME DEFAULTS TO THE ORIGINAL FILE NAME WITH THE EXTENSION .OBJ ADDED, SO THAT THE OBJECT FILE PRODUCED FOR THE BALL.OBJ. THE DEFAULT IS SPECIFIED BY ENTERING <RETURN>. THE SOURCE FILE IS ASSUMED TO BE LOCATED ON THE SAME DISK AS THE COMPILER UNLESS YOU SPECIFY OTHERWISE. THE OBJECT FILE DEFAULTS TO THE SAME DISK THAT THE SOURCE IS ON. DIFFERENT SLOTS OR DRIVES CAN BE SPECIFIED USING THE NORMAL ,S<SLOT NUMBER> AND ,D <DRIVE NUMBER> SYNTAX. COMPILATION IS USUALLY SLIGHTLY FASTER IF ONLY ONE DRIVE IS USED. DISK COMMANDS CAN BE EXECUTED BY TYPING <CTRL-D> FOLLOWED BY THE COMMAND AND <RETURN> THE NEXT TWO PROMPTS ASK YOU WHETHER YOU WANT DEFAULT VALUES FOR ALL OTHER COMPILATION OPTIONS. SINCE MOST COMPILATIONS ARE PERFORMED WITH THE SAME SET OF OPTIONS, YOU SHOULD ENTER <RETURN> AFTER EACH PROMPT TO SPECIFY THE DEFAULT VALUES.

MEMORY USAGE:  
DEFAULT CONFIGURATION <RETURN>  
OPTIONS:  
DEFAULT CONFIGURATION <RETURN>

IF YOU HAD REFUSED THE DEFAULT CONFIGURATIONS ABOVE, YOU WOULD NEED TO EXPLICITLY SPECIFY THE VALUES OF SEVERAL COMPILATION OPTIONS. THE ACTUAL COMPILATION PROCESS STARTS WITHOUT FURTHER INPUT SINCE YOU HAVE SPECIFIED THE DEFAULTS ABOVE. WHEN COMPILATION BEGINS, THE DISK IS ACCESSED ALMOST CONSTANTLY TO EITHER READ THE SOURCE FILE OR TO WRITE THE OBJECT FILE. THE COMPILER LISTS THE SOURCE PROGRAM ON YOUR CONSOLE AS IT IS BEING COMPILED AND GENERATES APPROPRIATE MESSAGES IF IT ENCOUNTERS ANY ERRORS. THEN THE SOURCE STOPS LISTING, THE FIRST PARTS OF COMPILATION IS FINISHED, AND THE COMPILER PRINTS:

\*\*\*\*\*BEGINNING PASS2

THE SECOND PART OF COMPILATION ALSO USED THE ???? EXTENSIVELY. TO INDICATE THAT IT IS STILL COMPILING, THE COMPILER PRINTS A PERIOD ON THE SCREEN EVERY FEW SECONDS. WHEN IS IS FINISHED, THE COMPILER PRINTS:

\*\*\*\*\*CODE GENERATION COMPLETE

AT THIS POINT, THE ACTUAL COMPILATION PROCESS IS COMPLETE. SO THAT YOU WILL RECEIVE A LISTING OF COMPILATION INFORMATION, ANSWER "Y" OR "YES" TO THE NEXT PROMPT:  
COMPILATION INFORMATION AND LINE NUMBER REFERENCE TABLE YES

THIS INPUT ALSO ACCEPTS <CTRL D> DISK COMMANDS. IF YOU WANT TO LIST THE COMPILATION INFORMATION ON A PRINTER, YOU CAN FIRST TURN ON YOUR PRINTER BY ENTERING: <CTRL-D>PR#(PRINTER SLOT)

TASC PRINTS OUT THE DESIRED INFORMATION, DISPLAYS THE FOLLOWING MESSAGE, AND THEN RE-ENTERS THE INTERPRETER:

\*\*\*\*\*COMPILATION COMPLETE  
]

THE INCREASE IN THE BALL PROGRAMS EXECUTION SPEED IS QUITE APPARENT WHEN COMPARED TO THE SAME PROGRAM RUNNING UNDER THE INTERPRETER. COMPARE SPEEDS BY FIRST RUNNING THE INTERPRETED PROGRAM:

]RUN BALL

===== DOCUMENT tasc.1 =====

===== TASC DOCUMENTATION =====

ENTERED BY: JUDIE MAC

SYSTEM REQUIR:APPLE II OR APPLE II+ 48K RAM

THE APPLESOFT COMPILER:  
TO EXTEND APPLESOFT LANGUAGE  
TO COMPLEMENT APPLESOFT INTERPRETER

1. INCREASE EXECUTION SPEED COMPILED WITH TASC = 2 TO 20 TIMES FASTER THAN W/INTERPRETER

2. INTER-PROGRAM COMMUNICATON=COMMUNICATE PGMS WITH EACH OTHER BY COMMON VARIABLES

3. TRUE INTEGER ARITHMETIC

4. SOURCE-CODE SECURITY=TASC CREATES MACHINE LANGUAGE EQUIVALENTS OF APPLESOFT BASIC PGMS

5. DISK-BASED COMPILATION

- CHAPTER 1- INTRODUCTION
- CHAPTER 2- DEMO RUN
- CHAPTER 3- INTRO TO COMPILATION
- CHAPTER 4- DEBUGGING W/THE/INTERPRETER
- CHAPTER 5- COMPILATION
- CHAPTER 6- EXECUTING A COMPILED PROGRAM
- CHAPTER 7- A COMPILER/INTERPRETER LANGUAGE COMPARISON
- CHAPTER 8- LANGUAGE ENHANCEMENTS
- CHAPTER 9- HOW THE COMPILER WORKS
- CHAPTER 10-ERROR MESSAGES & DEBUGGING

APPENDICES:

- A - MOVING BINARY FILES W/ADR UTILITY- BLOAD AND BSAVE W/ADR UTILITY
- B - COPYING TASC & CONVERTING TO 3.3
- C - CREATING A TURNKEY DISK
- D - NOTES ON APPLESOFT-INFO ON UNUSUAL APPLESOFT FEATURES
- E - RUNTIME MEMORY MAP - MEMORY USAGE ON COMPILED PGMS
- F - ZERO PAGE USAGE

FILES ON DISK:

- 1 - TASC- APPLESOFT COMPILER
- 2 - PASS0,PASS1,PASS2- INTERNAL COMPONENTS OF TASC
- 3 - RUNTIME- LIBRARY OF MACHINE LANGUAGE ROUTINES
- 4 - ADR - UTILITY FOR BINARY FILES
- 5 - CREATE ADR - UTILITY FOR CREATING ADR ON OTHER DISKS
- 6 - BALL - DEMO PGM

2:DEMO RUN:

TASC IS SIMPLE TO USE.TO INVOKE THE COMPILER, FIRST BOOT UP YOUR DISK AND THEN TYPE:

NEXT EXECUTE THE COMPILED PROGRAM BY ENTERING THE FOLLOWING DOS COMMANDS:

```
]BLOAD RUNTIME
]BRUN BALL.OBJ
```

NOTE THAT THE RUNTIME LIBRARY MUST BE BLOADED IN MEMORY BEFORE BALL.OBJ AND CAN BE BRUN.

YOU HAVE NOW SUCCESSFULLY COMPLETED THE DEMO RUN.

COMPILATION \*\*\*\*\*VOCABULARY

SOURCE FILE -

THE APPLESOFT PROGRAM IS COMMONLY CALLED A SOURCE FILE BECAUSE IT IS THE SOURCE FROM WHICH AN EQUIVALENT MACHINE LANGUAGE FILE IS CREATED. THE SOURCE FILE IS THE INPUT FILE TO THE COMPILER. CATALOG LISTS THE NAMES OF APPLESOFT SOURCE FILES WITH THE LETTER "A" PRECEDING THE SIZE OF EACH FILE.

OBJECT FILE -

TASC TRANSLATES SOURCE FILES INTO MACHINE LANGUAGE OBJECT FILES. THE OBJECT FILE IS THE OUTPUT FILE CREATED BY THE COMPILER. THE OBJECT FILES IS AN EXECUTABLE BINARY FILE THAT IS THE MACHINE LANGUAGE EQUIVALENT OF THE SOURCE. CATALOG LISTS THE NAMES OF TASC OBJECT FILES WITH THE LETTER "B" PRECEDING THE SIZE OF THE FILE.

COMPILETIME-

THE TIME DURING WHICH THE COMPILER IS TRANSLATING A SOURCE FILE INTO AN OBJECT FILE.

RUNTIME -

THE TIME DURING WHICH A COMPILED PROGRAM IS EXECUTING. BY CONVENTION, RUNTIME REFERS TO THE EXECUTION TIME OF A COMPILED PROGRAM AND NOT TO THE EXECUTION TIME OF THE COMPILER.

RUNTIME LIBRARY -

A COLLECTION OF MACHINE LANGUAGE ROUTINES THAT ARE USED BY COMPILED OBJECT PROGRAMS. THESE ROUTINES ALL RESIDE IN THE FILE NAMES RUNTIME. RUN TIME MUST BE LOADED INTO MEMORY BEFORE AN OBJECT FILE CAN BE EXECUTED.

COMPILATION VS INTERPRETATION:

SINCE THE MICROPROCESSOR IN THE APPLE CAN EXECUTE ONLY ITS OWN MACHINE INSTRUCTIONS, IT DOES NOT EXECUTE APPLESOFT PROGRAM STATEMENTS DIRECTLY. INSTEAD, STATEMENTS MUST BE SIMULATED BY MACHINE LANGUAGE ROUTINES THAT PERFORM THE OPERATIONS SPECIFIED BY THE BASIC STATEMENT.

INTERPRETATION:

THE INTERPRETER TRANSLATES APPLESOFT SOURCE STATEMENTS LINE BY LINE AT RUNTIME. EACH TIME THE INTERPRETER EXECUTES AN APPLESOFT STATEMENT, IT MUST ANALYZE THE STATEMENT, CHECK FOR ERRORS AND CALL MACHINE LANGUAGE ROUTINES THAT PERFORM THE DESIRED FUNCTION. WHEN STATEMENTS MUST BE EXECUTED REPEATEDLY, AS MUST THOSE WITH A FOR/NEXT LOOP, THE TRANSLATION PROCESS MUST BE REPEATED EACH TIME THE STATEMENT IS EXECUTED. IN ADDITION, BASIC LINE NUMBERS ARE STORED IN A LIST. GOTO'S AND GOSUB'S FORCE THE INTERPRETER TO SEARCH THIS LIST TO FIND THE DESIRED LINE. THIS SEARCH IS QUITE SLOW WHEN THE NEEDED LINE IS NEAR THE END OF A LONG PROGRAM. THE INTERPRETER KEEPS TRACK OF VARIABLES USING A LIST, TOO. WHEN IT ENCOUNTERS A REFERENCE TO A VARIABLE, THE INTERPRETER SEARCHES FROM THE BEGINNING OF THE LIST TO FIND THE DESIRED VARIABLE. IF THE VARIABLE IS NOT PRESENT IN THE LIST, THE INTERPRETER MUST CREATE A NEW ENTRY FOR IT. THIS PROCEDURE ALSO SLOWS INTERPRETED PROGRAMS.

COMPILATION:

A COMPILER, ON THE OTHER HAND, TAKES A SOURCE PROGRAM AND TRANSLATES IT INTO A MACHINE LANGUAGE OBJECT FILE. THIS OBJECT FILE CONSISTS OF A LARGE NUMBER OF MACHINE LANGUAGE CALL'S TO ROUTINES IN THE RUNTIME LIBRARY AND TO ROUTINES IN THE APPLESOFT INTERPRETER. TASC ASSURES CLOSE LANGUAGE COMPATIBILITY WITH THE INTERPRETER. IN CONTRAST TO THE INTERPRETER, THE COMPILER ANALYZES ALL STATEMENTS BEFORE RUNTIME. IN ADDITION, ABSOLUTE MEMORY ADDRESSES ARE PROVIDED FOR VARIABLES AND PROGRAM LINES. THESE ADDRESSES ELIMINATE THE LIST SEARCHING THAT OCCURS WHILE AN INTERPRETED PROGRAM EXECUTES. TASC, UNLIKE THE INTERPRETER, IMPLEMENTS TRUE INTEGER ARITHMETIC AND INTEGER LOOP VARIABLES IN FOR/NEXT LOOPS. IN COMPARISON, THE APPLESOFT INTERPRETER CONVERTS ALL INTEGERS TO REAL NUMBERS BEFORE OPERATING ON THEM. THESE CONVERSIONS MAKE INTERPRETED INTEGER ARITHMETIC RELATIVELY INEFFICIENT. IN ADDITION, THE INTERPRETER FORBIDS USE OF INTEGERS AS LOOP CONTROL VARIABLES IN FOR/NEXT LOOPS.

PROGRAM DEVELOPMENT

- 1 CREATE AND EDIT APPLESOFT SOURCE
- 2 RUN AND DEBUG SOURCE WITH THE INTERPRETER
- 3 COMPILE SOURCE, CREATING A BINARY OBJECT FILE
- 4 EXECUTE COMPILED OBJECT FILE

DEBUGGING WITH THE APPLESOFT INTERPRETER\*\*\*\*\*

DEBUGGING A PROGRAM INTENDED FOR COMPILATION IS A TWO STEP PROCESS THAT INVOLVES:

1. CREATING THE SOURCE PROGRAM, AND
2. RUNNING THE PROGRAM UNDER THE INTERPRETER TO CHECK FOR ERRORS.

CREATING A SOURCE PROGRAM:

AN APPLESOFT SOURCE PROGRAM REQUIRES THE USE OF THE EDITOR AVAILABLE WITHIN APPLESOFT. PROGRAMS ARE CREATED BY SIMPLY ENTERING APPLESOFT STATEMENTS FROM WITHIN APPLESOFT. ONCE A PROGRAM HAS BEEN CREATED, IT CAN BE SAVED TO DISK WITH SAVE. TASC CAN ONLY COMPILE APPLE SOFT DISK FILES.

RUNNING A PROGRAM WITH APPLESOFT:

PROGRAMS SHOULD BE DEBUGGED USING THE APPLESOFT INTERPRETER BEFORE BEING COMPILED. IF THE PROGRAM TO BE COMPILED USES TASC FEATURES THAT ARE NOT AVAILABLE IN THE INTERPRETER, IT MAY BE NECESSARY TO DEBUG THE PROGRAM WITH THE COMPILER.

TASC IS HIGHLY COMPATIBLE WITH THE APPLESOFT INTERPRETER. THIS COMPATIBILITY ALLOWS THE APPLESOFT INTERPRETER TO FUNCTION AS THE PRIMARY DEBUGGING TOOL. THE INTERPRETER PROVIDES MUCH BETTER DEBUGGING FACILITIES THAN A COMPILER, SINCE IT INCLUDES FEATURES SUCH AS TRACE.

THERE ARE SOME DRAWBACKS TO DEBUGGING WITH THE INTERPRETER: STATEMENTS THAT ARE ONLY EXECUTED UNDER SPECIAL CIRCUMSTANCES MAY NEVER BE EXAMINED, AND THE INTERPRETER HALTS EXECUTION WHEN IT ENCOUNTERS THE FIRST ERROR IN A PROGRAM.

DEBUGGING WITH THE COMPILER DOES NOT SUFFER FROM THESE DRAWBACKS SINCE THE COMPILER EXAMINES EVERY STATEMENT IN A PROGRAM, AND CAN CONTINUE THE COMPILATION EVEN IF IT ENCOUNTERS ERRORS.

IN GENERAL, COMPILING A PROGRAM IS AN EFFECTIVE WAY TO CHECK FOR SYNTAX ERRORS; HOWEVER, PROGRAM LOGIC ERRORS ARE MORE EASILY TRACKED DOWN WITH THE INTERPRETER.

COMPILATION\*\*\*\*\*

NOTE\*\*\*\*

IF A COMPILED PROGRAM DOES NOT RUN CORRECTLY, SEE ERROR MESSAGES AND DEBUGGING FOR SOME POSSIBLE SOLUTIONS.

OPTIONS:

THE DEMO RUN SHOWED ONLY THE MOST BASIC TYPE OF COMPILATION. TASC INCLUDES SEVERAL OPTIONS THAT CAN BE USED TO CONTROL COMPILATION MORE CLOSELY. THE REQUESTED OPTIONS CONTROL MEMORY ALLOCATION AND COMPILATION. TO EXPLICITLY SPECIFY THE VALUES FOR THESE OPTIONS, SIMPLY ANSWER "NO" WHEN THE COMPILER OFFERS THE DEFAULT VALUES.

MEMORY USAGE:

THE MEMORY USED BY THE COMPILED CODE AT RUNTIME IS DIVIDED INTO THREE AREAS:

1. RUNTIME
1. LIBRARY
2. OBJECT PROGRAM
3. VARIABLES

TASC ALLOWS THE LOCATION FOR EACH OF THESE BLOCKS TO BE SPECIFIED SEPARATELY. THE MEMORY ALLOCATION FEATURES CAN BE USED TO PROTECT MACHINE LANGUAGE PROGRAMS, SHAPE TABLES, THE HIRES SCREENS, OR ANY OTHER IMPORTANT PART OF MEMORY.

THE DEFAULT ALLOCATIONS ORDER, LIBRARY, PROGRAM, VARIABLES. THE LIBRARY IS ALLOCATED LOWEST AND PROGRAM AND VARIABLES FOLLOW. THE LIBRARY BEGINS AT LOCATION 2051, OR \$803.

ALTERNATE ADDRESSES FOR THE BLOCKS ARE SIMPLE TO SPECIFY. THE NEW LOCATION FOR THE LIBRARY IS ENTERED AS A NUMBER AND DEFAULTS TO \$803. ADDRESSES CAN BE SPECIFIED IN EITHER HEXADECIMAL OR DECIMAL. HEX MUST HAVE (\$)

THE LIBRARY MUST BE LOADED BEFORE A COMPILED PROGRAM CAN BE RUN. BY DEFAULT THE LIBRARY IS LOADED AT \$803. WHEN A PROGRAM IS COMPILED TO EXPECT THE LIBRARY AT A DIFFERENT ADDRESS, THE LIBRARY MUST BE LOADED IN AT THE CORRECT ADDRESS BY USING "A" OPTION WITH THE BLOAD COMMAND. MOVING BINARY FILES, WITH ADR UTILITY.

THE BEGINNING ADDRESS FOR THE OBJECT CODE MAY BE SPECIFIED WITH:

1. THE WORD HGR1
2. THE WORD HGR2
3. A DECIMAL OR HEX NUMBER
4. <RETURN>

HGR1 AND HGR2 SET THE BEGINNING OF THE PROGRAM ABOVE THE APPROPRIATE HIRES SCREEN. THEN 4K RUNTIME LIBRARY DEFAULTS TO THE SPACE BELOW THE FIRST HIRES SCREEN. THIS DEFAULT LOCATION IS SUGGESTED FOR PGMS OF HIRES.

VARIABLE SPACE MAY BE SPECIFIED EXPLICITLY OR ALLOWED TO DEFAULT. THE BEGINNING OF VARIABLE SPACE DEFAULTS TO THE END OF THE OBJECT CODE.

COMPILED PGMS USE THE NORMAL HIMEM POINTER TO DETERMINE THE TOP OF AVAILABLE STRING SPACE, AND STRINGS GROW DOWNWARD FROM THERE.

COMPILATION OPTIONS:

|                     |     |
|---------------------|-----|
| COMPILATION LISTING | YES |
| PAUSE ON ERRORS     | YES |
| INTEGER ARITHMETIC  | YES |
| INTEGER CONSTANTS   | YES |
| RESUME/DEBUG CODE   | NO  |

ANSWERING "NO" OR "N" TO THE DEFAULT OPTION PROMPT PROVIDES A CHANGE TO TURN EACH OF THESE OPTIONS ON OR OFF.

THE COMPILER NORMALLY LISTS THE SOURCE FILE. TURNING THE LISTING OPTION OFF SUPPRESSES THE LISTING. ERRORS, WARNING, AND SPECIAL

MESSAGES ARE PRINTED AS USUAL.

PAUSE ON ERRORS OPTION:

ERRORS NORMALLY HALT COMPILATION AND ALLOW THE USER TO ABORT OR CONTINUE COMPILATION. TURNING THE PAUSE OPTION OFF SUPPRESSES THE PAUSE AFTER ANY ERROR MESSAGE ARE PRINTED.

INTEGER ARITHMETIC OPTION:

TASC INCLUDES A FULL INTEGER ARITHMETIC PACKAGE. TRUE INTEGER ARITHMETIC ALLOWS OPERATIONS ON INTEGERS TO BE PERFORMED IN ABOUT HALF THE NORMAL TIME, INCLUDING THE OPTION SUBSTANTIALLY INCREASES THE SPEED OF PGMS THAT USE INTEGERS.

INTEGER CONSTANTS:

CONSTANTS IN A COMPILED PROGRAM CAN BE TREATED AS INTEGERS OR FLOATING POINT NUMBERS. SELECTING THE INTEGER CONSTANTS OPTIONS ALLOWS CONSTANTS THAT ARE USED AS INTEGERS TO BE STORED IN INTEGER FORMAT. IF A CONSTANT IS NEEDED IN FP IT INCLUDES BOTH.

INTEGER CONSTANTS TAKE UP TWO BYTES IN THE OBJECT FILE: FP TAKES FIVE. THE INTEGER CONSTANTS OPTION SHOULD NORMALLY BE LEFT ON.

RESUME/DEBUG CODE OPTION:

TURNING ON THE RESUME/DEBUG CODE OPTION CAUSES CODE TO HANDLE THE RESUME STATEMENT TO BE INCLUDED IN THE OBJECT PGM. THE RESUME IN APPLESOFT ALLOWS AN ERROR TRAPPING ROUTINE TO RESUME EXECUTION AT THE BEGINNING OF THE STATEMENT THAT CAUSED THE ERROR. TASC ALSO FULLY SUPPORTS ONERR GOTO. THE COMPILED VERSION OF ONERR GOTO TRAPS ALL RUNTIME ERRORS, INCLUDING THOSE THAT OCCUR WITHIN ROUTINES FROM THE APPLESOFT INTERPRETER.

INCLUDING THE RESUME/DEBUG OPTION REQUIRES THE COMPILER TO GENERATE EXTRA CODE AT THE BEGINNING OF EACH STATEMENT THAT MAY GENERATE AN ERROR. SELECTING RESUME/DEBUG CODE OPTION CAUSES THE OBJECT CODE TO BE LARGER AND SOMEWHAT SLOWER.

TURNING ON THE RESUME/DEBUG CODE OPTION HAS THE ADVANTAGE THAT ANY RUNTIME ERROR MESSAGES INCLUDE THE OBJECT CODE ADDRESS. NORMALLY, ONLY SOME OF THE ERRORS GENERATED BY THE RUNTIME LIBRARY INCLUDE AN OBJECT CODE ADDRESS. THE RESUME/DEBUG OPTION CAN BE USEFUL FOR DEBUGGING WITH THE COMPILER. HOWEVER, INCLUDING IT DOES DECREASE THE SPEED AND INCREASE THE LENGTH OF THE COMPILED CODE. THE RESUME/DEBUG OPTION SHOULD BE LEFT OFF UNLESS IT IS ABSOLUTELY NEEDED. IF THE OPTION IS TURNED OFF THE COMPILER WILL IGNORE ALL RESUME STATEMENTS.

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DOCUMENT tasc.2

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## TERMINATING COMPILATION

THE COMPILER RUNS IN MACHINE LANGUAGE SO CTRL-C WOULD NORMALLY BE IGNORED AND RESET WOULD BE NECESSARY INSTEAD. TO TERMINATE:

CTRL-C IF USED STOPS COMPILATION, BUT ALSO DELETES THE OBJECT FILE IF COMPILATION IS ABORTED. TASC MODIFIES DOS, SO BY USING CTRL-C,OR RESET THEN DOS MUST BE REBOOTED. CORRECTLY EXITING THE COMPILER RESTORES DOS TO ITS NORMAL STATE.

## COMPILING LARGE PROGRAMS

LARGE PROGRAMS MAY DISPLAY A SYMBOL TABLE FULL ERROR. ONE WAY TO CORRECT THIS MESSAGE IS TO TURN OFF THE INTEGER CONSTANTS OPTION. IF CONSTANT IS NEEDED LATER IT CAN BE A FP, AND ENTERED INTO THE SYMBOL TABLE. THE INTEGER ENTRY TAKES FIVE LOCATIONS, FP ENTRY TAKES EIGHT LOCATIONS. WITH INTEGER CONSTANTS OPTION OFF, CONSTANTS ARE STORED IN FP FORM. TURNING OFF THE OPTION SAVES FIVE LOCATIONS FOR EVERY CONSTANT THAT IS REFERENCED AS FP VALUE.

TURNING OFF THE INTEGER CONSTANTS OPTION ALSO SLOWS DOWN THE OBJECT CODE,SO THE OPTION SHOULD BE LEFT ON WHENEVER POSSIBLE.

## #2 SEPARATE PROGRAM INTO PARTS:

USE THE COMMON COMMAND AND TRY TO SPLIT THE PROGRAM INTO PARTS AS NATURAL DIVISIONS AS POSSIBLE. PROGRAMS WITHOUT NATURAL DIVISIONS MAY PRESENT A PROBLEM SO YOU MUST MAKE ARTIFICIAL DIVISIONS.THE TECHNIQUE OF SPLITTING A LARGE PROGRA INTO SMALLER PROGRAMS THAT RUN IN SEQUENCE CAN SOLVE ALMOST ANY PROBLEM WITH PROGRAM SIZE. PASSING VALUES WITH COMMON MAKES SEPARATING PROGRAMS A MANAGEABLE PROBLEM.

## EXECUTING A COMPILED PROGRAM\*\*\*\*

1. INTERPRETED PROGRAMS ARE STORED AS APPLESOFT FILES INDICATED BY A "A".THESE FILES ARE EXECUTED BY A RUN COMMAND.

2. COMPILED PROGRAMS ARE STORED AS BINARY "B" AND MUST BE EXECUTED BY A BRUN COMMAND. THE NORMAL SEQUENCE FOR EXECUTING A COMPILED PROGRAM IS :

```
BLOAD RUNTIME
BRUN <FILE NAME>
```

COMPILED PROGRAMS WILL ONLY WORK IN APPLESOFT LANGUAGE NOT \*\*INTEGER BASIC\*\*

## USING THE AMPERSAND(&):

ONCE THE COMPILED PGM HAS BEEN LOADED AND EXECUTED, IT CAN BE RE-EXECUTED BY TYPING AN (&) FOLLOWED BY <RETURN>. USING THE (&) IS MUCH MORE CONVENIENT THAT HAVING TO CALL THE CODE.

## HALTING EXECUTION OF COMPILED PGM:

<RESET> FOLLOWED BY NEW

## NEW:

NEW CAUSES THE INTERPRETER TO RESET POINTERS, BUT NOT CLEAR THE PROGRAM SPACE. THEREFORE THE PROGRAM CAN BE SAFELY RE-EXECUTED IF NO PROGRAM LINES HAVE BEEN TYPED IN AND STORED INTO THE PROGRAM SPACE.

## IMMEDIATE COMMANDS:

NONE

STATEMENTS NOT IMPLEMENTED:

THE FOLLOWING COMMANDS ARE \ NOT \ INCLUDED IN TASC

```
CONT    DEL    LIST
LOAD    SAVE   LOMEM:
&       RECALL NOTRACE
SHLOAD  STORE  TRACE
```

THE FOLLOWING COMMANDS ARE SUPPORTED WITH SOME LIMITATIONS:

DEF FN DIM <CTRL-C>

## DEF FN:

IN THE INTERPRETER, A DEF FN DOES NOT DEFINE A FUNCTION UNTIL THE DEF FN STATEMENT IS ACTUALLY EXECUTED AT RUNTIME. THE COMPILER, ON THE OTHER HAND SCANS ALL FUNCTIONS DEFINITIONS AT COMPILETIME. THEREFORE FUNCTION DEF CAN BE LOCATED ANYWHERE WITHIN THE SOURCE FILE. THE SOURCE CANNOT CONTAIN MORE THAN ONE DEF FOR A GIVEN FUNCTION,EVEN IF IDENTICAL.

## DIM:

EXECUTING A DIM STATEMENT IN WHICH THE SPECIFIED DIMENSIONS ARE CONSTANTS SETS ASIDE THE SAME AMOUNT OF STORAGE FOR THE ARRAY EACH TIME THE PGM IS RUN.

EXECUTING A DIM STATEMENT IN WHICH THE SPECIFIED DIMS ARE ARITHMETIC EXPRESSIONS SETS ASIDE SPACE FOR THE ARRAY DEPENDING ON THE COMPUTED VALUE OF THE EXPRESSION.

DEFAULT DIM- IF AN ARRAY REF IS ENCOUNTERED BEFORE A DIM STATEMENT,THE ARRAY IS GIVEN THE DEFAULT MAX VALUE OF 10 FOR EACH DIM OF THE ARRAY.APPLESOFT ALLOWS THE USE OF 0 AS AN ARRAY SUBSCRIPT,SO AN ARRAY DIMED AT 10 IS ACTUALLY 11 (0-10)

## CTRL-C:

TYPING CTRL-C DURING INPUT HALTS THE PGM

## IF THEN:

THE COMPILER SUPPORTS ITS USE, BUT AN IF/THEN STATEMENT WITH A STRING EXPRESSION IS FLAGED AS AN ERROR DURING COMPILATION.

## GET:

WORKS FINE

## READ:

WORKS FINE

## ONERR GOTO:

USED WITH RESUME/DEBUG NEW,END,STOP:

## NEW-ERASES THE CURRENT PROGRAM

STOP-PRINTS THE MESSAGE "BREAK IN ####"

END- TERMINATE EXECUTION

## GARBAGE COLLECTION:

EACH TIME GC IS NECESSARY, THE PROGRAM SIMPLY SUSPENDS EXECUTION WHILE THE GC ROUTINE HOUSE-CLEANS.

## LANGUAGE ENHANCEMENTS:

INTEGER:

```
CHR$      COLOR=   DRAW
FOR       HCOLOR=  HLIN
HPLOT     HTAB     IN#
LEFT$     LET      MID$
ON GOSUB/TO PDL    PLOT
POKE(2)   PR#      RIGHT$
ROT=      SCALE=   SCR#
```

SPEED=            SPC            SUBSCRIPTS  
 TAB                VLIN            VTAB  
 WAIT               XDRAW

THE ABOVE OPERATIONS EXPECT INTEGER VALUES.

INTEGER ARITHMETIC PACKAGE:

ADDITION          MULTIPLICATION  
 NEGATION          SUBTRACTION

THE FOLLOWING INTEGER OR FP

AND                FRE                IF/THEN  
 NOT                OR                 POS

THE FOLLOWING RETURN INTEGER VALUES:

ASC                LEN                PDL  
 PEEK               POS                SCRIN

COMMON:

CLEAR COMMON:  
 CLEAR CHAIN:  
 DEFCOMMON:  
 USECOMMON:

THE DEFCOMMON AND USECOMMON STATEMENTS ARE DESIGNED FOR CREATING LARGE SYSTEMS OF PROGRAMS THAT COMMUNICATE WITH EACH OTHER.

MENU

1000 INPUT "WHICH PACKAGE?".N  
 1010 IF N = 1 THEN ? D\$"BRUN GL"  
 1020 IF N = 2 THEN ? D\$"BRUN AP"  
 1030 IF N = 3 THEN ? D\$"BRUN AR"

GL

10 REM!DEFCOMMON A,B(3,4),C\$  
 .  
 .  
 1000 REM!CLEAR CHAIN  
 1010 ? D\$"BRUN GL1"

GL1

10 REM!USECOMMON A1,B1(3,4),C1\$  
 .  
 .  
 1000 REM!CLEAR CHAIN  
 1010 ? D\$"BRUN GL2"

GL2

10 REM!USECOMMON A2,B2(3,4),C2\$  
 .  
 .  
 1000 REM!CLEAR CHAIN  
 1010 ? D\$"BRUN GL3"

GL3

10 REM!USECOMMON A3,B3(3,4),C3\$  
 .

1000 ? D\$"BRUN MENU"

PASS1:

FIRST PASS, PERFORMS SYNTAX ANALYSIS AND GENERATES MOST OF THE CODE. ALSO COLLECTS INFO ABOUT VARIABLES, LINE NUMBERS, AND STORES IT IN SYMBOL TABLE

PASS2:

USES INFO FROM PASS1 AND USES THE SYMBOL TABLE TO STORE INFO. ALSO DECIDES HOW MUCH STORAGE SHOULD BE ALLOCATED.

SYNTAX ANALYSIS:

LEXICAL-PRINT, FOR BECOMES UNDER LEXICAL TOKENS

ERROR MESSAGES AND DEBUGGING:

DECLARATION:

INTEGER OR COMMON DECLARATIONS OUT OF SEQUENCE OR NOT AS BEGINNING OF PGM USECOMMON AND DEFCOMMON BOTH DECLARED IN A SINGLE PROGRAM VARIABLE DECLARED AS COMMON MORE THAN ONCE.

INCOMPLETE:

INCOMPLETE EXPRESSION MISSING RIGHT PARENTHESIS IN EXPRESSION

OPERAND:

ILLEGAL OPERAND IN EXPRESSION ARITHMETIC CONSTANT TOO LARGE

REDEFINED:

FUNCTION DEFINED MORE THAN ONCE SPECIFIED ARRAY DIM DIFFERENT THAN THE FIRST DIM SPECIFIED

SUBSCRIPT:

FIRST SUBSCRIPT MISSING DIM NOT AN INTEGER CONSTANT DIM NEGATIVE OR GREATER THAN 32767 MORE THAN 88 SUBSCRIPTS DIFFERENT NUMBER OF SUBSCRIPTS THAN IN FIRST USAGE

SYMBOL TABLE FULL:

COMPILER OUT OF SYMBOL TABLE SPACE.

SYNTAX:

MISSING OR ADDED CHARACTER OR ITEM LINE NUMBER GREATER THAN 65534

TOO COMPLEX:

EXPRESSION TOO COMPLEX OBJECT CODE OR VARIABLE EXTEND PAST 48K

TYPE MISMATCH:

NUMERIC EXPRESSION WHERE STRING WAS EXPECTED STRING EXPRESSION IN IF/THEN

UNDEFINED LINE NUMBER OR FUNCTIONS PRODUCE FATAL ERROR AT THE BEGINNING OF PASS2.

SELF-MODIFYING PROGRAMS:

PHONE LIST ON APPLE DEMO THIS PROGRAM WILL NOT COMPILE PROPERLY. MUST BE RE-WRITTEN IN STRAIGHTFORWARD METHODS TO BE COMPILED.

ADR:

PRINTS OUT THE DECIMAL BEGINNING ADDRESS AND LENGTH OF THE MOST RECENTLY LOADED FILE. MUST USE THIS INFO WITH "A" AND "L" PARAMETERS TO BSAVE THE M.L. PROGRAM.

THE NORMAL PROCESS FOR MOVING A PROGRAM IS:

BLOAD <FILE NAME>  
 EXEC ADR  
 BSAVE <FILE NAME>,A<ADDRESS>,L<LENGTH>



CREATE ADR: TO TRANSFER ADR TO ANOTHER DISK

- 1. LOAD CREATE ADR FROM TASC DISK
- 2. REMOVE TASC DISK
- 3. INSERT DISK FOR NEW COPY
- 4. TYPE RUN

CONVERTING 3.2 TO 3.3:  
USE MUFFIN ON DOS MASTER

=====
DOCUMENT tele.porter
=====

\*\*\*\*\*
\*
\* Tele-porter Documentation \*
\*
\* thanks to U-Called-It-U-Name-It and \*
\*
\* The Nut along with Preston Jr. \*
\*
\*\*\*\*\*

\*\*\*\* ALERT \*\*\*\*

THIS COMMAND WILL RING THE BELL ON THE REMOTE APPLE.

\*\*\*\* ANSWER \*\*\*\*

SETS THE COMMUNICATOR TO ANSWER THE PHONE WHEN IT RINGS. THE APPLE WILL ANSWER ANY PHONE CALL WHICH COMES IN ON THE LINE THE APPLE IS CONNECTED TO. THIS MAY ONLY BE USED WITH THE HAYES MICROMODEM AND THE NOVATION D-CAT. INVOKE BY TYPING A OR ANSWER. WHILE IN ANSWER MODE, THE MESSAGE 'WAITING FOR CALL' WILL APPEAR IN THE COMMAND WINDOW.

WHEN THE PHONE RINGS THE MESSAGE 'RING DETECTED, WAITING FOR CARRIER' WILL APPEAR IN THE COMMAND WINDOW. IF CARRIER IS DETECTED, THE MESSAGE 'CONNECTED' WILL APPEAR AND YOU WILL BE RETURNED TO COMMAND LEVEL.

IF NO CARRIER IS DETECTED, THE MESSAGE 'NO CARRIER, LINE DISCONNECTED' WILL APPEAR IN THE COMMAND WINDOW AND IT WILL RETURN TO ANSWER MODE.

\*\*\*\* BOOT \*\*\*\*

THIS COMMAND WILL RE-BOOT FROM THE DRIVE USED TO BOOT TELE-PORTER.

THE BOOT COMMAND WILL BOOT ANY OPERATING SYSTEM (DOS/PASCAL) OR PRODUCT SO THAT USER PROGRAMS CAN PROCESS DATA TRANSFERED WITH THE TELE-PORTER.

THIS MAY BE INCLUDED IN AN EXEC FILE TO RUN ANOTHER PROGRAM UNATTENDED AFTER COMPLETION OF DELAYED TRANSFERS. YOU MAY THEN PROCESS WHAT WAS JUST RECEIVED.

\*\*\*\* CALL \*\*\*\*

THIS ALLOWS YOU TO ORIGINATE CALLS TO A REMOTE APPLE USING TELE-PORTER. INVOKE BY TYPING CALL. RESPOND TO NUMBER: WITH THE TELEPHONE NUMBER. YOU MAY USE SEPERATORS SUCH AS ( AND - IN THE PHONE NUMBER. AN \* SIGNIFIES TO PAUSE 2 SECONDS BEFORE CONTINUING. A +, ON THE NOVATION ONLY, WILL INDICATE TO WAIT FOR A SECOND DIAL TONE. FOR EXAMPLE; NUMBER:1-(203)327-3204 THIS IS ONLY VALID FOR THE HAYES MICROMODEM AND THE NOVATION D-CAT. WHEN CARRIER IS DETECTED, THE MESSAGE 'CONNECTED' WILL APPEAR IN THE COMMAND WINDOW AND YOU WILL BE RETURNED TO COMMAND.

IF CARRIER IS NOT DETECTED WITHIN 30 SECONDS, THE MESSAGE 'NO CARRIER, LINE DISCONNECTED' WILL APPEAR IN THE COMMAND WINDOW AND YOU WILL BE RETURNED TO COMMAND.

\*\*\*\* CATALOG \*\*\*\*

THIS ALLOWS YOU TO PRODUCE A CATALOG OF ANY DISK ON THE LOCAL APPLE. INVOKE BY TYPING CAT OR CATALOG. RESPOND TO LOCAL: WITH A DOS FILE NAME OR A WILDCARD, FOR EXMAPLE;

ABC=,S3,D2

WOULD SHOW ALL FILES THAT BEGIN WITH ABC IN SLOT 3 DRIVE 2.

IF OMITTED, THE SLOT DEFAULTS TO 6 AND THE DRIVE DEFAULTS TO 1.

\*\*\*\* DELAY \*\*\*\*

THIS COMMAND WILL DELAY FOR THE NUMBER OF MINUTES SPECIFIED AND THEN EXECUTE AN EXEC FILE. YOU WILL SUPPLY THE TIME IN MINUTES AND THE EXEC NAME TO RUN.

THIS ALLOWS YOU TO DO UNATTENDED OVERNITE TRANSFERS WHEN THE PHONE RATES ARE LOWER, EVEN IF YOUR MACHINE DOES NOT HAVE A CLOCK CARD.

\*\*\*\* END \*\*\*\*

THIS WILL TERMINATE THE FILE TRANSFER AND RETURN YOU TO THE MAIN MENU.

\*\*\*\* EXEC \*\*\*\*

THE EXEC COMMAND ALLOWS YOU TO STORE ANY COMMANDS IN A STANDARD DOS EXEC FILE TO BE EXECUTED VIA THE EXEC COMMAND. INVOKE BY RESPONDING E OR EXEC TO THE COMMAND PROMPT. RESPOND TO THE LOCAL: PROMPT WITH THE EXEC FILE NAME,SX,DX. IF NOT ENTERED, SX WILL DEFAULT TO S6 AND DX WILL DEFAULT TO D1.

EACH LINE OF THE EXEC FILE MUST CORRESPOND EXACTLY TO WHAT YOU WOULD HAVE TYPED IF YOU HAD ISSUED THE COMMAND IN RESPONSE TO THE COMMAND PROMPT.

AN EXAMPLE OF AN EXEC FILE TO CALL A TELEPHONE NUMBER:

CALL 1-203-357-8002

\*\*\*\* HANG \*\*\*\*

THIS ALLOWS YOU TO HANG UP THE PHONE UPON COMPLETION OF THE CURRENT SESSION THIS IS ONLY VALID FOR THE HAYES MICROMODEM AND THE NOVATION D-CAT.

INVOKE BY TYPING HA OR HANG. THE MESSAGE 'DISCONNECTED' WILL APPEAR IN THE COMMAND WINDOW.

\*\*\*\* HELP \*\*\*\*

ALLOWS YOU TO GET A MORE DETAILED EXPLANATION OF ANY COMMAND. INVOKE BY TYPING HELP. RESPOND TO THE PROMPT FOR WHAT COMMAND WITH THE COMPLETE NAME.

\*\*\*\* INIT \*\*\*\*

THIS COMMAND ALLOWS YOU TO INITIALIZE DOS COMPATABLE DISKS. THE INIT COMMAND WILL NOT PRODUCE A BOOTABLE DISK.

NOTE\*

BECAUSE DOS IS NOT STORED ON A DISK INITTED BY THE TELE-PORTER THEY WILL HOLD APPROXIMATELY 6% MORE DATA THAN STANDARD DOS DISKS.

\*\*\*\* LOGOFF \*\*\*\*

THE LOGOFF COMMAND WILL TURN OFF THE SYSTEM LOG AND CLOSE THE LOG FILE.

THE LOG MUST BE TURNED OFF BEFORE YOU EXIT THE FILE TRANSFER.

\*\*\*\* LOGON \*\*\*\*

THIS COMMAND WILL TURN ON THE SYSTEM LOGGING FACILITY. RESPOND WITH A VALID DOS FILE NAME. BE SURE TO TURN THE LOG OFF BEFORE EXITING THE FILE TRANSFER. THE SYSTEM LOG CAN BE PRINTED WITH THE APPLESOFT PROGRAM "LOG LISTER" SUPPLIED ON THE TELE-PORTER DISK.

\*\*\*\* MESSAGE \*\*\*\*

ALLOWS YOU TO COMMUNICATE WITH THE REMOTE USER WHILE TRANSFERS ARE BEING DONE. INVOKE BY TYPING M OR MESSAGE. RESPOND TO : WITH THE MESSAGE. THE LEFT AND RIGHT ARROWS MAY BE USED TO CORRECT ERRORS. WHEN YOU HAVE TYPED THE COMPLETE MESSAGE, PRESS RETURN.

YOU WILL BE RETURNED TO COMMAND AND THE MESSAGE WILL APPEAR IN THE REMOTE USERS ATTENTION WINDOW.

\*\*\*\* MLOG \*\*\*\*

THIS COMMAND WILL SWITCH TO THE MESSAGE LOG SCREEN THAT SHOWS THE LAST 24 LINES OF MESSAGES EXCHANGED BETWEEN BOTH USERS.

THE MESSAGES FROM THE REMOTE APPLE WILL APPEAR IN INVERSE VIDEO.

YOU WILL RETURN TO THE TELE-PORTER SCREEN WHEN RETURN IS PRESSED.

\*\*\*\* RCATALOG \*\*\*\*

THIS COMMAND ALLOWS YOU TO DO A CATALOG COMMAND FOR ANY DISK ATTACHED TO THE REMOTE APPLE.

THE REMOTE CATALOG COMMAND ACTS JUST LIKE THE CATALOG COMMAND EXCEPT THAT IT TAKES A LITTLE LONGER DUE TO DATA TRANSMISSION DELAYS.

\*\*\*\* RECEIVE \*\*\*\*

THIS ALLOWS YOU TO GET A COPY OF A FILE OR A COMPLETE DISKETTE FROM THE REMOTE USERS DISK ONTO YOUR DISK. INVOKE BY TYPING R OR RECEIVE. RESPOND TO LOCAL: WITH THE NAME YOU WANT TO CALL THE FILE ON YOUR LOCAL APPLE. YOU MAY OPTIONALLY FOLLOW THE NAME WITH ,SX,DX TO SPECIFY SLOT AND DRIVE. IF THAT NAME EXISTS ON THE SPECIFIED DISK, IT IS DELETED. RESPOND TO REMOTE: WITH THE NAME OF THE FILE WHICH RESIDES ON THE REMOTE USER'S DISK THAT YOU WANT TO COPY. SIMPLY PRESS RETURN IF NAME,SX,DX IS THE SAME AS GIVEN TO LOCAL:. AN \* IN THE NAME WILL ALLOW YOU TO CHANGE SLOT/DRIVE. IF THE LOCAL NAME IS BLANK, THE ENTIRE DISK WHICH RESIDES IN THE SPECIFIED DRIVE IS RECEIVED. THIS IS SIMILIAR TO DOING A COPY OF A DISK TO CREATE A BACKUP, EXCEPT THAT THE COPY IS DONE BETWEEN THE TWO SYSTEMS. YOU MAY OPTIONALLY FOLLOW THE NAME WITH ,SX,DX TO SPECIFY SLOT AND DRIVE THAT THE FILE CURRENTLY RESIDES ON. IF SX IS NOT SPECIFIED, IT WILL \*\*\* GARBAGE STARTS HERE \*\*\*

```
=====
DOCUMENT telengard.cmds
=====
```

```
-----
TELENGARD COMMAND KEY:
BY THE WYVERN/300 (LUB
CALL 805/682-5148 NOW!
-----
```

ACTION PHASE CMDS:

```
=====
C = CAST SPELL
P = REPLOT
H = HELP
S = STAY
Q = QUIT
```

```
STORE GAME = CTRL-S
STRENGTH = CTRL-P
HEAL = CTRL-H
RESCUE = CTRL-R
```

MOVE COMMANDS:

```
=====
A = WEST
W = NORTH
D = EAST
X = SOUTH
```

ENCOUNTER PHASE COMMANDS:

```
=====
F = FIGHT
E = EVADE
C = CAST SPELL
[RETURN] = PICK ITEM UP
```

```
=====
DOCUMENT temple.apshai
=====
```

```
()()()()()()()()()()()()()()()()()
()          TEMPLE OF APSHAI          ()
()()()()()()()()()()()()()()()()()
```

```
=====
:MOVE:
=====
```

```
I = UP           J = LEFT
L = RIGHT        , = DOWN
K = STOP         V = VAULT 20 FEET
O = 9 SETS SPEED
```

```
=====
:BATTLE:
=====
```

```
A = ATTACK      T = THRUST
B = BLOCK (PARRY) F = FIRE ARROW
C = FIRE CHARMED ARROW
```

```
=====
:SPECIAL:
=====
```

```
E = EXAMINE WALL FOR DOOR   R = REMOVE DOOR
G = GRAB TREASURE           D = DROP TREASURE
Q = QUEST FOR MONSTER       S = SEARCH
I = SPEAK TO MONSTER        X = INVENTORY
H = HEAL                     Y = ELIXER
W = WAIT
```

top-middle of the windshield, you have a rear view mirror which is very detailed, showing the cars you have passed and the distance they are behind you.

The mountain route you must drive has a nice perspective to it and makes you feel like you are actually driving on the road. To accelerate push the joystick up, to decelerate push down, and to shift gears, press the fire button while pushing the joystick up or down. It takes a lot of practice to shift gears, because it's not just a matter of shifting, but rather knowing when to shift. When you do shift gears, there is a window that opens in the lower right corner of the dashboard displaying the gearshift and the gear you are currently in. There are also two indicators on the dashboard, one for the current mph and another for rpm. The mph indicator simply displays your current speed, while the rpm indicator tells you how much faster you can go without blowing your engine in the current gear.

The most important device on your car is the radar detector (never leave home without it). This device is located in the upper left part of the windshield, attached to your sun visor. When the red lights start flashing on the radar detector, it means that a radar gun has been detected, so slow down. It is safe to speed up when the red lights turn to green.

The Pit Stop  
=====

Once you have completed the stretch of road, your car automatically pulls over into one of four gas stations (time to take a leak). Here you are given your average speed, the time it took for you to complete the stretch of road and your total points so far. If your score is low, the dealership will have called ahead and told the gas station to send you back.

Winning The Game  
=====

If you are successful and do complete the mountain road four times, your car will automatically pull over into the dealership for the surprise of your life. Inside the glove compartment is the title to a brand new yugo!!!! (ha ha ha) just kidding, anyway, inside you will find the title to your car, which the dealership has signed over to you. The game will now prompt you for your name (if your score is high enough) in order to put you in the top drivers hall of fame.

Some Hints and Tips  
=====

When you first get the game, start out with something that does not have as much zip as the 173 mph lamborghini. The porsche is one of the best all-around cars for beginners (if you have the dough). It combines good speed and handling along the mountain road to help you get the "feel" of the game.

When your rpm indicator gets in the red area, it is time for you to shift into the next highest gear, or bye bye engine!!!

Shift into first gear before you accelerate when starting out from the gas station or beginning a new game. If you don't, you're history even before you get started.

If you been pulled over too many times by the police, try this: get up a speed of over 110 mph, and nothing will stop you. You're just a blur on their radar and no match for their cruisers.

=====

DOCUMENT testdrive

=====

```

=====
=
=      | | |      "      TEST DRIVE DOCS      | | |      "      =
=      | | |      " ISK          BY          " APER      =
=      | | |      "          THE DISK RAPER      | | |      "      =
=      | | |      "          "          "          "          =
=====

```

Introduction  
=====

Have you ever wondered what it would be like to go into a dealership that specializes in sports cars and test drive the car of your dreams? Of course! Don't be a loser! Just give it a try! No guts? Afraid they'll kick you right out of their showroom? Well, here's your chance!! Test drive by accolade puts you behind the wheel of your favorite sports car. The game starts out with a glamorous title sequence (awesome!!!), while a stereo soundtrack plays in the background (depending on what computer you are playing). To abort the sequence press the fire button on the joystick, and the game will finish loading. Now comes the hard decision-which car to drive?

Choosing A Sports Car  
=====

The screen is now split in half, showing one of the five sports cars that you may test drive and the specifications of the current car. To cycle through the different cars, press the joystick up or down. This will cause the top portion of the screen to scroll, displaying a different sport car, and the bottom portion to display specifications. The cars from which you may choose are: lamborghini countach, ferrari testarossa, porsche 911 turbo, lotus turbo esprit, and the chevrolet corvette. Each car performs just like in real life, including speed and handling.

You had better bring along your swiss bank account money, because you're going to need it. For instance, the lamborghini has a top speed of 173 mph, mid-engine/rear drive handling and a price tag of (gasp!!) \$135,000. While the corvette has a top speed of 154 mph, front/rear handling and a price of only \$35,000. To select your car, press the fire button.

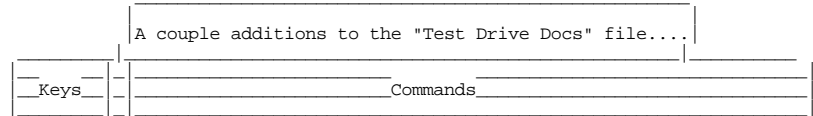
Seeing What's Ahead  
=====

Now that you have selected a sports car, let's take a look at what lies ahead. The object of the game is to drive as fast as you can along a mountain road, while avoiding obstacles such as sunday drivers, on-coming traffic, pot holes, water slicks and, most of all, the fuzz. Whoops, I almost forgot the little bird that flies over and shits all over your windshield (it's just not the car that has real-life performance).

In addition to this, you must keep your car on the road without crashing, which is no simple task when you're going 160 mph. The game ends after you have crashed your car five times or you rear-end an officer of the law. (those assholes!!)

Game Play, How to Play, etc  
=====

Now, it is finally time to see what this fancy european or american car has under the hood. It will not be as simple as plying a lead foot, because this is no ordinary highway. The perspective you have is that of a person sitting behind the wheel looking out through the windshield of the car. In the



|          |                                                                 |
|----------|-----------------------------------------------------------------|
| Ctrl-R   | Ends current game and takes you back to the car selection menu. |
| <Escape> | Pauses/restarts current game.                                   |
| s        | Toggles sound off/on.                                           |
| m        | Toggles music off/on.                                           |

-END-

=====
   
DOCUMENT tex
   
=====

-----
   
Documentation for TEX - Text File Utility
   
Copyright 1988 by Floyd Zink, Jr.
   
All Rights Reserved.
   
-----

About TEX
   
-----

This program is FREeware. You can distribute TEX freely, just don't sell it. I do ask that you make sure that this doc file is made available with the program. You are under no obligation to pay anything for TEX.

However, if you like this program and want to show your appreciation I do accept gratuities. If you send me \$10.00 I will send you the latest version of TEX and some of my other programs that I have written. PLEASE tell me what version you have so I can determine whether or not I should send you a disk right away. The \$10.00 will also entitle you to 1 free update that will be AUTOMATICALLY mailed to you when I update TEX again. This way I make a little money and you do not have to spend the money downloading the update.

My address is:

Floyd Zink, Jr.
   
P.O. Box 060069
   
Palm Bay, FL 32906

I repeat YOU ARE UNDER NO OBLIGATION TO PAY ANYTHING FOR TEX, but if you want me to continue to provide programs in this manner than support the cause and send in the \$10. Thanks.

Features
   
-----

- 1) Catalogs disks
- 2) Types files
- 3) Appends files together
- 4) Deletes files
- 5) Renames files
- 6) Strips linefeeds and ^Z's from files
- 7) Removes carriage returns from files

Program Selectors
   
-----

TEX supports a start-up pathname. If you enter a start-up pathname from a program selector like PROSEL or ECP8 the program will use that pathname and strip the linefeeds from it and then exit by the quit code. If there is no start-up pathname then TEX will display the menu and you can go on from there.

The Menu
   
-----

You can select a menu item by either the first letter in the item or by using the arrow keys to move the inverse bar to your selection and then pressing return. You will be returned to the menu after all processing is done.

## Selecting Files To Be Processed

-----

After making your menu selection you will be prompted for a source directory name and where necessary a destination pathname or target directory. You can use the TAB key to skip to the next '/' in the pathname shown or OA-TAB to back up to the previous '/'. The DELETE key will delete characters and the <-- --> keys will backspace and move the cursor forward. When prompted for a destination pathname be sure and enter a pathname for a file not a directory.

After the directory(s) are selected a catalog of the source directory will be displayed. Using the up and down arrows will move the bar accordingly. The left arrow will unselect an item if it was selected otherwise it will move the bar up. The right arrow will select an item if not already selected otherwise it will move the bar down. Pressing the space bar will toggle a selection also. In addition a OA-space or a control-a (^A) will toggle all the items. Pressing return will implement the selected task using the just picked filenames.

## Filename Queue

-----

The files selected are put into a linked list. This means you can select the files in the order you want them processed. This is particularly handy for the APPEND function.

## Using The Mouse

-----

If you have a mouse TEX will find it and allow you to use it instead of using the arrow keys and you can use the mouse button to select files though you still have to press return to start the process after the files are selected.

The sensitivity of the mouse is at location \$204B when the program is in memory. This is the \$4B byte after the beginning of the program. It is currently set at \$08. This means the mouse must move 8 increments to move inverse bar. If you want to change this use a block editor or from the basic prompt enter:

```
CALL-151 ;enter monitor
BLOAD TEX,TSYS,A$2000 ;load file
204B:XX ;XX being the new value. Higher value=lesser sensitivity. BSAVE
TEX,TSYS,A$2000 ;save file ^C ;back to basic
```

## Type Files

-----

When typing files pressing any key will pause the display. Pressing any key again will start the typing again. Pressing ESC will jump to the end of the current file and pressing ESC again will exit back to the main menu. Pressing a 'p' or 'P' will toggle the paging option. When paging is on the file will be displayed a screen full at a time and will wait for a keypress between each page.

## Append Files

-----

This feature merges text files that you have selected into one file. After the merge you will be asked if you want to delete the original separate files.

## Strip Linefeeds

-----

The linefeed stripper creates a temp file with an '.S' extension. When it is done processing it renames the original file with an '.ORG' extension and renames the temp file to the original file name. At the five bytes located at \$204E-2052 are the additional characters that TEX will strip out of a file. They are currently set to \$1A for control-z and \$7F for delete. You can use a block editor to change these defaults.

## Carriage Return Remover

-----  
The carriage return remover creates a temp file with an '.R' extension. When it is done processing it renames the original file with an '.ORG' extension and renames the temp file to the original file name. Before processing the files you will be prompted for some settings as follows:

- 1) From the 'Minimum line length' prompt you can use the up and down arrow keys to change the default length. The purpose of the minimum line length is to try to maintain formatting in short lines. If you use the default of '60' TEX will not remove the carriage returns in lines of less than 60 characters. DEFAULT = 60
- 2) Removing a space immediately before a CR. If 'Yes' then TEX assumes this space is extraneous and removes it. If 'No' then TEX leave this space in. DEFAULT - Yes
- 3) Removing CR when followed by only ONE space. If 'Yes' then TEX assumes this space is not for formatting and removes the CR. If 'No' then TEX assumes it is for formatting and leaves the CR in. DEFAULT - Yes
- 4) If prompting for settings is answered 'Yes' then you will be prompted for all the settings between every file. If 'No' then you are only prompted the one time. DEFAULT - No

When you press return to select the files to be processed if you hold down the open-apple key then the above defaults will be used and you will not be prompted for any of them.

## Deleting Files

-----

TEX will not delete files that are locked. I have to draw the line somewhere, TEX can't do everything <grin>!

## Renaming Files

-----

When you choose the rename feature you will be prompted for the files as usual and then the files will be displayed one at a time with the cursor over them to allow you to rename them. Pressing escape will skip that file and go to the next one.

## Final Words

-----

If you encounter any bugs or come up with any suggestions for improving the program please let me know. I will consider all reasonable suggestions for improvements.

You can get support from me on the following systems:

```
AppleLink PE - AFL Floyd (Apple II Utilities Forum Leader)
CIS - Floyd Zink, Jr. 73147,2717
GENie - FLOYD.ZINK
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Floyd Zink, Jr.

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DOCUMENT the.other.side
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|/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\The/Other/Side/\/\/\/\/\/\/\/\/\/\/\/\/\|
|/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\Cracked/by/Man/o/War/\/\/\/\/\/\/\/\/\/\/\|
|/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\A/Simplx/Elite/Release/\/\/\/\/\/\/\/\/\|
|/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\Dox/by/Man/o/War/\/\/\/\/\/\/\/\/\/\/\|
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The world of the other side consists of three parts-one side, your side, the other side and an unclaimed frontier that separates and surrounds the two sides. Each side has clearly defined borders that are visible on the map. the entire world has been divided into 55 areas. In the middle of this world (in area 28) there is a large chasm separating the two sides. The goal of the game is to construct a bridge spanning this chasm. Each team adds to the bridge brick by brick. Each brick costs more as you build toward the other side.

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>-----Playing-The-Game-----<
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Each turn of The Other Side follows a simple and logical progression. The four steps below make up each year/turn of the game

Planing Your Moves - Plan and then type in the actions you intend to take during the upcoming year.

The Hotline - Communicate with the other side by typing in a short message.

Executing Your Moves - Carry out the actions you had planned for this year

Year End Report - Record the important domestic and international information which will be used to plan your next year's moves

Planing Your Moves  
At the beginning of each turn you will type in the moves you have planned for the upcoming year. you must use the code which is described below. You will be prompted for incomplete or improper commands. (refer to the yearly planner in the players' tools section for a suggested first turn.)

```

-----\
|The Planning code|
|-----|
|Possible Actions|  b = build      e = exchange
|                |  r = run mixer   a = attack
|                |  t = tank repair f = fuel gift
|                |  i = inspection m = money gift
|                |  p = prospection c = cease fire zone
|                |  n = number sheet u = underground
|-----|
|Possessions:   |  d = driller   b = bomb
|                |  p = patrol    c = covert patrol
|-----|
|Fuels:         |  o = orange
|                |  b = blue
|-----|

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|-----|
|g = green|
|-----|

```

b = build.  
You begin with a patrol in your capitol city. You can build another possession in your capitol city or in any area adjacent to an area with one of your possessions in it. An adjacent area is one which is horizontal, vertical, or diagonal to an area. You can also build new possessions anywhere you you already have. The other's possessions look like yours, but they are black letters on a white background. Type , the possession you want to build (d,p,b,c) and the area number you want to place it in. 'bd31' will build a driller in area 31.

r = run mixer.  
You make money by mixing fuels. To mix fuels, press the space bar repeatedly. Continue pressing the space bar to continue mixing. When you are done mixing, press return.

t = tank repair.  
A leaky tank wastes fuel. To repair a leaky tank, type t and type of fuel in the tank. 'tg' will repair the green fuel tank.

i = inspection.  
You can inspect the areas which contain any of your possessions. Type i and the area number you wish to examine. 'i20' will view area 20. To add bricks to the bridge, you must inspect the bridge in area 28. a command of 'i28' will take you to the bridge where you can add bricks, one at a time, by pressing b on the keyboard.

p = prospecting.  
A prospector looks for rare fuel on the other side and reports back in the year end report. To send out a prospector, type p.

n = number sheet.  
The number sheet displays the costs and values of all the actions and items available to you. To look at the number sheet, type n

e = exchange.  
You can exchange a possession you own for half of its original value. To exchange a possession for cash, type e, the possession you wish to exchange (d,p,b,c), and its location. 'eb53' exchanges a bomb you have in area 53 for cash.

a = attack.  
An attack by your patrol will destroy the other side's patrol or bomb in that area and allow you to take over their driller if one was present. Your patrol must be right next to the possession you are attacking. A bomb attack destroys everything in a target area and releases contamination. To attack with a bomb you must have already built one (although not necessarily in or near the area you wish to attack). To attack, type a, specify the possession with which you intend to attack (p or b), and the area you wish to attack. 'ab48' will launch a bomb toward area 48. If you have built more than one bomb, your C.A.D will select which one to launch.

f = fuel gift.  
Giving fuel to the other side can be helpful, but it costs you money to transport it across the frontier. To give fuel from your storage tanks, type f, the type of fuel (o,g,b), and the number of gallons you wish to send. 'fg15' will send 15 gallons of green fuel to the other side. Transportation costs for the gift will be deducted from your cash.

m = money gift.  
Giving money to the other side can also be helpful, but there are transfer charges you must pay. To give money, type m and the amount of money, plus transfer charges, will be deducted from your cash.

c = cease fire zone.

For a fee, an area can be declared neutral to allow visits or building by the other side which will not alarm your side's C.A.D. To declare a cease fire zone, type c and the number of the area you wish to make neutral. 'c30' will make a cease fire in area 30. Each side can only have 1 at a time.

u = underground.  
By setting off a bomb underground, new fuel resources may be released. It may contaminate the fuel. First build the bomb then type u and the area number. 'u8' will explode a bomb underground in area 8.

Placing a possession in an area

When building you will see a close up of the area where you are placing the possession. To place to object using (i,j,k,m). patrols must be right next to objects they are either protecting or attacking.

Breaking C.A.D. code

C.A.D. your computer assisted defense system, if your cash gets too low or if the other side makes moves which seem aggressive, C.A.D. may step in and take over your moves. When it takes over, it acts swiftly and directly. The only way to stop it is by typing in the appropriate three-letter code (combination of a,b,c) which will turn it off. you can get the code if the code breaker machine appears with C.A.D. this code will only work during the year in which it was bought. To use the code breaker, press return when the amount of money you wish to spend appears. Type in the three letter code when C.A.D. appears again during this turn.

Beyond your control

Occasionally events will occur that are completely beyond your control. C.A.D. may take over or your country may experience a national strike. A strike depletes your sides cash by \$50 and causes you to loose your turn.

Year end report

Watch this it tells all about your fuel and the condition of your fuel tanks, the actions of the other side and the results of the prospectors explorations. Also note the contamination levels as they increase leaking from your tanks.

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DOCUMENT the.quest
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+-----+
:                                     :
:           THE QUEST SOFTDOX        :
:                                     :
+-----+
```

BEFORE EMBARKING ON THY CAREER AS AN ADVISOR TO KING GALT OF BALEMA, THERE ARE A FEW THINGS THOU SHOULD KNOW,

THOU WILT BE TRAVELLING IN THE COMPANY OF THE KING'S CHAMPION, GORN.GORN IS A FIGHTER,NOT A THINKER, AND THAT IS WHY THOU ART WITH HIM.HOWEVER,HE IS A GOOD DEAL LARGER THEN THEE,AND SOMEWHAT STUBBORN IN NATURE. 'TIS FRUITLESS TO ARGUE WITH HIM WHEN HE HAS MADE UP HIS MIND.THE TRICK IS TO ADVISE AND MAN- IPULATE HIM.

OF COURSE YOU ALREADY KNOW THAT YOU WILST BE TRACKING THE FIERCE DRAGON THAT HAS BEEN TERRORIZING THE KINGDOM..

THE KINGDOM THROUGH WHICH THOU SHALT BE TRAVELLING IS NOT ONLY FRAUGHT WITH PERIL, 'TIS ALSO RELATIVELY DRY. THOU SHALT WANT TO KEEP TRACK OF THY WATER SUPPLY AND FIND PLACES TO REFRESH IT. REMEMBER,WATER IS THE SOURCE OF LIKE IN MOST INSTANCES.

THE [RETURN] KEY WILL TOGGLE BETWEEN THE GRAPHICS SCREEN AND A TEXT SCREEN. THE TOP OF THE TEXT SCREEN WILT SHOW POSSIBLE EXITS AS WELL AS VISIBLE OBJECTS.WHEN MOVING THROUGH TERRAIN THAT HAS ALREADY BEEN TRAVELLED,THOU CANST MOVE MORE QUICKLY IN THE TEXT MODE THAN THE GRAPHICS MODE.

LIFE IN BALEMA IS NOT ALWAYS PLACID. THERE ARE PEOPLE AND CREATURES AROUND THAT WOULD AS SOON AS SEE THEE DEAD AS ALIVE. OTHERS WOULD PREFER SEEING THEE DEAD. 'TIS ADVISABLE TO SAVE THE GAME PERIODICLY, OR WHEN THOU FEELETH LIKE GOING TO DO SOMEHTING FOOLISH SUCH AS EAT OR SLEEP(HAHAH).TO DO SO THOU WILT NEED AN INITED DOS 3.3 DISK.. TYPE "SAVE" AND FOLLOW THE INSTRUCTIONS TO CONTINUE A SAVED GAME TYPE "RESTORE" AND GET OUT YOUR SAVED GAME DISKETTE THEN FOLLOW INSTRUCTIONS

CERTAIN COMMADNS CAN BE ABBRIVEATED. THESE ARE THE DIRECTION COMMANDS:N,E,S W,U,D..ALSO 'I' FOR INVENTORY.

THE QUEST WILL ACCEPT MULTIPLE SENTENCE COMMANDS,I.E. THOU CANST SAY "GET THE SWORD AND THEN SMITE YON DRAGON" AND THE GAME WILL OBEY THOSE COMMANDS.SUCH MULTIPLE COMMANDS MUST BE FOLLOWED BY A COMMA, A PERIOD,THE WORD "AND" OR THE WORD "THEN"...HAVE FUN!!!



===== DOCUMENT the.snapper =====

```
*-----*
!           THE SNAPPER           !
*                                           *
!     PRESENTED BY BETS C.     !
*                                           *
*-----*
```

The game begins by asking you a series of questions; if you make a mistake, press 'ESC' to start over. When you select a 2 player game you can choose a different skill level for each player.

J = Joystick  
K = Keyboard

The joystick has 8 different directions. The four diagonal directions cause the Snapper to alternate left and right turns. If the joystick position is near the center, then the Snapper will continue in the same direction. While the joystick control is rather unusual and takes some getting used to, it also provides for quick and sure response for the advanced player, and was chosen with that in mind.

With the keyboard, there are 4 directions.

N = Up  
M = Down  
, = Left

The Snapper will not change direction if the key is just held down (unless holding repeat too)...it will continue in the same direction till the next key press.

When you start playing the game, you'll see a gridwork of lines with scoring and status information above it. You control the Snapper, directing it about the grid; the Snapper starts in the exact center of the grid. In addition, you will see 4 bases, a number of blots in 2 different colors, 2 whirlers which start near the top corners of the grid, and a Gamma-Field which starts in the lower center below the Snapper. The whirlers and the Gamma-Field move about and are controlled by the Apple; the whirlers move on the grid lines (like the Snapper) and the Gamma-Field moves at random over the display. The bases stay fixed, and the Blots also stay fixed until eaten by the Snapper.

The scoring and status area above the grid displays on-going information about the game. The top line indicates the total score for each player, the number of shields available (yellow X's) and the number of lives left (Snapper symbols). The next two lines are organized into 3 boxes. The center box gives you the amount of time left in this round; you'll lose your Snapper if time runs out. (The normal game sounds will change at 10 and 5 counts left, as an audible warning that time is running out.) The left-hand box shows the current values for each of the two colors of blots; each time that you eat a blot, these values will increase. The right box gives the accumulated round score, plus the player's current score multiplier. You don't get the round score added to your total score until you touch one of the 4 bases. An extra line below the 3 boxes is used to send messages to the player.

You score points by guiding the Snapper to eat blots which are scattered about the grid. You don't actually get the points for eating the blots, however, until you touch one of the 4 bases. Since the blots increase in value for each blot eaten, but are restored to their

original values when the round ends (when you touch base or die), you're encouraged to get as many blots as you can before touching base. Also, as the game progresses, you'll find that you must get a minimum number of blots in the round before you are permitted to touch base. (This is indicated in the 'special message' section of the score area.)

Your Snapper is killed if you run out of time or if it touches either a Whirler or Gamma-Field. You have a limited number of shields available; a shield is activated by either pressing down (not holding down) the first joystick button or if using the keyboard by either pressing the shift key while pressing one of the direction keys or by pressing '/'. You'll get one shield for each new round, up to a maximum of 3. The shield is on when the Snapper is yellow. It will protect you from the whirler, but not from the Gamma-Field (which must simply be avoided). The shield can also be used to prevent you from actually touching base, should you desire not to do so, but can't avoid going over it.

At the outset, the grid lines show in purple. However, as you progress to higher rounds, more and more of these lines will turn blue-green in color. Such lines are slicks; whenever the Snapper turns onto a slick, it will move twice as fast as usual. However, the Snapper can't turn off the slick until it reaches the end of that slick. When the Snapper reaches the end of the slick it may immediately turn back onto the same slick by reversing direction; if this is done, the Snapper will continue at double speed, but it may now turn off onto any available path along the way. At the uppermost rounds available in the game, every path is a slick.

The Whirlers travel along the grid lines (and aren't affected by the slicks) in addition, they occasionally remove grid lines, preventing the Snapper from going over such removed lines. These lines are restored at the next round if the Snapper is killed, or if you get a ring.

After every 10 blots or so that you get, you will have a chance to get a ring. The ring appears in the center of the grid, and is signalled by an extra audible tone. The ring only stays up for a fixed amount of time and will flash when it starts to disappear. You'll want to get the ring whenever possible because your score multiplier will be increased by one (to a maximum of 40) and the new multiplier affects the entire value of the round score added to your total score, the grid lines that have been removed will be restored, and after every fifth ring you get an extra life. You may have up to 12 total lives as a result of extra lives, but only 6 lives (your Snapper on the grid plus 5 more next to your score) will be shown.

When 2 players play, they share the keyboard or joystick in turn. If you end your round by touching base, it will remain your turn for another round. If your Snapper is killed, however, then it becomes the other player's turn, unless he has no more lives.

You may restart the game at any time by pressing 'ESC'; when the game ends press 'ESC' to restart, the game won't restart itself.

=====

DOCUMENT third.iigs

=====

Factus Presents.....

The Third Courier  
IIGS Version!

- Game Credits -

Cracked By : The Mechanic  
Brought to Our Attention by Senkrad  
Thank : Static Vengeance / Over Byte

- Documentation Credits -

Typed By : The Mechanic  
Map Artist : The Kid  
Quick Docs By : Senkrad

## HOW TO LOAD THE GAME

1. Turn on your computer, insert Disk 1 into the drive, and the game will auto-boot. Mech Insert : Press Space Bar at the Factus Screen).
2. Follow the prompts for switching disks.

## HARD DISK INSTALLATION

1. Boot up your hard drive.
2. Create a new folder and name it COURIER.
3. Insert Disk 1 into your disk drive.
4. Double click on the 'Disk 1' icon.
5. Copy the following files into the COURIER folder on your hard drive (you can select multiple files by holding down the shift key when you click on each icon):
  - a. Title.res
  - b. Map.res
  - c. Control.res
  - d. Fonts.res
  - e. Shot.snd
6. Open the system folder on Disk 1 and copy the files START into the COURIER folder on your hard drive.
7. Close all windows for Disk 1 and remove it from your drive.
8. Insert Disk 2 into your disk drive.
9. Copy all the files from Disk 2 into the COURIER folder on the hard drive.
  - o Double click on the Disk 2 icon to open it, the use the 'SELECT ALL' option from the 'SPECIAL' pull-down menu to select all the files and drag them into the COURIER folder.

## HOW TO RUN FROM A HARD DRIVE:

1. Boot up your hard drive.
2. Open the COURIER folder.
3. Double click on the START icon.

## THE THIRD COURIER

Moondancer:

Your assignment is vital. Three couriers headed to a top-secret conference in Brussels are missing. Each was carrying a crucial component of the NATO non-nuclear defense plans. Now two are dead and the third -- last seen in Berlin -- has vanished. You must find the three critical components (a computer chip, a floppy disk, and a CPU) before the NATO meeting -- and before they fall into the wrong hands.

You know what's at stake. This time it isn't surveillance. It isn't a drop. Or data farming. This is the majors, and you've just been called up. And there's only one rule in this game: don't trust anymore.

Fly to Berlin and await further instructions. Outside of occasional electronic contact, you're on your own. But then, you've always liked it that way.

## HOW TO CREATE YOUR AGENT

There's a small matter regarding your cover. Field Operatives are allowed to select their own now. After hiring a few Human Resource Psychologists the Company was convinced morale would improve if you had a hand in selecting your new profile.

### Create Your Profile

You can have up to four different agents on file at any one time. To create a new agent identity:

1. Position the cursor on Create Agent and press the button (or press C).
2. Type in the name you want to use for your new identity. (up to 23 characters)
3. Press Enter.

The folder will open to display an Electronic Dossier for you to complete.

### Complete an Electronic Dossier

The first page of the dossier is mandatory. Think of its as your social security number. Your choices determine your agent's ability.

1. Use the mouse, joystick or cursor keys to select an option from each background area (sex, occupation, etc.). if you are using the keyboard, the tab key will move you from one selection group to the next.
2. Click on Next Page (or Press N) to continue when you've completed the first page.

### Character Traits

On page two of the dossier, you are assigned Character Traits based on the information you provided on page one of the dossier. The numerical values beside Character Traits are indicators of your particular abilities relative to the best agents of all time. (the scale runs from 0 to 99, the highest number being the best, 0 the worst.)

### Personality Traits

These are additional characteristics that affect your character's abilities. As you gain more experience, more of your character's idiosyncrasies will be revealed to you. You will learn one more positive and one more negative aspect of your character's personality with each level you gain.

### Experience Points

Experience points are gained by playing the game. You gain points by exploring, encountering other characters, finding objects and by solving problems. promotions are based on your accumulated experience.

## Grade Level

Indicated your progress. No matter how good you may be now, everyone starts out as Sleuth. As you advance (gain experience points), you graduate to higher levels: Agent, Resident Agent, Spy, and finally, Master Spy. You attain these levels based on the following expedience points:

|                |        |
|----------------|--------|
| Agent          | 25,000 |
| Resident Agent | 40,000 |
| Spy            | 60,000 |
| Master Spy     | 75,000 |

## How To Change Your Mind

If you're satisfied with your character, you have two choices:

1. Select Activate and start the game
2. Click on Done or Press D and return to the Agent Selection Screen.

However, unlike life, if you don't like your character profile you can start over again. Just click on Prev Page (or press P) and fill in the dossier with new information.

## How to Activate an Agent

After you create an identity (you can create up to 4), you can activate it at will from the agent file disks.

1. Click on Select Agent (or press S), then click on (or use the arrow keys to move the cursor to) one of the four file disks.
2. Click on Activate Agent (or press A). You will begin in your apartment or wherever you last saved the game.

## How to Terminate an Agent

If you wish to create a fifth identity, you must first "retire" one of your other agents.

1. Click on Select Agent (or press S)
2. Choose one of the four file disks by clicking on it or moving the cursor to it and pressing Enter.
3. Click on Terminate Agent (or press T). You will be asked if you want to delete this Agent. Press Y or N. If you terminate, he's gone.
4. Go back and create a new agent as you did in Create Your Profile.

## How to Review an Agent's File

Allows you to review the dossier and current statistics of any your saved agents.

1. Click on Select Agent or press S.
2. Choose one of the four file disks by clicking on it or moving the cursor to it and pressing return.
3. Click on Review File (or press R). You will be taken to the second page of the dossier. When finished reviewing the file, click on Done (or press D) and you will return to the Agent Select Screen.

## How to Quit the Game

To return to DOS, follow these steps:

1. Click on Quit Game (or press Q). You will be asked if you want to save the current status of your agent.
2. Select Y, NB, or ESC (ESC returns you to the menu). Selecting Y saves your agent's status and returns you to DOS. Selecting N does not save your agents's status and returns you to DOS.

## KEYSTROKES

In The Third Courier, you can use a mouse, joystick or keyboard to control your movements.

In you are using the keyboard, simply press the appropriate key for the desired action. With a mouse or joystick, highlight the desired option and press the mouse button or fire button.

The directional movements works as follows: Select a direction, such as North. You will now be facing north. To continue moving north, continue to click on North or press N on the keyboard. In other words, the first selection turns you in that direction. NOTE: If using a mouse or joystick notice that the direction you are facing will rotate to the top of the on-screen compass.

## Controls

| Keyboard | Mouse/Joystick     | Action                        |
|----------|--------------------|-------------------------------|
| N        | Click N            | Turn/Move North               |
| W        | Click W            | Turn/Move West                |
| E        | Click E            | Turn/Move East                |
| S        | Click S            | Turn/Move South               |
| U        | Click Up arrow     | Climb stairs or in elevator   |
| D        | Click Down arrow   | Descend stairs or in elevator |
| R        | Click Action box   | Run                           |
| C        | Click Action box   | Chat                          |
| F        | Click Action box   | Fight                         |
| A        | Click on Action    | Open Action Menu              |
| I        | Click on Inventory | Open Inventory Menu*          |
| P        | Click on Place     | Open Places Menu              |
| ESC      |                    | Pauses the game               |
| Ctrl S   |                    | Toggles the sound on and off  |

When a menu is open:

|            |                  |                           |
|------------|------------------|---------------------------|
| Space Bar  | Release button   | Closes menu               |
| Up Arrow   | Slide mouse up   | Moves up item list        |
| Down Arrow | Slide mouse down | Moves down item list      |
| Enter      | Release button   | Activates highlights item |

\* With certain actions, the Inventory Menu allows you to take or drop more than one time. When you finished, press the space bar to close this menu.

## Keyboard Shortcuts

Here are some keyboard hot-buttons that will help speed up your actions as your explore Berlin.

1. To use the hot buttons, press the letter key (e.g. A]ction, I]nventory, P]lace) to open the menu you want.
2. When you menu opens, highlights an option by pressing its first letter. If more than one option shares a first letter, press the first letter again to highlight the next possibility; continue to press that letter until the option you want is highlighted.
3. To register your selection, press Enter.

WELCOME TO BERLIN

You'll be staying at a Knesebeck Strasse apartment building where most CIA people stay. If you venture beyond the Berlin Wall, prepare yourself for a trip into the past. Where West Berlin is alive with technicolor brilliance and sparkle, East Berlin still has the look of a forty-year-old black and white WWII movie. Nothing has changed. It has only aged. Little reconstruction, no modern services. The trains still carry wooden seats, the cars with their two-piston engines sound like noisy motorcycles, and the air is thick with the smell of cheap, burnt motor oil. A cloud of despair hangs over the city, making the shadows grayer and the faces longer.

Mech Insert : West Berlin is within the Wall, East Berlin is on the outside.

## HOW TO NEGOTIATE THE MAIN ACTION SCREEN

Your apartment is the first place you'll see in Berlin. We trust you'll find it comfortable -- and quite secure. Your apartment is furnished with a computer and an answering machine. The computer is the only way The Company can contact you.

### Dialog Box

Displays critical conversation and information.

### View Window

All the people you meet, the weapons you carry, the city streets, the building you enter, the taxi, the U-Bahn, and the border crossings will be displayed here.

### Status Box

Indicates your current location, weapon in hand, and available ammunition are displayed here. As you explore the city, icons representing types of establishments you are passing will appear on either the right or left side of the status box. Their positions indicate which side of the street they are on.

If you turn in the direction of the icon, you will be facing the entrance to the building represented by the icon. The building may or may not be open to you. Remember that most businesses have set hours. Most in West Berlin open about 6 a.m.

### Character Information Display Unit (C.I.D.)

The C.I.D. Unit on the right of the screen has multiple functions. You will use this handy device to access special menus, keep track of your character's statistics and the time of day, move around the city and make split second decisions in encounters.

### Menus: Action, Inventory and Places

The options contained inside these menus are your modes of action. They are dynamic menus, which means that certain options are only available when they are applicable to the situation at hand. To operate these Menus:

1. With a mouse or joystick, position the cursor on the appropriate selection and press the button (or Press Action, Inventory, or Place on the keyboard).
2. The menu will open up & the available options will be displayed in black type (options are not available at the present time are show in grey).
3. With a mouse or joystick, position the cursor on the appropriate selection and press the button (or use the up and down arrow keys from the keyboard to highlight your selection and press enter).

### Action Menu

Arm Arms you and also unarms you when you are armed. Allows you

to change weapons during an encounter.

|           |                                                                                                                          |
|-----------|--------------------------------------------------------------------------------------------------------------------------|
| Bribe     | Offers money to people you encounter. Because you're street wise, you always bribe the correct amount.                   |
| Buy       | The Shopping command.                                                                                                    |
| Drop      | Removes an item from your inventory. Be careful; once you leave the location where you drop something, its gone forever. |
| Hail Cab  | A speedy way to get around town. But it costs.                                                                           |
| Listen    | Try to pick up some interesting dialogue -- or hear someone approach.                                                    |
| Search    | Examine a location or an object.                                                                                         |
| Sell      | Sell items you acquire.                                                                                                  |
| Sneak     | Allows you to surprise foes by moving furtively.                                                                         |
| Stake Out | Watch a particular location over a period of time.                                                                       |
| Take      | Adds available objects to your inventory.                                                                                |
| Use       | Lets you use a particular object.                                                                                        |
| Save      | Saves your game at the current location.                                                                                 |
| Restore   | Returns you to your last saved position.                                                                                 |
| Quit      | Takes you back to the Agent Creation screen; from there you can choose.                                                  |
| Quit Game | Exits you to DOS.                                                                                                        |

### Inventory Menu

This menu lists all the items you have in your possession at the tim you open it. In certain locations, such as Mission Control or your apartment or in a restaurant, it will list the objects that are available to you there. At these locations, th Inventory menu will open automatically when you select options from the Action menu such as Buy or Take.

### Place Menu

When hailing a cab (option from the Action Menu), this menu opens to reveal the places you can get to by taxi. As you uncover more important locations at Berlin, these locations are added to the place menu.

### Dynamic Character Traits

Your character's traits reflect the choices you made on the dossier. They are represented as bar graphs on the C.I.D. Unit. Each graph fluctuates as you move, have encounters and gain experience. Watch these stats as you play. They affect how well your character can react to different situations.

- o Intelligence : It is affected by your experience, solving problems and your health.
- o Strength : Increases due to successful combat and decreases bases on the amount of damage your character has taken. Health also affects your strength.
- o Knowledge : Increases as you uncover facts and gain proficiency with new items and weapons.
- o Intuition : Changes as a result of encounters with other characters.

- o Health : A big factor in strength, hence in your ability to fight. Thus, if your health is low you might want to flee a possible attacker instead of standing your ground. You might even want to get to the doctor at Mission Support.

## Level

Shows your character's current level rating (1-5). These numbers increase as you gain experience and are promoted by Langley.

## Experience Points

This figure represents the points you accumulate as you move toward accomplishing your mission. Certain discoveries you make will increase experience points faster.

## Time and Day

The digital readout provides you with the time of day (represented in military time). Many places in the city at 0600 hours and close at 1800 hours. The number of day represents the day elapsed since the beginning of your mission. Remember you have only 7 days to accomplish your mission.

## Compass

You may only move in the compass directions that are highlighted. To leave your apartment, for example, N is your only possibility. To move, position the cursor over one of the compass points and press the button, or press the appropriate letter key: East, North, West, South.

## ENCOUNTER OPTIONS

When you meet someone, applicable Encounter Options will appear. To select an option, position the cursor over the appropriate option and press the button or press the appropriate letter key.

### Encounter Options

- |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chat     | A good way to get information; chat with everyone unless, of course, they're ready to swing an ax in your direction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Run      | If your health or strength is down, you might want to let your feet do their stuff. A word of warning, however. When you run, you have no control over where you go. You are dropped randomly in the city.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Fight    | <p>Combat goes in rounds between you and the other guy. The outcome will be determined by your strengths and weapons and your opponents strengths and weapons. You can be wounded in combat, which will affect some of your character traits. During combat you may arm or change weapons by opening the Action menu and selecting Arm.</p> <p>Your inventory menu then opens so you can select the weapon you wish to be armed with. Combat continues until one of you is defeated or one of you runs. If you win, you can now search your opponent. If you lose you are Terminated... dead. But if you open the Action menu and select Restore, Moondancer is returned to the last "saved" position. So it may be prudent to save the game often.</p> |
| Threaten | Threaten is an aggressive action that evokes different responses from the people you meet. Some will run, some will fight, some will call the police, and some will call you names.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Search   | If you happen to eliminate an opponent, be sure to frisk them. They may be carrying vital info.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## FIELD OPERATIONS BEGIN

To begin your assignment you'll want to USE some of the equipment in your apartment. Try logging onto your computer or using the your answering machine. Remember, aside from the contacts you make on the street and in shops, these two machines will be your only sources of information. Check them periodically.

## Know Your Password

You'll need to enter a passcode when you Log On to your Computer the first time each game session. To decipher the password:

Mech Insert : What Password?

Once in the computer you can check your mail and the dossiers of the important people with whom you will deal throughout your mission. The dossier list is dynamic and new names will be added as you meet these people and make use of your Photo-Fax. Only people Langley has a dossier on will show up in this list, which can be found under Name Check. When you're finished using the computer, Clock Log Off.

## DENIZENS of BERLIN

Our intelligence has told us that there are some contacts and informants in Berlin who will be helpful to you during the mission. However, specific information as to their identities died with the two couriers. Don't forget to use your Photo-Fax -- Langley most likely has Dossiers on some of those people.

We also know that as in many large cities, there is a flourishing black market. Usually, these operations are fronted by normal-looking businesses. Check out the local merchants. maybe you'll locate some sources for specialized items.

Due to the nature of this particular situation, we have reason to believe that counter-espionage activity will be very heavy in Berlin. Watch your back.

And watch your front. Reports from the field indicate that the streets of the city have become more dangerous, especially at night.

Good luck, Moondancer, we'll support you in the mission however we can. But as always, you are alone out there and will have only your quick wits and clever ways to see you through.

## WEAPONS

### Small Arms

Many forms of handgun exist with slightly different characteristics. Here are a few known to be carried by Mission Support and some of the locals.

|                      |               |
|----------------------|---------------|
| Air pistol           | Derringer 25  |
| Beretta M92SB        | HK P9S        |
| Beretta 20           | Markarov      |
| Browning BDA-9       | S&W Model 10  |
| Charter Arms Bulldog | S&W Model 629 |
| Colt Agent           | S&W Model 65  |
| Colt Python          | Walther P5    |
| CZ 85                | Walther PPK   |

### Rifles

Some of the more hardened criminals carry the big stuff, so watch out for these rifles. Mission Support also stocks them occasionally.

|       |             |
|-------|-------------|
| AK 47 | M16         |
| AR-15 | Nato Car 15 |
| AR-18 | Uzi Carbine |
| HK 91 |             |

## Apple II Computer Info

### Submachine Guns

Hopefully you won't meet anybody carrying one of these, but rumor has it that someone has been supplying submachine guns to some of the locals to prevent people like you from doing their job correctly.

|       |           |
|-------|-----------|
| K-50M | Port Said |
| M11   | Thompson  |
| MPL   | UZI       |

### Close Combat Weapons

A little refresher here from your school days might be in order on some of these, so we'll include descriptions.

Bali-Song : A short, flat-bladed knife, commonly called a 'butterfly knife'.

Billy Club : A short, hard-wood stick to hit people with.

Stiletto : A thin-bladed knife, longer and thinner than a Bali-Song.

Sykes-Fairbairn : A heavy, military knife which can be fixed into a bayonet if need be.

### GIZMOS

There are some items at Mission Support that may be of value. Occasionally check with Murphy in Supply to see if he has any of these devices available. (Note : that some devices will only be available as you gain certain levels).

### Electronics

Bomb Sniffer: Standard issue C.A.N.I.N.E. class explosion detection device capable of detecting even minute traces of explosive compounds at range of up to 50m.

Bug Finder: The Super Sentry Speakfree Bug Finder, which, when used in conjunction with the Super Sentry Bug Eradicator, (q.v.) allows the most secure local bug protection on the market today.

Bug Killer: The Super Sentry Bug Eradicator, a single use device which not only destroys local covert listening devices, but doubles as a handy aerosol stain remover as well.

Bug Recorder: Located in your apartment, this device records any Super Bugs you have activated.

Ferat: Infrared through Ultraviolet wave detection device keyed to hormone compound used to coat NATO defense plans. Will emit a beeping sound when within 10m. of said plans.

Photo-Fax: A photographic facsimile machine which will allow you to send pictures to suspected contacts and agents to Langley for identification and report immediately if a dossier exists on these individuals. Langley will then send, via modem, the complete dossier to your apartment computer. This is a very important device, as it is the only method of direction communication you will have with the company.

Super Bug: An extremely small and powerful covert listening device designed to blend well into any number of art-deco and neo-modern backgrounds.

### Protective Gear

Gas Mask: For those awkward moments when breathing just won't do.

MK1 Vest: Although never field tested, this vest is said to be "near entirely

bulletproof at 100m." R&D is working on improved models and some are rumored to exist on the black market.

Amyl Nitrate and Tannic Acid: If Moondancer is unlucky enough to ingest poison, these can be antidotes.

### Tools

Lock Picks: Come on, you're supposed to be a super agent.

Flashlight: Used in dark places, like underneath buildings, so that you can see the vermin you're slithering around with.

### BERLIN TOUR GUIDE FOR NON-GERMANS

Whenever visiting a new city, it's always a good idea to bring along a good guide book. It increases the pleasure of your wanderings -- and you never know what interesting nuggets of information you might pick up. Here's a brief description of some of Berlin's notable districts.

#### WEST GERMANY

The Park District: To the south of and east lies the great Berlin park, a place of scenery, beauty and enchantment. For centuries, lovers have strolled hand in hand through these woods, enthralled by their pastoral beauty. Many forms of entertainment abound herein and, of course, public restrooms are provided.

The Place District: North and east is the home of the famous Charlottenburg Palace, the largest mansion in Berlin and bastion of German culture. Surrounding the palace are some of the finest restaurants and bars Berlin has to offer. Be sure to sample the beer.

The Templehoff District: smack in the center of Berlin lies the Templehoff business district, home of Berlin's thriving international trade community. Experience the hustle and bustle of a truly dynamic economy at work, and perhaps see the city from a new perspective -- high atop the Templehoff building itself.

The Dairy District: The mere mention of Germany immediately conjures up images of good food. Beer, pretzels, and of course, wurst are as German as bagpipes are Scottish. This south-western district is the home of these rural delights. These merchants, known for their biting wit and rural wisdom, are always glad to exchange pleasantries with foreign travelers.

The Industrial District: What city could survive without the working man? Berlin is no exception. North and west lies the home of the proletariat and his pleasures. Here you will be staying in some of the most affordable housing in all of Europe.

#### EAST GERMANY

Max Engels Plaza: Wide open space and open air cafe's mark this plaza, the largest in East Germany. Here, it is said, old friends may meet and relive happier times.

Cultural District: Traveling east from the plaza along Unter den Linden, one encounters the home of German culture. If one is careful, one might almost be able to see the spirits of such German immortals as Beethoven, Mozart, and Wagner as their music drifts out from the opera house.

Government District: Between Friedrichstrasse and Otto Grotewohl along Unter den Linden sits the center of international government in East Berlin. Travelers who encounter troubles may wish to consult their embassy, located along this stretch of road.

Brandenburg Gate: Of all of the beauties of Germany, one of the greatest must be the gates of Brandenburg concerti. It was once said of these gates:

"If I could choose, from all of lifes pleasures, my last sight, it would be of the gates at Brandenburg."

Official Listing of [Factus] Boards

The LookOut ..... [403] 457 - 0114

Private Storage ..... [215] 745 - 0495

Apple Tree Midwest II [816] 826 - 4158

Brave New World ..... [707] 938 - 2997

End of File.

=====
DOCUMENT third.iigs.ref
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Factus Presents...

- The Third Courier - and - The Third Courier Quick Documentation -

Kracked By : The Mechanic
Brought to Our Attention by : Senkrad
Special Thanks to : Over Byte and Static Vengeance!

Documentation : From the Mind of Senkrad

Mission Briefing-

Moondancer:

Your assignment is vital. Three couriers headed to a top-secret conference in Brussels are missing. Each was carrying a crucial component of the NATO non-nuclear defense plans. Now two are dead and the third, last seen in Berlin, has vanished. You must find the three critical components (a computer chip, a floppy disk, and a CPU) before the NATO meeting -and before they fall into the wrong hands.

You know what's at stake. This time it isn't surveillance. It isn't a drop. Or data farming. This is the majors, and you've just been called up. And there's only one rule in this game: don't trust anyone.

Fly to Berlin and await further instructions. Outside of an occasional electronic contact, you're on your own. But then you've always liked it that way.

Other Stuff-

Other than that, the manual doesn't say a lot else that is not obvious, or at least easy to figure out. Here is a list of stuff that may not be apparent.

- USE the photo-fax to send a picture of a person to Langley, and if they have a dossier on that person, you can access it through your computer at your apartment.

- FERAT is a device that let's you know when you are near a part of the plans.

- Amyl Nitrate and Tannic Acid- these can be antidotes to poison.

Some Hints-

- You should probably make a street map as you go along. The game comes with one, but it is just a simple map- there's nothing special on it except the location of your apartment, which is on Knesebeck st., between Berliner and Hohenzollern. By the way, Berliner runs north and south.

- You can ARM during an encounter, which comes in handy considering that the local police seem to get upset when you walk around with your 'piece' hanging out!

That's about all I can think of that you might need, after all, the manual doesn't tell you much else. The map will be coming out soon.

Call These Boards:

The LookOut ..... [403] 457 - 0114

Private Storage ..... [215] 745 - 0495

Brave New World ..... [707] 938 - 2997

Apple Tree Midwest II [816] 826 - 4158

End of File.

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\*\*\*\*\*-----\*\*\*\*\*

OBJECTIVE: SHOOT OBJECTS THAT FLY AND DROP BOMBS ON YOU

JOYSTICK:  
LEFT TO RIGHT MOVEMENT ONLY

SPACE BAR:  
ENGAGES WARP DRIVE

BUTTON 0 :  
FIRES LASERS

KEYBOARD :  
(F) SHIP TO LEFT  
(G) STOPS SHIP  
(H) SHIP TO RIGHT  
(0) OR (1) FIRE LASER  
SPACE BAR - ENGAGE WARP DRIVE

NOTE:  
EXTRA SHIP GIVEN AT 50,000 POINTS AND EVERY 100,000 POINTS  
THEREAFTER. MISSION IS COMPLETE WHEN LAST GROUP OF ALIENS ARE  
DESTROYED.

[ESC] - SHUTS OFF SPEAKER  
[S] - SUSPENDS PLAY  
[B] - WHEN HIT AT PROMPT FOR

PADDLE OR JOYSTICK SUSPENDS STAR BACKGROUND DURING PLAY.



=====
   
DOCUMENT thunderbombs
   
=====

\*\*\*\*\*
   
                  THUNDERBOMBS
   
\*\*\*\*\*

YOU ARE THE CLOUDSHIP IN THE MIDDLE OF THE SCREEN. YOUR JOB IS TO BLOW AWAY THE ENEMY SHIPS ON EITHER SIDE OF YOU. NO MATTER HOW MANY ENEMY SHIPS YOU HIT, HOWEVER, THERE WILL ALWAYS BE REPLACEMENTS UNTIL YOU HIT THE DRONE- CLONE REPLENISHERS THAT APPEAR OCCASIONALLY ON THE EXTREME RIGHT & LEFT OF THE SCREEN.

ONCE YOU HIT BOTH REPLENISHERS ON A LEVEL,THE ENEMY SHIPS WILL NOT REAPPEAR ONCE YOU HAVE SHOT THEM. CLEAR ALL THE ENEMY SHIPS FROM A LEVEL & YOU MOVE ON TO THE NEXT, TOUGHT LEVEL.

YOU ARE AWARDED AN EXTRA SHIP FOR EVERY 2,000 POINTS YOU ACCUMULATE. HOWEVER,A MAXIMUM OF 9 SHIPS IS ALLOWED AT ANY ONE TIME.

CONTROLS:

JOYSTICK:
   
THE JOYSTICK CONTROLS YOUR VERTICAL MOVEMENT.

BUTTON 0 FIRES TO THE RIGHT
   
BUTTON 1 FIRES TO THE LEFT.

THE SPACEBAR WILL STOP YOUR MOVEMENT ALTOGETHER.

ATARI JOYSTICK- UP/DOWN- LEFT & RIGHT FIRES.

KEYBOARD:

A & Z = UP & DOWN
   
ARROWS = FIRE
   
V = VIEW HISCORES
   
[ESC] = PAUSE
   
CTRL-S = SOUND

=====
   
DOCUMENT tic
   
=====

TIC - Talk is Cheap

Copyright 1987
   
By Donald Elton
   
Carolina System Software

Documentation:
   
-----

This is an abbreviated documentation file intended to give you enough information about TIC to let you try it out while you decide if you want to buy the full package that includes the complete 40 page user's guide. It is not all inclusive and the package you downloaded isn't all inclusive either but is there to let you 'try before you buy'.

Features:
   
-----

TIC is a ProDOS based terminal program for the Apple //e and Apple //c personal computers with an Apple Super Serial card or equivalent in slot 2 and an optional printer attached to slot 1.

TIC also supports the new Apple IIgs with either an Apple Super Serial card plugged into slot 2 or using the built-in IIgs serial port.

This program supports a standard TTY terminal mode along with several terminal emulations and file transfer protocols: xmodem, xmodem crc, ymodem, ymodem crc, turbo xmodem/ymodem and Ascii Express (tm USII) protocol for ProDOS file transfers. Ascii text uploads are also supported using x-on/x-off protocol with user selectable prompt, character, and line delays.

A copy buffer can be used to record an online session or to download a file where protocol modes are not available. The copy buffer may be saved to disk either automatically when the buffer fills or manually.

Getting Online:
   
-----

TIC automatically places you right in terminal mode as soon as you leave the title screen. You can dial your modem either manually by typing in the commands that your modem recognizes (see your modem manual) or under the control of command/macro files (described below). It's usually best to get comfortable with the manual method before venturing to use the command files. For Hayes compatible modems you can dial the phone by typing ATD followed by the phone number and then hit the RETURN key.

Hardware Set-up:
   
-----

Note that in order to use this program with the Apple Super Serial card you must have switch 6, block 2 turned to the ON position thus enabling interrupts.

If you are using this program with the Apple IIgs port then you need to set your Control panel to select MODEM PORT for slot 2. Depending on your cable you may need to set the modem port to DCD HANDSHAKE OFF. The other options on the modem port screen should be left at their default values as TIC will control them directly.

About Shareware:
   
-----

This is a Shareware program. This means that it is distributed primarily electronically via bulletin board programs and information systems. You

may distribute this program freely with the stipulation that users of the program are advised of the shareware nature of this product. I ask that if you use this program that you send me \$30 to help support me in writing programs like this. Given that competitive products for the Apple generally sell for twice this amount I think this is a fair thing to ask. In return for the \$30 you get a nice manual, technical support, update notices, and a good feeling inside for helping to keep down the high cost of quality apple software. If this product gets good user support via the shareware agreement then it will continue to be updated with new features, largely at the suggestions of users. Shareware distribution has the potential of being a great way to distribute great apple software at minimal prices because of the minimal distribution costs. Help keep a good thing going and send your check today to:

Don Elton  
3207 Berkeley Forest Drive  
Columbia, SC 29209-4111  
  
803 776 3936 (300-2400 baud)

If you'd like to make any comments or suggestions concerning TIC please feel free to send them to me at the above address.

Commissions:  
-----

Oh yeah, new idea. The copy of TIC that you are using has a Serial number affixed to the title screen. This is the serial number of the user who registered the copy you are using. If this serial number is 0 then you got this copy directly from me. When you register TIC you should list the serial number of the copy of TIC you were using so I can send a \$5 finder's fee to the person who actually registered the copy you first tried out. This will work the same for you too... This means that if you give 10 copies of TIC away to friends and all 10 of them register the program by paying the \$30 shareware fee then I'll mail you a check for \$50.

If you upload the program to a bulletin board and 100 people register and give your serial number with their order then I mail you \$500. Just another incentive for you to register the program yourself and to encourage others to do the same. Thanks for your support.

Terminal Emulation:  
-----

TIC can now do screen emulation of many popular terminals. This is accomplished by the loading of special termcap definition files which contain the necessary translation tables to do the particular emulation. The default is TTY (no emulation). You may specify the termcap definition file you want to use from the OA-M menu. From this entry (9) you enter the pathname required to reach the termcap file assuming that the prefix is set to the root directory. You may optionally use a full pathname at this entry. You may also specify a termcap file using the EMULATE statement from a command file. Note that ZOOM mode is only available from TTY mode.

You may use the supplied DEFTERM basic program to define your own terminals. You need to have some idea of what makes up a terminal emulation to use this program so do so at your own risk.

Note that TIC can only emulate terminals that are based on binary codes. This leaves out the VT-100/VT-200 series since they are based on ascii codes. They may be supported in a future version of TIC.

Command File Documentation:  
-----

Talk is Cheap (TIC) versions 0.27 and above support a powerful Command file feature that allows a user to automate most functions internal to TIC.

This document is a supplemental user's guide to describe how the Command file feature works and to specify the language of statements used within Command files. There are also several new features, not related to Command files that have been added to TIC as a result of user suggestions.

Note: OA-X refers to the Open Apple plus "X" key combination. CA-X refers to the Closed Apple plus "X" key combination. Note that the newer Apple IIgs and //e keyboards substitute "OPTION" for the Closed Apple key.

TIC now supports powerful Command files. These Command files, if properly named, are automatically executed when you press the Closed Apple key together with a letter key or they may be specified manually using the OA-X command described above. If the user presses the CA-A combination then TIC will look for a file named "TIC.KEY.A" to execute as a command file. Command files that are executed as keyboard Macros are called Macro Command Files. In order for TIC to find its Command files, TIC keeps up with the concept of a Root directory. The Root directory is the directory that TIC resides in when it is run. All Macro Command Files must reside in the Root directory.

At startup time, if a file named "TIC.STARTUP" is found in the Root directory then TIC will execute it as a Command file automatically. If you are using a program selector such as the Extended Command Processor (ECP) then you may specify an alternate startup Command file at run-time by specifying the alternate file name after the TIC file name:

```
:tic <file>
```

The above would start TIC and force TIC to execute <file> as the startup Command file.

In order to invoke Macro Command files, you must have a text file named TIC.MACROS in TIC's Root directory. Each line of this file should begin with the letter of a valid Macro key. i.e. if you start a line in TIC.MACROS with "A" then you should have a file named "TIC.KEY.A" in the same Root directory with TIC. The remainder of the line should start immediately after the letter identifier and should be the name of the service associated with the particular Macro key. An example TIC.MACROS file might contain:

```
aApple BBS  
bRadio Shack BBS  
cMy BBS  
fYour BBS
```

Most Command file operations can be aborted by pressing the ESC key. There may be a short delay in aborting certain Command file functions.

TIC Command file Syntax:

TIC Command files are text files created by any text editor. They consist of lines of text with a single command per line. Blank lines are ignored as are leading and trailing spaces which may be included in the file to improve readability. Upper and lower case characters are allowed and will not affect parsing. TIC does not check the file type of Command files.

Command List:

```
#  
This is the comment character. It is a command that is ignored. One or more blank characters must follow the # symbol. Labels are defined as the first word following the # symbol. Thus to encode the label 'start' in a Command file you would use the following:
```

```
# start <-- this is a label.. "Start"
```

```
BUFFER ON
```

Turns on the recording buffer.

## BUFFER OFF

Turns off the recording buffer.

## BUFFER CLEAR

Erases the recording buffer.

## BUFFER SAVE

Saves the recording buffer to the autosave file.

## BUFFER WRITE <file>

Saves the recording buffer to <file>.

## DISPLAY <string>

The <string> is displayed to the CRT. <string> may contain imbedded control characters or you may encode them by prefixing a letter key with the "^" symbol. Thus, "^C" is Control-C. Use "^^" to encode a single "^" character literally. Note that the characters displayed are sent to the CRT using the communications console driver so carriage returns and line feeds must be encoded separately as "^M^J". Either single or double quotes are required if <string> contains imbedded blanks.

## DO <label>

Calls a subroutine that begins with the line following <label>. See also, RETURN. Note that only one DO procedure may be active at one time.

## EMULATE <pathname>

Emulate the terminal defined in the termcap file found at <pathname>. Specify TTY for no emulation.

## GOTO <label>

Transfers control to the statement following <label>.

## HANGUP

Hangs up the telephone connection.

## IF EXISTS <path> <statement>

If <path> exists then execute <statement>. Otherwise, execution continues with the statements that follow this statement.

## IF FAILED <statement>

If the previous statement failed (i.e. a WAITFOR statement didn't find its target before the time limit expired) then <statement> is executed. Otherwise, control passes to the next statement and <statement> is ignored.

## IF KEYBOARD <CHAR> <LABEL>

If the most recently pressed keyboard character matches <CHAR> then continue execution with the statement following <LABEL>.

## PAUSE <seconds>

Execution pauses for the duration specified in <seconds>. If <seconds> is omitted then execution will pause for approximately one second.

## PRINT INIT <string>

Sets the printer initialization string as specified. Control characters can be encoded just like DISPLAY.

## PRINT OFF

Turns off online printing.

## PRINT ON

Turns on online printing.

## PRINT SCREEN

Prints the current screen.

## QUIT

The ProDOS QUIT MLI call will cause TIC to shutdown and exit to the selector program.

## RECEIVE <file>

Receives <file> from a host computer using Xmodem, Ymodem, or ProDOS xmodem protocol.

## RETURN

This statement returns control back to the next line following the last executed DO statement.

## SEND <file> PRODOS

Transmits <file> to a host computer using ProDOS Xmodem protocol.

## SEND <file> TEXT

Transmits <file> to a host computer using Ascii protocol using the previously defined prompt, line delay, and character delay.

## SEND <file> XMODEM

Transmits <file> to a host computer using Xmodem protocol.

## SEND <file> YMODEM

Transmits <file> to a host computer using Ymodem protocol.

## SET APPEND ON

## SET APPEND OFF

This determines whether automatic buffer saves are appended to the original autosave file. The default is SET APPEND OFF which means that when each buffer save is done, a new autosave file is created with a higher number appended to the end of the file name. This limits you to 10 autosave files of about 16K each. If you SET APPEND ON then all buffer saves will be appended to the end of the current autosave file creating a single large file.

## SET AUTOSAVE <file>

This sets a new autosave file. The <file> name should be at least 3 characters in length.

## SET BAUD 300

## SET BAUD 1200

## SET BAUD 2400

SET BAUD 4800  
 SET BAUD 9600  
 SET BAUD 19200

Sets the Baud rate as indicated.

SET BINARY2 AUTO  
 SET BINARY2 MANUAL

AUTO is the default. This determines whether TIC will automatically unpack Binary II files as they are downloaded.

SET BUFFER AUTO  
 SET BUFFER MANUAL

AUTO is the default. This determines whether TIC will automatically turn its copy buffer on and off upon receipt of the Control-R and Control-T signals from the host. To disable this feature, use the SET BUFFER MANUAL statement within a command file.

SET CDELAY <0-9>  
 SET LDELAY <0-9>

Sets the Character or Line delay timer for Text file uploads. These settings default to 0 if you do not set them and remain set until you reset them or re-run TIC.

SET DFORMAT 8N1  
 SET DFORMAT 7E1  
 SET DFORMAT 7O1  
 SET DFORMAT 7E2  
 SET DFORMAT 7O2

Sets the data bits, parity, and stop bits for the serial port.

SET DUPLEX FULL  
 SET DUPLEX HALF  
 SET DUPLEX CHAT

Sets Duplex to full, half, or chat for terminal mode.

SET ECHO ON  
 SET ECHO OFF

Enables or disables the display of Command file statements as they execute. These statements are used primarily to debug Command files.

SET PADCR ON  
 SET PADCR OFF

Enables or disables TIC adding a space character to blank lines during text mode uploads. The default value is ON.

SET PORT SSC  
 SET PORT IIgs

Sets the communications driver to Super Serial Card or IIgs internal port. This command overrides the initial card identification routine in TIC.

SET PREFIX <path>

Sets the ProDOS prefix.

SET PROMPT <character>

Sets the handshaking prompt for text uploads.

SET SLOT <1,2,4,5,6,7>

Tells TIC where to find your Super Serial card (or clone) that you wish to use for the communications port. Has no effect when used with an internal port on the Apple IIgs since its port is fixed at slot 2.

SET TIMER <seconds>

Sets the time limit for WAITFOR searches.

STOP

The Command file is terminated if this command is encountered. No error message is displayed.

VIEW <file>

<file> is displayed to the CRT.

WAITFOR KEYBOARD

Execution will pause until a key is pressed at the keyboard or until the time limit expires. If time expires then FAILED becomes true and can be tested by the IF statement.

WAITFOR STRING <string>

Execution will pause until <string> is received over the serial port or until the time limit expires. If <string> is omitted then execution pauses until any character is received over the serial port. Note that <string> may contain imbedded control characters just like the DISPLAY command.

WAITFOR TIME '00:00'

Execution will pause until the specified time matches the ProDOS system time. You should not use this command if you do not have a ProDOS compatible clock installed. Note that the time string must be exactly 5 characters long and must be encoded in 24 hour format.

XMIT <string>

The <string> is transmitted out the serial port. Note that imbedded control characters may be encoded in <string> just like with the DISPLAY command.

Turbo Xmodem:  
 -----

Turbo Xmodem is a means of speeding up xmodem or ymodem downloads. It works by pre-acknowledging incoming blocks of data to eliminate the delay that slows down xmodem transfers between blocks of data. On the down side, a single data error will result in an aborted transfer. In addition, you can only use this mode when downloading to a ram disk. This file transfer protocol can speed up xmodem downloads by as much as 100% but has limited utility because of the limitations noted above. It is included by popular demand.

=====

DOCUMENT tie

=====

```

-----
T he      12 Feb 88
I con     Version 1.0
E ditor   Copyright (c) 1988 by ACE Software
-----

```

General

-----

The Icon Editor (TIE) is used to edit existing Icon files for the Apple IIGS Finder. The Finder uses these Icons to set certain files apart from other files and to launch applications from document files.

The Finder can match files with Icons by any combination of three fields: FileName, FileType, or AuxType. Finder keeps a list of "Icon Blocks" (one Icon Block is contained in each Icon file) that have been read in when Finder was started. The first file the Finder reads is FINDER.ICONS from the boot disk's ICON folder. After that, Finder will read in any and all Icon files that it finds in the ICON folders of any inserted disk. These other Icon Blocks are inserted in front of the list in memory so that FINDER.ICONS is always the last block in the list.

When Finder needs to match a file to an Icon, it starts with the first Icon in the list. There can be either an exact match or a match by use of a wildcard. If ALL THREE fields in the Icon match the file, the Icon is assigned to that file. All three fields must match or Finder will try again with the next Icon in the list. The last Icon in the list is the last Icon in FINDER.ICONS. This is the generic document Icon and will ALWAYS match all three fields.

File Menu Display

-----

The File Menu Display is used to select the Icon file that you desire to work on. When the program is run, this is the first display that will be shown. In the center area of the display, all of the Icon files and any "Folders" (DIR files) are shown. At the top left of the display, the current disk device is shown and at the bottom of the display, brief instructions for selecting a file are shown.

To select a file, use the up and down arrows to move the cursor to the desired file and press Return. If the current file is an Icon file, it will be opened and all of its Icons will be read by the program (up to a maximum of 40 Icons). If the current file is a Folder (DIR file), the prefix will be set to that Folder and the contents will be displayed for further selection. If the Folder contains no selectable files, the prefix will be set to the root directory and its files will be displayed. If the root directory contains no selectable files, the program will attempt to find a disk that contains either Icon files or Folders.

To return to the root directory, press the space bar.

To switch disk devices, press C. TIE will search through the device chain for a ProDOS disk that has selectable files on it. If no such disk is found, you will be prompted to insert a ProDOS disk in a disk drive. TIE will NOT recognize the Auxilliary 64K bank RAM disk.

To exit this display, press the Escape key. If no Icons have been read, TIE will end. Otherwise, the Icon Menu Display will be shown.

Once an Icon file has been selected and read, the Icon Menu Display is shown.

Icon Menu Display

-----

The Icon Menu Display is used to select an Icon for editing, delete an Icon, add more Icons, or save all the Icons in memory to disk. The Icons in memory are shown in the center of the display. At the bottom of the display, brief instructions for this display, the total number of Icons in memory, and the number of free bytes left for Icon image data are shown.

To edit an Icon, use the Up and Down arrow keys to move the cursor to the desired Icon and press Return. You will then be asked which aspect of the Icon you wish to edit. Typing F or S will show the Icon Edit Display and allow you to edit either the Full-sized or Small version of the Icon. Typing E will allow you to edit the Extended Parameters attached to the Icon.

To delete an Icon, move the cursor to the desired Icon and press D. If you delete all of the Icons in memory, the File Menu Display will be shown and you must select another file for editing or exit the program.

To add more Icons, press A. The File Menu Display will be shown and you may either set the prefix (by selecting Folders), select an Icon file to add to memory, or return to the Icon Menu Display. As said in the previous section, a maximum of 40 Icons can be contained in memory at one time.

To save the Icons in memory to disk, press S. The current prefix will be shown and you will be prompted for a FileName. The name of the Icon file last read is the default. You may either use the prefix and type just the filename or you may type the full pathname of the file you wish to save the Icons in. The Icon file must be in a folder called ICONS in the root directory of the disk in order to be recognized by Finder. It is recommended, although not required, that you attach .ICONS to the end of the Icon file's name.

To exit the program press Escape.

When editing the Extended Parameters:

- o The Name field can be no longer than 15 letters, numbers, periods and asterisks. Use the asterisk as a wildcard character. If an asterisk is entered as the Name, it will match all FileNames.
- o The FileType field can either be entered as a decimal number or the code seen in the Icon Menu Display under "Typ" (i.e., 4 or TXT, 182 or \$B6, etc.). ALL (or 0) may be entered in order to match all FileTypes, however, this field is the best way to match Icons to files and normally should not be set to All. The FileType field can also indicate that the Icon is a hardware device. If you wish to make an Icon represent a hardware device, enter one of the following codes instead of a normal FileType:

```

265: 5.25" Drive
266: RAM/ROM Disk
267: 3.5" Disk
268: 5.25" Disk
269: Hard Drive
270: Full Trash
271: Empty Trash

```

- o The AuxType MUST be entered as a decimal number from 0 to 65535. If this number is zero, it will match all AuxTypes.
- o The Application field can be no longer than 63 characters and must be a FULL pathname. This field indicates to Finder what application to launch if this Icon (usually a document) is opened. It may be blank and should be so if this Icon represents an application.

Icon Edit Display

-----

The Icon Edit Display is used to change the shape and colors of Icons. In the black area of the display are two boxes containing aspects of the current Icon. Inside each box are little blocks. Each block corresponds to a pixel in the

## Apple II Computer Info

Icon. The color of each pixel can be selected by you to create the final image and shape. In the text area of the display, the Icon number and aspect of the Icon are displayed. Available commands and the current color are also shown here.

Each aspect of the current Icon is normally bordered in grey, but if the Icon is too big for TIE to display (more than 36 pixels wide or high) then either the bottom or right sides (respectively) of the display boxes will be drawn in red. If this condition does happen, you may still edit the part of the Icon that is shown.

The left hand box contains the Icon Image and may be edited using 16 colors. The right hand box contains the Icon Mask associated with that Image and may only be edited with two colors, black and white. Each white pixel in the Mask will allow the corresponding pixel in the Image to be displayed in the Icon. When editing the Mask, the current color has no effect.

NOTE: For the most part, the colors that TIE uses to display Icons correspond with the actual colors used on the Finder screen. However, some colors do not match what is seen in Finder.

To change a pixel, select a color by pressing the corresponding key shown below each color at the bottom of the screen (Hexadecimal number: 0 - F). The name of the current color will show up in inverse. Then move the cursor to the pixel you wish to change with the arrow keys and press the space bar. If you make a mistake, just press the space bar again and the pixel will be restored to its original color.

To edit the Icon Mask, press the backslash key (\) and the cursor will switch edit boxes. Now follow the instructions for changing a pixel, except that color need not be selected (when a pixel is changed in the Icon mask, it is toggled between black and white). Press backslash again to continue editing the Icon image.

When your Icon is finished, press Escape or Return to exit the Icon Display.

### TIE Internals

TIE is written in AppleSoft BASIC and poor, old Dr. BASIC is really pushed to his limits.

- o BASIC simply cannot handle the amount of raw data involved with storing Icons in memory, so I wrote my own variable storage routines (mostly in BASIC, but they do include a short ML subroutine) for the Icon image data.
- o The Icon Edit Display, if you will notice, is done on the Double Lo-Res Screen using a little known trick that Uncle-DOS (aka Tom Weishaar) reported in Open-Apple magazine on page 43 (June '85 issue). It was found in the //c ROM, but it seems that Apple used the same trick in the IIGS! It also seems that Apple didn't correct the bug that Uncle-DOS found! Maybe if we all bug Apple, they will fix it. If you don't know what I'm talking about, bug Tom Weishaar to "reprint" the article online! (Or maybe I will if he gives the go-ahead)
- o If you look carefully at the Initialization code in the beginning of the program, you will notice that the program relocates itself in order to make room for a File buffer and Icon storage. If you rename the program, you must also change the name used in the statement that relocates the program or else it WILL crash! (change the ::: PRINT D\$;"-TIE" to ::: PRINT D\$;"-<New.Name>")

The Icon Editor is copyright (c) 1988 by ACE Software

This program is ShareWare and may be distributed freely as long as it is not sold or separated from these docs.

If you find this program useful, send \$5.00 to:

Chris Budewig  
457 Harr Dr. Apt G  
Midwest City, OK 73110

=====

DOCUMENT time.mast.v2.1

=====

TimeMaster IIgs v2.1

13 August 1992

-----

TimeMaster IIgs is an Apple IIgs time correction utility. It calls atomic time standard services using the system modem and adjusts the time of the Apple IIgs internal clock to within 1 second. TimeMaster IIgs maintains a log of time corrections in an ASCII text file and provides a graph plot of long term clock drift trend analysis. TimeMaster IIgs uses this drift analysis to allow you to predict an update of your IIgs clock without calling the time service! Two time services you can call are the U. S. Naval Observatory in Washington, D.C., (202) 653-0721, and one in Toronto, Canada, (416) 445-9408. The call lasts about 25 seconds. This only costs \$0.15, calling Washington from St. Louis after 6pm.

## Installation

-----

TimeMaster IIgs consists of the following files:

1. TimeMaster.IIgs The executable TimeMaster IIgs utility. Launch this file from the GS/OS Finder desktop, or another program launcher.
2. TimeMaster.Pref This contains Setup Preferences in text format. It is created in the same directory as 1 above when you select the Save Preferences menu.
3. TimeMaster.Log This is a text file log that is created the first time you call a time service. It contains results of each time correction (whether by an actual call, or due to a predicted correction) with the date, time and seconds adjusted.
4. TM.read.me This documentation file as an ASCII text file.
5. TM.read.me.awp This documentation file as an AppleWorks word processing file.

The TimeMaster.IIgs (file 1 above) executable file is the only one you need to run this application. It can be placed in any directory on your disk. Be sure to have some extra space on this disk, because the TimeMaster.Pref and TimeMaster.Log files (2 and 3 above) are created in this same directory.

## TimeMaster IIgs Startup

-----

TimeMaster IIgs requires specific Apple IIgs Control Panel settings to assure proper communications with your external modem. Enter the Control Panel by pressing the Open-Apple, Control and ESC keys simultaneously. You must set the Apple IIgs Control Panel for "Slots" so that Slot 2 is set to "Modem". You must power down and restart your Apple IIgs for these to take effect. You should be able to keep these settings for most other applications, unless you have some special card in slot 2.

Be sure to turn on power to your modem.

TimeMaster IIgs execution is initiated by launching the application file named "TimeMaster.IIgs" from the GS/OS Finder by double-clicking the "TimeMaster.IIgs" file's icon, or by using another GS/OS program launcher.

TimeMaster IIgs is now active on the desktop. All menus may be used. The display at the bottom of the screen shows the current date and time being maintained by your Apple IIgs. The center bottom shows the current setting for the time zone difference in hours. This can be changed, along with several other parameters, using the Setup menu.

## Menu Descriptions

-----

|                          |                                                                                                                                                                                                                                  |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Apple Menu               | ---                                                                                                                                                                                                                              |
| About TimeMaster IIgs... | Displays revision & shareware information.                                                                                                                                                                                       |
| Help...                  | Generates an online help display. This covers 5 pages, so click the 'OK' button to turn the pages.                                                                                                                               |
| Credits...               | Displays copyright credits for ORCA/C, the Serial I/O and Dialog routines used by TimeMaster IIgs.                                                                                                                               |
| File Menu                | ---                                                                                                                                                                                                                              |
| Setup                    | Use the Setup Menu dialog to alter the modem initialization string. It is set for an external, Hayes-compatible modem by default.                                                                                                |
|                          | Phone number may be changed to accommodate calling any prefix, phone number and suffix that may be needed to dial the time service.                                                                                              |
|                          | Change the time zone difference to adjust for your time zone. This number must be -23 to +23 hours. For St. Louis during winter time, this is -6 when calling a Greenwich Mean Time service, such as the U.S. Naval Observatory. |
|                          | Select Touch-Tone or Pulse Dialing.                                                                                                                                                                                              |
|                          | Select Disable Timeouts if you are in an area that has slow phone service. This makes TimeMaster IIgs wait forever for calls to connect and the time service modem to respond.                                                   |
|                          | Any changes are temporary for this call, unless you use the Save Preferences Menu. Use Cancel to ignore changes made in the dialog box. Use Undo to reset changes made. Use OK to accept changes.                                |
| Save Preferences         | This Menu saves all items in the Setup Menu dialog to a file named 'TimeMaster.Pref' on your disk. This is read on startup, if present. You may delete this file to restore the original TimeMaster IIgs settings.               |
| Delete Preferences       | This Menu deletes the file named 'TimeMaster.Pref' from your disk, restoring the original TimeMaster IIgs settings.                                                                                                              |

## Apple II Computer Info

You are asked if this deletion is okay before the file is deleted.

displays this information on the screen, and logs this prediction to the time log file 'TimeMaster.Log'.

### Delete Time Log

This Menu deletes the file named 'TimeMaster.Log' from your disk, which eliminates all record of previous calls to time services. You are asked if this deletion is okay before the file is deleted.

Predict Time can be used in between time service calls to keep your IIgs clock as up to date as possible. While this is certainly not as accurate as a time service correction, it does update your clock fairly accurately without a phone call.

Quit Exits TimeMaster IIgs to the calling system (e.g. Finder, or other program launcher).

### TimeMaster IIgs Operation

---

Edit Menu ---

Cut All Edit functions may be used for entry or change of text information (e.g. in the Setup dialog), using keyboard equivalents.

Select all three menu items under the desktop Apple in the menu bar and review the information displayed for About TimeMaster IIgs..., Help..., and Credits. This gives vital information on this application, and provides an address to send your \$1 contribution for this shareware utility. Please do so now!

open-apple-X = cut  
open-apple-C = copy  
open-apple-V = paste

Select the "Setup" item under the File Menu. This displays the current settings for the modem initialization string, phone number, time zone difference, tone/pulse dialing and disable timeout selections. Use the mouse to position the cursor to make any changes to this information with the keyboard. The modem initialization string is set for an EXTERNAL, Hayes-compatible modem, connected through the IIgs modem port. (Internal modems, or modems connected to serial cards just will not work properly.) Refer to your modem documentation to determine if you need to change this. If you don't know what any of this means, then don't mess with this string. Please note, TimeMaster IIgs does need to have the "Q0" and "V1" parameters included in this string. These parameters tell your modem to return results codes to TimeMaster IIgs so it can monitor the call's progress, and to send these results in words, not codes.

TimeMaster Menu ---

Dial The Dial Menu causes TimeMaster IIgs to call the time service, set the Apple IIgs clock, hang up the phone, and append the time correction to the text file 'TimeMaster.Log'. If Busy or No Answer, you will be notified.

The phone number can be changed since your needs for dialing may differ. You may add prefixes like "9-" if going through an office PBX phone system. You can also add suffixes to accommodate telephone service access codes, and the like.

Hangup The Hangup Menu simply tells your modem to hang up the phone. It is useful only in rare instances to force a disconnect.

Be sure to update the Time Zone Difference for your time zone. This is the number of hours to be subtracted from the time service to set your Apple IIgs clock. It is initially set at -6 since I live in St. Louis, its not Daylight Savings Time yet, and I call the Greenwich Mean Time service maintained at the U.S. Naval Observatory in Washington, D.C. This entry must be from -23 to +23.

Plot Clock Drift

This Menu displays a graph of your IIgs clock drift history and characteristics. Up to two years of recorded clock corrections are plotted.

Select the radio button for Touch-tone or Pulse dialing, depending on your local phone service.

Blue '+' symbols indicate clock corrections in seconds that were recorded in the TimeMaster.Log file based on actual calls to the time service (via the Dial Menu).

Finally, use the checkbox to select, or not, the Disable Timeout function. Selecting this checkbox disables all timeouts during call processing. It is useful for areas that have very slow telephone service.

Light Blue '+' symbols show corrections to the IIgs clock recorded based on TimeMaster IIgs predictions (via the Predict Time Menu).

Exit the Setup dialog by selecting the "OK" button.

A Green line shows the running average clock drift per month (in seconds per month). Over time, this should be fairly constant for your Apple IIgs, however each computer is unique.

Now, to call the time service, use the "Dial" item under the TimeMaster Menu. TimeMaster IIgs will display calling progress information as it initializes the Apple IIgs serial port to 300 baud, initializes the modem, dials the time service, connects with it, and receives the correct time. If the service is busy or not answering, you will be notified. The call lasts about 25 seconds after connection. This only costs 15 cents for me to call the Washington service from St. Louis after 6pm.

Red '+' symbols show the future monthly projection of clock drift (in seconds) if you do not correct the clock by Dialing the time service or use the Predict Time Menu.

If you forget to power on your modem, TimeMaster IIgs could appear to freeze at this point. If Timeouts are enabled, control will be returned with an appropriate message in a few seconds. If Timeouts are disabled, just press the ESC key, and control will return to you.

Predict Time This Menu uses the analysis of the Plot Drift function to predict how far your Apple IIgs clock has probably drifted since your last actual call to a time service. It then predicts a correction to the IIgs clock, sets the IIgs clock to this updated time,

After TimeMaster IIgs has received the correct time from the service, it hangs up the phone, and provides statistics on the screen for the Apple IIgs time, correct time and the difference in seconds. It then displays a continuously running clock in the lower left screen area of the Time Service's time and date. It updates your Apple IIgs internal clock in accordance with the Time Zone Difference.



TimeMaster IIgs will create an ASCII text file called 'TimeMaster.Log' in the same directory as the application is located. It is created the first time your clock is corrected. It contains a log entry of the date and time called, and the difference in seconds. This file is then added to each time you call the service or use the Predict Time Menu to update the IIgs clock. This file can be deleted using the Delete Time Log item, under the File Menu.

Use the Plot Clock Drift Menu to display a graphic plot of the drift in your Apple IIgs clock over time. This shows all clock updates for a two year period, calculates and plots an average drift per month, and a projection of monthly drift.

After you have called a time service with TimeMaster IIgs a few times, this should set a trend for clock drift in your Apple IIgs clock. Since this drift should remain fairly constant, TimeMaster IIgs can use this information history to Predict updates needed to keep your Apple IIgs clock accurate. Use the Predict Time Menu to take advantage of this capability. You will see TimeMaster IIgs initially Plot Clock Drift to determine the average drift, and your IIgs clock will be updated to correct for clock drift that has occurred since your last actual call to a time service.

You can preserve the Setup settings you used by selecting the Save Preferences item under the File Menu. This saves those settings in the ASCII text file 'TimeMaster.Pref' in the same directory as the application is located. The next time you start up TimeMaster IIgs, it will read these preference settings and use them. You can delete this file using the Delete Preferences item, under the File Menu, to restore the original TimeMaster IIgs settings.

Select the Quit item under the File Menu, press the open-apple and Q keys, or click the mouse cursor in the window close box to exit TimeMaster IIgs.

## TimeMaster IIgs Revision History

### Version 1.0 -----

TimeMaster IIgs was initially released as version 1.0 on 15 March 1992.

### Version 1.1 -----

Version 1.1 adjusts several factors that made TimeMaster IIgs time-out on some calling areas and really time-out if you had an accelerator (like TranswarpGS or ZipGS). All time-outs have been changed to use the IIgs clock ticks rather than processor timing. Also, all time-outs have been lengthened to allow plenty of time (hopefully) for the anticipated action, such as a connection, to complete.

Version 1.1 also removes the requirement for setting the control panel modem baud rate. TimeMaster IIgs now will automatically set the baud rate to the required 300 baud when you select the "Dial" menu item. TimeMaster IIgs does nothing with your control panel modem baud rate setting.

### Version 1.2 -----

Added Disable Timeouts to allow for slow phone services.

### Version 2.0 -----

Added Delete Preferences function.

Added Delete Time Log function.

Rearranged Menus to put file and setup functions under the File Menu.

Added the Plot Drift function for clock drift analysis.

Added the Predict Time function.

### Version 2.1 -----

Added hot keys for all menu items.

Disabled Edit Menu items when they are not available. They are available only while in the Setup dialog.

Displayed the wait cursor (watch hands) during call processing and other processing delays. This looks neat if you have the Animated Watch Init installed.

## The Developer Requests Your Support For Shareware

Mike Gooding is the developer of TimeMaster IIgs. I welcome any constructive comments you may have about TimeMaster IIgs, or any Apple II programming. I can be reached on several on-line telecommunication services:

|                |                      |
|----------------|----------------------|
| GENie          | M.Gooding            |
| Compuserve     | 72627,1365           |
| America Online | ArchMike             |
| Proline        | pro.applejacks;Atlas |

I am pleased to offer TimeMaster IIgs as a Shareware product for the Apple IIgs. I have extensive background with Apple II computers since acquiring a II plus in 1980. I founded The Software Mill in 1983 for the development and marketing of several Apple II products, including: "SDM: Screen Data Manager", a data base management system; and a commercially distributed Apple II re-hosting of "Monkey See - Monkey Spell", originally programmed for Atari computers.

Look for one of my recent Apple IIgs Shareware games, called Shuffle Mouse, on the same services TimeMaster IIgs is distributed.

I hope you enjoy using TimeMaster IIgs. Please support this Shareware effort by contributing \$1 to encourage me to develop more Apple IIgs Shareware products.

I'm only asking for a \$1 contribution, so please support Shareware by grabbing a buck out of your wallet, shove it in an envelope and mail it to me now! Hey, if you are not in the U.S.A., send me some of your local currency!

Thank you for your support of Shareware.

Thanks to those who sent their shareware contributions, or more, for previous versions of TimeMaster IIgs:

Gant, Soffian, Hart, Bettinelli, Lockart, Smith, Williams, Santore, Weldon, Mosier, Chevier, Lyon, Eddings, McDowell, Mackey, Baskwill, Rayback, Merlin, Galbraith, Lewis, Pedeltry, Reedy, Hardies, Traynor, Weithofer, Buback and Bruun.

## Acknowledgement

Special thanks go to Tom Gooding for his assistance in beta-testing and programming advice.

## Shareware & Copyright Notice

TimeMaster IIgs is Shareware and may be distributed freely, but users are requested to send a mere \$1 contribution to the developer:

Mike Gooding  
14319 Cypress Hill Drive  
Chesterfield, MO 63017-2838 U.S.A.

TimeMaster IIgs is copyrighted 1992 by Mike Gooding, who reserves all commercial rights.

You may provide copies of TimeMaster IIgs to your friends for evaluation. TimeMaster IIgs may be placed on computer bulletin boards (BBSs) and online telecommunication

services (e.g. GEnie, Compuserve and America Online) provided that the TimeMaster IIgs package is down-loadable without charge, beyond normal connect charges. TimeMaster IIgs may be placed on diskettes distributed by user groups at a nominal fee.

When distributing TimeMaster IIgs, please provide the entire contents of the TimeMaster IIgs package, as contained in the compacted file named "TimeMaster.shk" or "TimeMaster.bxy", making sure to include all documentation files.

Vendors wishing to put TimeMaster IIgs into their catalogs must contact the developer, at the address above, to secure permission to distribute TimeMaster IIgs, and describe their fee and shareware policy. A suitable shareware contribution from such vendors would be appropriate, and appreciated.

Whenever TimeMaster IIgs is included on a diskette, catalog or online service, it must be identified as shareware. Operators and vendors must make it clear that online charges or disk fees do not qualify as payment for the use of this shareware program, and that the requested shareware contribution should be sent to the developer.

TimeMaster IIgs is implemented in the ORCA/C, ANSI Standard C Language. As such, this program contains material from the ORCA/C Run-Time Libraries, copyright 1987-1991, by Byte Works, Inc. Used with permission.

TimeMaster IIgs uses serial I/O routines, copyright 1988-1989 by Snow Software. Used with permission.

TimeMaster IIgs uses dialog routines, copyright 1992, by Tom Gooding. Used with permission.

-----  
End of TimeMaster IIgs Documentation

===== DOCUMENT time.tunnels =====

\*-> TIME TUNNELS <-\*

By: Paul Coletta from: Reston Publishing

THE INTERN AND THE CHIEF SURGEON OF > BLACK BAG <

Requirements:  
48-K Apple, 1 Apple Drive, 1 Joystick compatible control

\*\*\*\*\*  
\* HOW TO PLAY \*  
\*\*\*\*\*

The game is played around a rectangular playfield. You can just move on the border of the field. The aliens, whom you are fighting, may travel from the time tunnel and out onto the border area. You may move left or right only. However, you can also warp right to the other side just by pressing button (1), moving the joystick forward, or pressing the space bar. The warp function allows you to escape many tight situations, but its use is limited. your reserve warp supply is shown on the right of the screen, in a hourglass like format. You may shoot the aliens for points, with the other joystick button.

\*\*\*\*\*  
\* CONTROLS \*  
\*\*\*\*\*

'ESC' = PAUSE  
S = SOUND TOGGLE  
CTRL-R = RESTART

Hitting the 'ESC' key and then ctrl-L, while on level one, allows you to practice other levels.

\*\*\*\*\*  
\* BONUS \*  
\*\*\*\*\*

Extra ship at 5000 points. Extra warp when you hit a firefly.

\*\*\*\*\*  
\* THE BLACK BAG ADVANTAGE \*  
\*\*\*\*\*

Unlike some versions, this version does not require Pronto-DOS. This version is also >48< sectors shorter than the original and does not require subsequent disk access. However, it will not save high scores.

These are just preliminary, check later for a complete set of docs with the game cheats.

===== DOCUMENT to.ultramacro =====

```

TimeOut UltraMacros
  by Beagle Brothers

Documentation typed by:

Chapter 1   Some Other Guy
Chapter 2   Some Other Guy & Sects Fiend
Chapter 3   Sects Fiend
Chapter 4   Sects Fiend & Some Other Guy

Sects Fiend
Sends Thanks to:

Shiftr Shiftr, Captain Sensible, Robin Hood

Some Other Guy
Sends Thanks to:

Beowulf and the Strata Crackers gang
  
```

Page numbers are not provided for obvious reasons. The table of contents is provided so you can see what is in each of the 5 files and where things are in relation to each other.

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-----

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HERE TO THE END IS IN FILES CHAPTER 4

Chapter 4 UltraMacros Reference

The Anatomy of a Macro

- Tokens
- Local and Global Macros
- Calling other Macros

Reserved Macros

|          |                    |
|----------|--------------------|
| <sa-del> | SOLID-APPLE-DELETE |
| <ahead>  | SOLID-APPLE-       |
| <back>   | SOLID-APPLE-       |
| <date>   | SOLID-APPLE-'      |
| <date2>  | SOLID-APPLE-"      |
| <time>   | SOLID-APPLE-=      |
| <time24> | SOLID-APPLE+=      |
| <find>   | SOLID-APPLE-RETURN |
| <findpo> | SOLID-APPLE-^      |
| <print>  | SOLID-APPLE-P      |

New Open-Apple Commands

|             |                      |
|-------------|----------------------|
| no token    | OPEN-APPLE-X         |
| "sa-del"    | OPEN-APPLE-DELETE    |
| "getstr"    | OPEN-APPLE-O         |
| <oa-ctrl-@> | OPEN-APPLE-CONTROL-@ |
| <uc>        | OPEN-APPLE-:         |
| <lc>        | OPEN-APPLE-;         |
| <insert>    | OPEN-APPLE-!         |
| <zoom>      | OPEN-APPLE-@         |
| <read>      | OPEN-APPLE-^         |
| <disk>      | OPEN-APPLE-&         |
| <path>      | OPEN-APPLE-*         |
| <cell>      | OPEN-APPLE--         |
| <store>     | OPEN-APPLE-<         |
| <recall>    | OPEN-APPLE->         |
| <inc>       | OPEN-APPLE-CONTROL-W |
| <dec>       | OPEN-APPLE-CONTROL-A |
| <bell>      | OPEN-APPLE-CONTROL-G |
| <nosleep>   | OPEN-APPLE-CONTROL-N |
| <clear>     | OPEN-APPLE-CONTROL-X |

Special UltraMacros Tokens

- <input>
- <id#>
- <ifkey>
- <key>
- <begin>
- <rpt>
- <stop>

Special UltraMacros Tokens with Parameters

- Defining Numeric Variables
- Defining String Variables
- Parameters
- <chr\$ NUM>
- <getstr NUM>
- <goto MACRO>
- <hlight NUM EXP,NUM EXP,NUM EXP,NUM EXP>
- <left STRING VSR,NUM>
- <len STRING VAR>
- <msg STRING>
- <onerr OPTION>
- <posn VAR,VAR>
- <pr# NUM EXP>
- <print>
- <rem STRING>
- <right STRING VAR,NUM>
- <screen NUM EXP,NUM EXP,NUM EXP>

```
<str$ VAR NAME>
<val STRING VAR>
<wait NUM EXP>
<wake MACRO at NUM EXP:NUM EXP>
```

## If-Then-Else Logic

```
<if>
<ifnot>
<then>
<else>
<elseoff>
```

## For Experienced 6502 Programmers Only

```
<call>
<poke>
<peek>
```

## Macro Compiler

```
Compile a New Set of Macros
Macro Compiler Errors
Display Current Macro Set
```

## Macro Options

1. Launch a New Task
2. Create a Task File
3. Save Macro Table as Default Set
4. Deactivate Macros
5. Reactivate Single Stepping
6. Version
7. Other Activities

## Other Activities

1. Set Cursor Blink
2. Set Mouse Button Response
3. Set Mouse Response
4. Deactivate the Mouse
5. Reactivate Key Lock
6. Reactivate Screen Preserver
7. Set Screen Preserver Delay

## Data Converter

```
Allowing Control-@
Mouse Control
Linking Files
Startup Menu
Task Files
The Special Case of Macro Zero
A Macro Explained
TimeOut MacroTools
Changes from Super MacroWorks
Macro Token List
```

## Appendix

### TimeOut Utilities

```
Using the Utilities
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Dump from Memory
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Change Name
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```

### Key Chart

Help! Customer Support Information

WELCOME TO TIMEOUT ULTRAMACROS

TimeOut UltraMacros is a powerful addition to the TimeOut family of AppleWorks enhancements, adding macro capability and numerous new commands that can be used with any AppleWorks or UltraMacros application. Because UltraMacros is compatible with all other TimeOut packages, it is a solid foundation to build on.

## So What's a Macro?

A macro is a single keystroke that does the work of many keystrokes. An AppleWorks macro is a SOLID-APPLE key command; you simply hold down the SOLID-APPLE key while pressing another key and a predefined sequence of keystrokes is performed. For example, you can set up a macro like SOLID-APPLE-N that types your name and address, or use SOLID-APPLE-I to indent a paragraph three spaces (one keystroke instead of the usual seven). Macros save you a lot of typing and a lot of time. Also, with fewer keystrokes, the fewer chances of making errors.

NOTE: The SOLID-APPLE key on the Apple //e and //c has been replaced by the OPTION key on the //gs. If you have a //gs, think OPTION whenever the manual mentions SOLID-APPLE.

The //gs numeric keypad does not add extra keys for macro users. ENTER is the same as RETURN, CLEAR is CONTROL-X, and the other keys are simply duplicates of their main keyboard equivalents.

Remember that macros are SOLID-APPLE commands, The AppleWorks OPEN-APPLE commands perform the same commands as before.

UltraMacros is a very flexible package. A wide variety of built-in macros are provided on the UltraMacros disk. They can be used "as-is" or changed to suit your own needs. You can also design completely new macros once you get more familiar with UltraMacros. Novices and experts alike will appreciate the many new OPEN-APPLE commands which are also included.

## Special Features of UltraMacros

In addition to macros, UltraMacros provides other features that make your life at the keyboard easier and more productive. These include new AppleWorks commands, an AppleWorks bug fix, and mouse control.

## New AppleWorks Commands

UltraMacros adds new OPEN-APPLE and SOLID-APPLE commands that save you time and effort. For example, you can press SOLID-APPLE-= at any time to enter the current time (if you have a clock). Read about the new commands starting on page 16 (Chapter 3). A complete list of new commands starts on page 31 (Chapter 4).

## Bug Extermination

AppleWorks has a bug that doesn't allow you to enter CONTROL-@ for printer or interface definitions. See page 72 (Chapter 4), for details on solving this problem.

## Mousing Around

UltraMacros allows you to use a mouse to scroll rapidly through AppleWorks and to make menu selections. See page 72 (Chapter 4) for details.

Note: This manual assumes that you are familiar with AppleWorks and the AppleWorks method of doing things (e.g. selecting menu options, etc.). If you're not, then refer to the appropriate sections of your AppleWorks manuals.

-END- Chapter.1

Chapter 2  
INSTALLATION

This chapter tells you how to install TimeOut and add the UltraMacros commands

to your AppleWorks Startup disk.

Before you can use macros and the new commands, you must update a copy of your AppleWorks Startup disk. (Note: the floppy disk version of AppleWorks uses two disks: a STARTUP disk and a PROGRAM disk. If you are running AppleWorks from a hard disk, 3.5" disk or RAM disk, there is only one disk.)

You actually need to make two modifications to AppleWorks; TimeOut must be added so that you can use the TimeOut applications on the UltraMacros disk, and then a file, called ULTRA.SYSTEM, must be added to your AppleWorks STARTUP disk. This is the actual macro program.

TimeOut UltraMacros is provided on both 5.25" and 3.5" disks. Before using your TimeOut UltraMacros disk, please take a moment to make a backup copy of the disk you will be using. Since the disks are not copy protected, you may use any standard disk copier or Beagle Brothers' TimeOut FileMaster. Be sure to write protect your original disk so you don't accidentally overwrite it. Please do this now.

All of the sample AppleWorks files (macros) are on side 2 of the 5 1/4" disk. Read "Path Notes" for information about the PathFinder demo.

Beagle Bros' software isn't copy protected. That makes it easier for you to use and easier to make backup copies. Please support us in our commitment to supply friendly, easy-to-use software by not giving away copies to your friends.

#### TIMEOUT COMPATIBILITY

TimeOut is compatible with AppleWorks versions 2.0 and later. If you have an earlier version, contact your dealer about getting an update from Apple. You must also have the USA version. TimeOut does not work with foreign language versions of AppleWorks.

TimeOut is compatible with most enhancements to AppleWorks including Applied Engineering's desktop expander and Checkmate's desktop expander. UltraMacros is not compatible with Pinpoint, Super MacroWorks or AutoWorks.

#### INSTALLING TIMEOUT

Once your backup copy has been made, boot your TimeOut UltraMacros disk by placing it in your boot drive and turning your computer off and back on or by pressing Control-Open-Apple-Reset. Then press "T" for install TimeOut.

Soon the title screen will appear. The menu contains three options.

1. Update AppleWorks
2. Read NOTES
3. Quit

Select READ NOTES. This will inform you of any changes to TimeOut UltraMacros that have been made since this instruction manual was printed.

After you read the NOTES, you will return to the TimeOut startup screen. This time select Update AppleWorks.

#### THE TIMEOUT MENU

You must now specify whether or not you would like TimeOut to sort the list of TimeOut applications in the TimeOut menu. The names will be sorted alphabetically if you specify Yes. Otherwise, they will appear in the same order as they do in the disk catalog. By specifying No, you decide the order of the names in the TimeOut menu by placing them on your TimeOut applications disk in the order you want.

#### LOCATIONS OF TIMEOUT APPLICATIONS

The next step is to indicate where TimeOut should look for the TimeOut applications. If you can't fit all of your TimeOut applications on a single 5 1/4-inch floppy disk, you can now have multiple application disks. All of the application disks must have the same name (for example: /TIMEOUT). When you are installing TimeOut on your AppleWorks disk, specify YES when asked if you need more than one TimeOut Application disk.

When you start up AppleWorks, insert each TimeOut Application disk, specifying YES when asked "Read another TimeOut Application disk?" Specify NO when the last TimeOut Application disk has been read.

Be sure to insert the correct TimeOut Application disk when you select the application from the TimeOut menu.

All of the TimeOut applications must be placed on the same disk, or any ProDOS disk device. (See Copying Applications to the TimeOut Application disk several pages ahead of this point.) The choices you have are:

1. AppleWorks STARTUP disk
2. Slot and Drive
3. ProDOS directory

Be sure to insert the correct TimeOut Application disk when you select the application from the TimeOut menu.

The simplest approach is to place the TimeOut Applications on your AppleWorks STARTUP disk. By doing that, you never have to search for a separate TimeOut Applications disk. If you have a hard disk or 3.5" disk, you can place them in the same directory or subdirectory with your AppleWorks STARTUP program (APLWORKS.SYSTEM).

If you have more than one disk drive, you may want to dedicate one drive to your TimeOut Applications. You may specify either Slot and Drive or ProDOS directory to indicate where the TimeOut applications disk will be. For more information on ProDOS directories, see the section in your AppleWorks manual called ProDOS, "prefix for filenames".

#### LOCATIONS OF APPLEWORKS

The next step is to indicate where your AppleWorks STARTUP program is so TimeOut can be installed. You may specify either Slot & Drive or ProDOS directory. After indicating the location of AppleWorks, press a key and your AppleWorks STARTUP program will be updated with TimeOut.

#### REINSTALLING TIMEOUT

After you have already installed TimeOut, if you need to change the applications disk location or the order of the menu, you can reinstall TimeOut by following the same steps for initial installation. This will only work if you have not

installed any other AppleWorks enhancement programs since you installed TimeOut. If you have, then you may need to completely reconfigure AppleWorks.

## INSTALLING ULTRAMACROS

If you're already using Super MacroWorks, you may wish to read about the changes on UltraMacros (Chapter 4) before continuing with this installation.

1. Make sure you have a copy of your AppleWorks STARTUP disk which has already been modified with TimeOut. If you're using a desktop expander, install it before installing UltraMacros. Make sure that your AppleWorks disk is functional with all other modifications installed before attempting to add UltraMacros.
2. Boot the UltraMacros disk and press U for "Install UltraMacros." The macro program (ULTRA.SYSTEM) will be installed into memory.
3. Remove the UltraMacros disk from the main disk drive, insert the AppleWorks STARTUP disk and press RETURN.
4. The UltraMacros installation program will attempt to modify your AppleWorks STARTUP disk. If it can't find it, it will prompt you to enter the pathname where AppleWorks can be found. You probably won't have AppleWorks in a subdirectory unless you understand subdirectories and pathnames already. In any case, complete pathname information can be found in manuals such as the ProDOS User's Manual. A pathname ALWAYS begins with a "/" followed by the disk name. Any subdirectories following the disk name are preceded by a "/" as well.
5. Your AppleWorks STARTUP disk will be updated with UltraMacros' macros and new commands. A message will appear on the screen when the updating is complete.
6. Press RETURN; the built-in macros and commands supplied with the UltraMacros disk are now ready for use.

## COPYING APPLICATIONS TO THE TIMEOUT APPLICATION DISK

If you are using other TimeOut applications, you will need to copy the applications of the UltraMacros disk to your TimeOut applications disk. Otherwise, you can use the UltraMacros disk as your TimeOut applications disk.

Copy the following files:  
TO.MACRO.OPT  
TO.CLIPBOARD  
TO.UTILITIES  
TO.COMPILER

Note: You may not need to copy the file TO.UTILITIES or TO.CLIPBOARD if they're already on your TimeOut application disk.

If you do not have a file copy program, or you are not familiar with the one you have, there is a new method of easily copying your TimeOut files to your TimeOut Application disk.

After installing TimeOut on your AppleWorks disk, the installation program will present a menu allowing you to do this. Select "Copy files to TimeOut Application disk" and then specify the location of your TimeOut Application disk. All of the TimeOut files will then be copied.

## STARTING UP APPLEWORKS WITH TIMEOUT.

When you start up AppleWorks with TimeOut installed, you should see the TimeOut title screen before you reach the AppleWorks main menu. TimeOut will scan your TimeOut applications disk looking for TimeOut applications.

Note: If you receive a message indicating that TimeOut is getting errors trying to load the TimeOut applications, it means that TimeOut is unable to find the applications. At this point you must insert your applications disk if you have not already done so. If you have inserted your

applications disk and are still getting errors, you either do not have any applications on the disk or your disk has been damaged. You will need to create a new applications disk.

If you do not see a TimeOut title screen, you have not installed TimeOut correctly. Go back and start over.

As TimeOut identifies each TimeOut application, they are listed on the screen. An asterisk ("\*") before the application name indicates that it is memory-based. You may press Escape at any time to cancel loading memory-based applications.

Note: If you use a program selector such as the Apple Desktop you must select ULTRA.SYSTEM instead of APLWORKS.SYSTEM. The APLWORKS.SYSTEM file has been renamed to APLWORKS.SYS so that booting ProDOS will automatically start ULTRA.SYSTEM. If you select APLWORKS.SYS, you will run normal AppleWorks without any macros.

## ACCESSING TIMEOUT APPLICATIONS

While you are using AppleWorks, you may call up the TimeOut menu at any time by pressing Open Apple-Escape. A menu similar to the following will appear (you may have fewer or more applications than this):

| TimeOut Menu     |
|------------------|
| 1. FileMaster    |
| 2. Graph         |
| 3. QuickSpell    |
| 4. SideSpread    |
| 5. SuperFonts    |
| 6. Macro Options |
| 7. Utilities     |

Use the up and down arrow keys or type a number to select an application, then press Return (press Escape if you don't want to make a selection). If your applications are not memory-based, be sure your TimeOut applications disk is in the drive when you press Return. Otherwise, you will be prompted to insert your TimeOut application disk.

## MEMORY USAGE

You will notice with TimeOut installed that you have slightly less desktop memory for your AppleWorks documents. TimeOut itself takes up some of the memory.

Memory-resident TimeOut applications also take up desktop memory. If you are short on desktop memory, reconfigure your applications so they are disk-based.

However, for maximum speed, make your TimeOut applications memory-based or run them from a RAM disk.

Note: UltraMacros is always in memory. However, it resides in a special place that doesn't take up any desktop memory.

## CONTROL-RESET PATCH

When you install TimeOut on your AppleWorks Startup disk, TimeOut makes a patch to AppleWorks so that Control-Reset will take you to the Main Menu instead of the machine language monitor.

-END- Chapter 2

CHAPTER 3

ULTRAMACROS TUTORIAL

-----  
 This section introduces you to some of the new commands included with UltraMacros. It assumes that you've already booted AppleWorks and are in a Word Processor file (UltraMacros works everywhere in AppleWorks, but the Word Processor is a good place to test things).

USING THE NEW ULTRAMACROS COMMANDS

-----  
 UltraMacros adds several new SOLID-APPLE and OPEN-APPLE commands to AppleWorks. Try these for starters:

- 1] Press SOLID-APPLE-'. The date set when AppleWorks was started up will be displayed in the format: September 27, 1987. If an error beep happens instead, UltraMacros is not installed.
- 2] Now place the cursor on the first letter of the date that you entered step1 and press OPEN-APPLE-;. The letter will be changed to lower case. For example, "September 27, 1987" would now be "september 27. 1987".
- 3] Press OPEN-APPLE-:. The next letter will be switched to upper case. Get the picture? You can change the case of any letter with the colon/semi-colon key. If you hold down OPEN-APPLE and press the key normally, the letter becomes lower case; if you also hold down the shift key, the letters become upper case. The cursor is always changed to overstrike mode so that extra letters aren't inserted.
- 4] Place the cursor in the middle of a word and press OPEN-APPLE-DELETE or SOLID-APPLE-DELETE. The character under the cursor will be gobbled, but the cursor will remain at the same spot. This command actually executes two normal AppleWorks keystrokes- a RIGHT-ARROW followed by DELETE.

These new OPEN-APPLE commands can be used anywhere that AppleWorks prompts you for input. For example, the OPEN-APPLE-DELETE command can be used to change a file name after you press OPEN-APPLE-N. Or you can press SOLID-APPLE-' to enter the date when the Data Base asks you to "Type report date" when you're printing a file.

Recording Your Own Macros

-----  
 This section tells you how to record your keystrokes so that they can be played back later with one keypress. It assumes that you've already booted AppleWorks and are currently in a Word Processor file.

- 1] Press OPEN-APPLE-X. The title at the top of the screen changes to RECORD A MACRO. If it doesn't, you didn't install UltraMacros right.
- 2] The prompt at the bottom tells you to "Select macro key:". Press the "T" key to record a "Test" macro. SOLID-APPLE-T will be used to activate this macro later. The bottom right side of the screen will show "Recording T" and the cursor will stop blinking.
- 3] You are now in record mode and whatever you type (mouse moves are included) will be memorized. Type your name and press RETURN.
- 4] Now press CONTROL-@ to end the macro definition. (On IIgs's and some other II's you don't have to press the shift key; on some you do). The cursor will start blinking and the bottom right side of the screen will show "Done macro T".
- 5] You've just recorded your first macro! To use it, hold down the SOLID-APPLE key and press T. Your name is typed much faster than it was entered, unless you're an incredible typist. This macro can now be used anywhere that AppleWorks expects keyboard input: in a file, naming a file, etc.

- 6] Now press OPEN-APPLE-X and press T again. This message appears on the bottom line: "Replace global macro T?" Because you already have a macro "T" in your macro set, UltraMacros lets you decide if you want to destroy the original macro. This is a safeguard to avoid accidentally erasing a macro.
- 7] Press Y to replace your "T" macro. You can now record the new macro. This time, press OPEN-APPLE-1 first. The cursor jumped to the beginning of the file. Any OPEN-APPLE command can be recorded as part of the macro.
- 8] Now press RETURN followed by the UP-ARROW and enter your name on the top line of the file. Press CONTROL-@ to end the macro.
- 9] Press OPEN-APPLE-9 to jump to the end of the file, and then press SOLID-APPLE-T to try out the modified macro "T". It will jump to the top of the file, insert a line, and enter your name.

You can press OPEN-APPLE-X to start recording macros from virtually anywhere in AppleWorks or in a TimeOut application. You may not press OPEN-APPLE-X when the TimeOut OPEN-APPLE-Escape menu is visible on the screen, or when you're in the middle of an OPEN-APPLE-O getstring command. The command will be ignored. However, you may start a macro within AppleWorks and then press OPEN-APPLE-ESCAPE or OPEN-APPLE-O as part of the macro.

Most key can be recorded as macros. Look down farther for a list of reserved macros. Keep in mind that there is no difference between upper and lower case macro names, and that all "named" keys such as RETURN and TAB have CONTROL-key equivalents (e.g. TAB is actually CONTROL-I).

Press OPEN-APPLE-X to enter record mode. Press OPEN-APPLE-T. The Recording T message will appear. Enter something and press CONTROL-@ to end the macro. Press SOLID-APPLE-T. Your name is entered as defined above. Press BOTH-APPLE-T. The thing you just entered appears.

All keys can have both SOLID-APPLE and BOTH-APPLE definitions. Macros that are reserved SOLID-APPLE commands, such as SOLID-APPLE-RETURN, can be defined as BOTH-APPLE macros. The UltraMacros sample includes BOTH-APPLE definitions for the named keys such as TAB, ESCAPE, etc. Of course, they can easily be changed. It's a good idea to use BOTH-APPLE macros for potentially dangerous macros (like quit AppleWorks without saving files) that you don't want to execute accidentally.

You can record a macro for anywhere from 2 to 4,000 or so keystrokes, depending on how many macro keystrokes are already in memory. If the macro table is full, the Done macro message will appear as soon as you press the new macro key, unless you're replacing an existing macro. Then you'll be able to enter as many keystrokes as the original macro contained.

The only exception is macro 0(zero). You can always enter up to 80 keystrokes, but it also automatically stops recording at 80 keystrokes.

Any macros recorded using OPEN-APPLE-X are lost when you exit AppleWorks. There are two ways to make the macros permanent. One way is to use the Macro Options third option "Save macro table as default set". This save all active macros "as-is". The next section explains how to edit existing macros and then make them permanent.

Creating Custom Macros

=====  
 This section tells you how to create custom macros by editing a macro file, compiling the changed macros, and then saving them on disk.

Built-In Macros

-----  
 The built in macros are those macros which are part of ULTRA.SYSTEM and are available whenever you start AppleWorks. These macros (except for a few

reserved macros) can be changed at any time to anything you wish.

- 1] Boot AppleWorks and insert the UltraMacros disk.
- 2] Add the Word Processor file Macros Ultra to the Desktop from the UltraMacros disk and print it for a handy reference. These are the sample macros included with ULTRA.SYSTEM. All of them are available for use if you've added UltraMacros to your AppleWorks disk.
- 3] Examine the printout while reading the descriptions of how macros are made. You can modify this file to create your own custom macros. Modifying existing macros is a good way to learn about writing your own macros.

## Creating a Macro File

A macro file is any AppleWorks Word Processor file which contains macro definitions. You can create a custom macro file by adding an existing macro file to the Desktop and changing the definitions, or by using the Macro Compiler's Display current macro set option to list the current macros into a file. There's nothing magical about the macro definitions in the Word Processor. They must be compiled into true macro codes to be used by UltraMacros.

## Creating your very own UltraMacro

Here's a step-by-step look at creating your first custom macro definition and making it a permanent part of AppleWorks.

- 1] Start up your UltraMacros version of AppleWorks.
- 2] Insert the UltraMacros disk and add the file Macros Ultra to the desktop. Use OPEN-APPLE-N to change it name to Macros Mine. Macro file names don't have to start with "Macros"; it just makes it easier to find them that way.
- 3] Go back to the AppleWorks Main Menu and then make a new Word Processor file called TEST.
- 4] Press SOLID-APPLE-B to see a sample "begin a memo" macro.
- 5] Press SOLID-APPLE-N to see the author's daughter's name.
- 6] Now press OPEN-APPLE-Q and return to the Macros Ultra file.
- 7] Use the OPEN-APPLE-F command to find "Heather". You should see the following macro definition:

```
N:<awp>Heather Brandt! name of a little "Lassie" lover
```

- 8] Change Heather Brandt to your name. Ignore the <awp> for now. Just make sure that your name is immediately after <awp> and is followed by a "!". You could cheat and use OPEN-APPLE-R to replace it, but that won't teach you anything.
- 9] Now use the OPEN-APPLE-F command to find "B:<awp>". You should see the following macro definition:

```
B:<awp><rtm><rtm>
Date: <date><rtm><rtm><rtm>
From: <sa-n><rtm>
      JEM SOFTWARE<rtm>
      P.O. Box 20920<rtm>
      El Cajon, CA 92021<rtm><rtm><rtm><rtm>
To: ! begin a memo
```

The first line contains special bracketed codes call tokens. Each <rtm> represents a carriage return.

The second line also contains <date>. This token will always print the date which was set when AppleWorks was first started.

The third line contains <sa-n>. This is the same as pressing SOLID-APPLE-N; that's why the macro printed the name given in macro-N. Switch back to the TEST files and look at what the macro did until you can

see the relationship between the macro definition and the result.

- 10] Replace the sample address between the From: and To: lines with your own address. Start each line in the same column as the "J" in JEM and end with a <rtm>.
- 11] Now press OPEN-APPLE-ESC and select Macro Compiler.
- 12] Press RETURN to select Compile a new set of macros.
- 13] Press RETURN to select No for the Pause each line? prompt.
- 14] Press RETURN to select Beginning for the Compile from? prompt.
- 15] The compiler will then scan the entire file, converting the text and tokens into UltraMacros' codes.
- 16] Press OPEN-APPLE-Q and select the TEST file.
- 17] Press SOLID-APPLE-B to see the memo macro with your name included within it. Now press SOLID-APPLE-N to see just your name.
- 18] If the macros don't work the way you think they should, go back and examine the definition again, comparing it to the samples in steps 7 and 9.
- 19] Now press OPEN-APPLE-ESC and select Macro Options.
- 20] If your AppleWorks Startup disk is not in a drive, remove your Program disk and insert the Startup disk.
- 21] Select Save current macros as default set.
- 22] Press RETURN to select No for Activate auto-startup macro?
- 23] The ULTRA.SYSTEM file will be updated with the new macro definitions. Re-insert your AppleWorks program disk if necessary and press RETURN to return to AppleWorks.
- 24] Save your "Macros Mine" file and exit AppleWorks.
- 25] Now restart AppleWorks and make a new Word Processor file.
- 26] Press SOLID-APPLE-B. Voila! Your new definition is in effect along with all of the other Macros Ultra sample macros.
- 27] Press SOLID-APPLE-B again, but this time tap the ESC key immediately afterward. The macro is halted before it finishes. You can press ESC to stop any run-away macros.

-END- Chapter 3

## CHAPTER 4

### ULTRAMACROS REFERENCE

This chapter explains in excruciating detail the capabilities of UltraMacros. In fact, it's everything you ever wanted to know about macros - but were afraid to ask. (No it is not, however, this is all Beagle is offering at this time. stay tuned to the board of your choice.)

### THE ANATOMY OF A MACRO

Before you can start creating macros, you need to understand how a macro is built. The "syntax" of a command is the set of rules governing the organization and usage of that command. In an English sentence, "He here is" would be improper syntax because "is" should precede "here". In a like manner, macro commands must be organized in such a way that UltraMacros can understand what you want to have accomplished.

### TOKENS

Take a look at the macros in the Macros Ultra file (the macros come after the word START and before the word END). Each macro is made up of a series of normal characters and special tokens.

A token is a code word enclosed in brackets that represents a special keystroke or macro command. For example, the token <rtm> represents the RETURN key, and the token <left> represents the LEFT-ARROW key. The macro compiler converts these readable tokens into the equivalent invisible command codes within the macro.

Here's a macro a few lines into the Macros Ultra file:

```
C:<awp><oa-0>CN<rtm><esc>! center text
```



Each macro begins with a character or token that represents the key used with SOLID-APPLE to activate the macro. In this example, the character "C" indicate that this macro is executed by pressing SOLID-APPLE-C.

Next comes a colon, followed by a token that designates where the macro will work; this macro is for the Word Processor.

Next come the keystrokes and tokens that actually make up the macro. In this example there are five keystrokes: OPEN-APPLE-O, C, N, RETURN, and ESCAPE.

An exclamation mark signals the end of the macro definition. Any text after the "!" is ignored. In this example the words "center text" describe what the macro does. They are not considered part of the macro.

Here are some of the tokens that you can use to create macros:

```
<del>      DELETE key
<esc>      ESCAPE key
<rtm>      RETURN key
<tab>      TAB key
<left>     LEFT-ARROW key
<right>    RIGHT-ARROW key
<up>      UP-ARROW key
<down>    DOWN-ARROW key
<spc>     SPACE BAR key
```

The tokens for OPEN-APPLE, SOLID-APPLE, BOTH-APPLE and CONTROL commands use the abbreviations oa, sa, ba, and ctrl followed by a hyphen and the appropriate key. Here are some examples:

```
<oa-l>     OPEN-APPLE-l
<sa-B>     SOLID-APPLE-B
<ba-right> BOTH-APPLE-RIGHT-ARROW
<sa-ctrl-C> SOLID-APPLE-CONTROL-C
```

UltraMacros adds a number of unchangeable OPEN-APPLE and SOLID-APPLE commands to AppleWorks (See the "Reserved Macros" heading).

Tokens may be entered in upper or lower case, but no spaces are allowed between the letters making up the token. For example, <rtm>, <RTM>, and <Rtm> are all valid tokens for the RETURN key, but <rtm> is not valid.

Multiple consecutive tokens can be used without brackets around each individual token. Just separate the tokens with spaces and/or colons. For example, two UP-ARROW commands followed by a LEFT-ARROW can be represented as <up><up><left>, <up up left>, <up : up : left>, or <up><up left>.

The compiler also allows you to include comments between the <brackets>. Comments are surrounded by curly {braces}. The previous example could include a comment like this:

```
<up : up : {this text gets ignored by the compiler} left>
```

The macro compiler will ignore the curly braces and everything between them. No macro table space is wasted by using comments. The previous sample will compile into three bytes two UP-ARROW codes and one LEFT-ARROW code. Do NOT use token <> brackets inside of the {} comment brackets. This is legal: a:<all { comment } stop>! but this isn't: a:<all { --> see? }>!

Note: If the curly braces are not between token brackets, they will be treated as normal text.

## LOCAL AND GLOBAL MACROS

Each macro must be classified as either local or global. A global macro is one that works anywhere. A local macro is one that works only within a

specific application.

In a macro definition, the token just after the colon indicates whether the macro is local or global:

```
<all>      ALL applications (global)
<awp>      AppleWorks Word Processor
<adb>      AppleWorks Data Base
<asp>      AppleWorks Spreadsheet
<ato>      A TimeOut application only
```

You can't have more than one global macro with the same name (the second one will never be used), but you can give the same name to several local macros as long as they are in different applications.

The order in which macro definitions appear in a file is important. When you select a macro, UltraMacros starts at the beginning of the macro table and searches for the first macro with the specified name. When a match is found, the application definition is checked.

- 1) If the macro is type <all>, it is executed regardless of where you are within AppleWorks or TimeOut.
- 2) If the macro is type <ato>, it is executed only if you are currently in a TimeOut application.
- 3) If the macro is an AppleWorks application type, UltraMacros checks to see if you're in the specified application. If so, the macro is executed; if not, it keeps searching.

From this you can see that if multiple macros are created with the same name, the local AppleWorks macros should be first, followed by the TimeOut macros, followed by the global macros.

TimeOut is part of AppleWorks, so you don't have to use <ato> in macros which are designed for TimeOut; <ato> just makes sure that the macros will not run outside of a TimeOut application.

Note: BOTH-APPLE macros are not considered the same as SOLID-APPLE macros even if they use the same key. A key such as "A" could conceivably have eight completely different definitions; a BOTH-APPLE and SOLID-APPLE command for <awp>, <adb>, <asp> and <ato>.

Recorder macros (those defined using OPEN-APPLE-X) are global by default. If you want to make a recorded macro local, list the macros into a file and use AppleWorks to change the <all> token to a local token. Then recompile the macro set.

## CALLING OTHER MACROS

One macro can call another macro in two different ways:

```
y:<all><sa-left oa-M>T<down left rtn>! delete a line
9:<awp : oa-9 : up : goto sa-y>! delete the last line in a file
```

In the first example, SOLID-APPLE-Y calls macro SOLID-APPLE-LEFT to move the cursor to the left column; UltraMacros then returns to SOLID-APPLE-Y and the current line is moved to the clipboard.

In the second example, SOLID-APPLE-9 uses the <goto> command to send control to macro SOLID-APPLE-Y. UltraMacros never returns to SOLID-APPLE-9 because <goto> is a "one-way" command.

Users with Basic programming experience can think of the first example as a GOSUB and the second as a GOTO (how fitting). Just remember that using a macro NAME will continue the current macro when the called macro is finished, and that using GOTO means that the macro will never come back.

"Macro nesting" occurs when a macro calls a macro which calls a macro... UltraMacros has to remember where to back up to when the current level is

finished. The limit is 18 levels. A macro which calls itself will also execute 18 times and then stop.

```
1:<all>*<sa-l>! print 18 asterisks
```

To execute a procedure more often, use <begin> and <rpt> along with variables (they are explained later).

```
<ba-l>:<call : A = 120 :begin : print "*" : A = A - 1 : if A > 0 then rpt>!
print 120 asterisks
```

CAUTION: When you're about to delete a macro from a file, make sure the macro isn't needed by another macro in the file. Use the OPEN-APPLE-F command to search for references to the macro. For example, if you plan to delete macro F, search for "sa-f".

## RESERVED MACROS

The special macros listed below cannot be re-recorded, changed or deleted; you must use them "as is". You can use these macros at any time (unless otherwise noted): directly from the keyboard (press the appropriate key along with SOLID-APPLE), while recording a macro (press the appropriate key along with SOLID-APPLE), or in a macro definition (use the appropriate token).

Macros SOLID-APPLE-CONTROL-@ and SOLID-APPLE-^ are also reserved. They don't do anything, at least not that you'd care about. You are allowed to use the BOTH-APPLE equivalents of these two macros, however.

---

```
<sa-del>          SOLID-APPLE-DELETE
Deletes the character under the cursor.
```

---

```
<ahead>          SOLID-APPLE-.
Finds the first blank space to the right of the cursor position. This macro works wherever AppleWorks allows you to edit characters, including Word Processor files, Data Base categories, at Find prompts, and when AppleWorks prompts you to enter names.
```

---

```
<back>          SOLID-APPLE-,
Finds the first blank space to the left of the cursor position.
```

---

```
<date>          SOLID-APPLE-'
Displays the date in this format: September 29, 1987 (handy for dating letters or Data Base and Spreadsheet reports).
```

---

```
<date2>         SOLID-APPLE-"
Displays the date in this format: 09/29/87 (handy for dating transactions in the Spreadsheet).
```

---

```
<time>          SOLID-APPLE-=
Displays the time in this format: 6:50 pm. If you don't have a clock, the time will always be 12:00 am.
NOTE: If you have a //gs and 12:00 am is always given for the time, you'll need to copy the ProDOS file from the UltraMacros disk to your AppleWorks startup disk.
```

---

```
<time24>        SOLID-APPLE-+
Take a guess.
```

---

```
<find>          SOLID-APPLE-RETURN
```

In the Word Processor:  
Moves the cursor to the next carriage return marker. This command only works when the "Type entry..." message is visible at the bottom of the screen.

At any numbered inverse bar menu or file list:  
Searches for the text stored in macro 0 (zero) and leaves the cursor at that item. If the text is not found, the macro will stop completely or go into a continuous loop.

If you're at a file list and want to find a file in a hurry, press OPEN-APPLE-0 to define macro 0 with the name and then press SOLID-APPLE-RETURN to find the file. From within a macro, you can use this command to automatically load files by name.

This command also works with the OPEN-APPLE-Q Desktop Index and the OPEN-APPLE-ESC TimeOut menu. Macros can find desktop files by name, or start TimeOut applications by name. Define macro 0 ahead of time; you can not use OPEN-APPLE-0 while the OPEN-APPLE-ESC TimeOut menu is on the screen.

Use the ability to search a menu to find printers by name when you aren't sure what order they'll be in.

NOTE: The <find> command only uses the first 15 characters in Macro 0 (\$0).  
NOTE: <find> can be used with <store> and <recall> to link files.

The <find> command now works differently with menus. If the item is not found, the current macro will be ended. If the macro containing <find> was called from another macro, the calling macro will continue.

This means that any macros containing <find> (if they will be called from other macros) should end with a <stop>. This way the calling macro is only executed if the item is not found, and can therefore be used for error-trapping. A macro could search for a file, and if unsuccessful, it could then change to another disk and search it. Before you only had one shot at it. See the CONTROL-P phone macro in Macros Ultra for an example.

---

<findpo>            SOLID-APPLE-^  
 In the Word Processor only: Moves the cursor to the next caret. The caret may be a printer options caret or a text caret which is part of the document. This macro only works when the "Type entry or ..." message is visible at the bottom of the screen.

This macro is easier to use for locating printer options in a file than the OPEN-APPLE-F command, which requires you to know which option you're searching for (and its two-letter code). <findpo> simply searches for the next caret in the file regardless of what it represents.

A macro can use the <screen> command to check what kind of option was found by <findpo>. For example, this macro finds the next superscript or subscript code, but ignores all other printer codes or carets:

```
<ctrl-s>:<awp><findpo : $8 = screen 42,24,4 : if $8 = "Subs" then stop
else if $8 = "Supe" then stop else rpt>!
```

---

<print>            BOTH-APPLE-CONTROL-P  
 The print token is for use within macros only.

---

### NEW OPEN-APPLE COMMANDS

---

The following commands can be used directly from the keyboard as well as from within macros. If you're recording a macro, press the appropriate key along with OPEN-APPLE. To use the command in a macro definition, use the token.

---

no token            OPEN-APPLE-X  
 Begin recording a macro. This command must be used from the keyboard only; it can't be used within a macro.

---

"sa-del"            OPEN-APPLE-DELETE  
 Deletes the character the cursor is on. This command is identical to SOLID-APPLE-DELETE. NOTE: When recording a macro, you must use SOLID-APPLE-DELETE.

---

"getstr"            OPEN-APPLE-0 (zero)  
 Presents a ">" prompt on the bottom line of the screen, allowing up to 60 characters to be entered for defining macro 0. This command is used from the keyboard only. Do not use it while recording a macro.

---

<oa-ctrl-@>        OPEN-APPLE-CONTROL-@  
 Sends a CONTROL-@ to AppleWorks. Use this while recording or defining a macro. If you just use CONTROL-@ the macro will stop at that point. CONTROL-@ is used only for printer and interface definitions. NOTE: Make

sure you used the bug fixer in the main menu of UltraMacros before you use this.

---

<uc>                OPEN-APPLE-:  
 Changes the character at the cursor to upper case.

---

<lc>                OPEN-APPLE-;  
 Changes the character at the cursor to lower case.

---

<insert>           OPEN-APPLE-!  
 Turns on the insert cursor. To turn on the overstrike cursor, use this command followed by an OPEN-APPLE-E command.

---

<zoom>             OPEN-APPLE-@  
 Forces zoom OUT. Follow this command with OPEN-APPLE-Z to zoom in.

---

<read>             OPEN-APPLE-^  
 From the keyboard, OPEN-APPLE-^ will read the character at the current cursor position into macro 0. You can use the arrow keys to move the cursor to a new position before reading another character. While recording a macro, OPEN-APPLE-^ will read the character at the current cursor position into the macro being recorded (the character will become text in the macro definition). In a macro definition, successive <read>'s add to macro 0. If you want each <read> to reset macro 0, put the <read> in another macro and call that macro:

```
a:<all sa-b : if $0 = "." then left else rpt>! go to end of sentence
b:<all read>!
```

A better way to do the same thing would be to read the cursor character directly:

```
c:<all X = peek $10F5 : ifnot X = 174 then right rpt>! go to end of sentence
```

<cell> can also read the current Word Processor line. It has some problems in the spreadsheet. See macro <ba--> in Macros Ultra for a macro that reads the exact screen contents of a cell.

---

<disk>             OPEN-APPLE-&  
 Reads the current volume name or subdirectory pathname into macro 0. This command can only be used when a list of files is being displayed. A brief flash at the top left of the screen indicates that the command was executed.

---

<path>             OPEN-APPLE-  
 Reads the current volume name or subdirectory name and the currently highlighted file name into macro 0. This command can only be used when a list of files is being displayed. A brief flash at the top left of the screen indicates that the command was executed.

---

<cell>             OPEN-APPLE--  
 Reads the contents of the current Spreadsheet cell, Data Base category, or the current Word Processor line into macro 0. Move the cursor to the cell and use

the command. A brief flash at the top left of the screen indicates that the command was executed. The current layout and display setting do not affect <cell>. In the spreadsheet it uses the literal values or label as displayed on the cell indicator line, and in the Data Base it uses the full category entry as shown in the single-record layout. From within a macro, use <cell> as part of any string definition like this:

c:<asp : \$3 = cell : down : print \$3>! copy a cell

---

<store> OPEN-APPLE-<  
Stores the current contents of macro 0, up to 15 characters, in a special unused area of a word processor, spreadsheet, or data base file. The name being stored is displayed at the bottom right of the screen. This command is designed for linking files, but it may be used for any other purpose you think of.

<store> and <recall> also work with the Data Base.

---

<recall> OPEN-APPLE->  
Sets macro 0 equal to the text stored by the <store> command. <store> would be rather useless if the information couldn't be recalled.

<store> and <recall> also work with the Data Base.

---

<inc> OPEN-APPLE-CONTROL-W  
Increments the character at the current cursor position. For example, "a" becomes "b". It follows the ASCII numbers.

---

<dec> OPEN-APPLE-CONTROL-A  
Opposite of <inc>; decrements the character at the current cursor position.

---

<bell> OPEN-APPLE-CONTROL-G  
Sounds the AppleWorks error bell once. It's handy for getting someone's attention.

---

<nosleep> OPEN-APPLE-CONTROL-N  
Cancels the currently defined "sleeping" macro, if any. See the description of <wake> for more information.

---

<clear> OPEN-APPLE-CONTROL-X  
Clears all numeric variables to 0 and all string variables to no definition. A brief flash at the top left of the screen indicates that the command was executed. //gs users can press OPEN-APPLE-CLEAR.

---

Macros SOLID-APPLE-CONTROL-@ and SOLID-APPLE-^ are also reserved. They don't do anything, at least not that you'd care about. You are allowed to use the BOTH-APPLE equivalents of these two macros, however.

Special UltraMacros Tokens

-----  
The following tokens are for use within macro definitions only. None of them are keyboard commands, and they can not be recorded using the OPEN-APPLE-X command. They are used as is (i.e. they require no parameters).

<input>

-----  
Allows you to enter text or OPEN-APPLE commands until RETURN is pressed (the RETURN is not passed on to AppleWorks). To exit this command without pressing RETURN, enter CONTROL-@. The macro will be aborted.

<id>  
-----  
Return the unique id number of the current TimeOut application. If TimeOut is not active, a zero will be returned. This token can't be used by itself; it must be part of a variable definition or other numeric expression.

a:<all : A = id# : \$1 = "This TimeOut application is #" + str\$ A : msg \$1!  
Determine the TimeOut application number.

a:<ato: a = id#:if a=7 then msg 'FileMaster' stop else if a = 8 then msg 'Macro Compiler' stop>! Act differently for each.

<ifkey>  
-----  
Checks to see if a specific key has been pressed (exact matches only) and if so continues. This is not part of the if-then-else logic.

a:<all :sa-b rpt>!  
b:<a;; " ifkey rtn then print "Return was pressed:>!  
or  
b:<all : ifkey>A<then print "A was pressed">!

<key>  
-----  
Pauses until a key is pressed. The keypress is NOT passed along to AppleWorks. When used by itself, key is simply a pause function.

In an equation, key returns the value of the key pressed. For example:

a:<all : A = key : if a < 128 then print A>!

If the user presses RETURN, A will be 13, and if the user holds down OPEN-APPLE while pressing the key, 128 will be added to the key value. This example will only print the keystroke if OPEN-APPLE is not pressed.

<begin>  
-----  
This does nothing unless used with <rpt>. It marks the restarting point for repeating part of a macro instead of repeating the entire macro.

<rpt>  
-----  
Repeats part or all of the current macro by searching backwards from the <rpt> token until a <begin> is found, or until the beginning of the macro is reached.

No commands after <rpt> will ever be executed (unless they're part of an IF-THEN-ELSE statement). A conditional command must be used to exit the macro or it will run continuously. For example:

```
g:<all : bell : rpt>! could drive you crazy; press Escape to exit.
```

```
h:<all : print "This part executes once" : begin : bell : rpt>! Prints a message and then beeps like crazy.
```

NOTE: Due to a rather obscure unfixable problem, you are not allowed to use some literal numbers between a begin/rpt sequence. Well, you can use them, but the macro won't work right. The numbers are 17, and 37121 through 37375 inclusive. If you must use these numbers, use a variable to represent them inside of any begin/rpt sequences. (In fact, why not \*always\* use a variable so there is no chance of forgetting these rather unremarkable numbers, and getting bitten?)

```
<stop>
```

```
-----
Stops all macro activity immediately. Use it to stop a nested macro from returning to the calling macro, or to get out of a <rpt> situation. For example, go back to the <findpo> sample.
```

#### Special UltraMacros Tokens with Parameters

```
-----
The next group of tokens require additional parameters. Most parameters involve variables, so a description of UltraMacros' variables is next. The token definitions are continued following the variable section.
```

#### Defining Numeric Variables

```
-----
Numeric variables may be defined many different ways. You must be careful that you don't accidentally redefine a variable if another macro expects to use that variable later.
```

We suggest leaving variables U, V, W, X, Y, and Z as "throw away" variables. Assume that they can be redefined indiscriminately by any and all macros. We also suggest reserving variable Q for recording the number of a file you leave via the OPEN-APPLE-Q (get the connection?) and that you will want to return to later.

Start up AppleWorks and insert the UltraMacros disk. Add the file Macros Ultra to the Desktop and examine the variable usage in it. See macros SOLID-APPLE-1 and SOLID-APPLE-2 for examples of using variable Q.

Here is a chart showing the various ways to define numeric variables and use them in conditional macros.

| condition | var     | operator | operand |                       |
|-----------|---------|----------|---------|-----------------------|
|           |         |          | X       | variable              |
| if        | A       | >        | 7       | decimal number        |
| (define)  | through | =        | \$10    | hexadecimal number    |
| ifnot     | Z       | <        | key     | keyboard input        |
|           |         |          | len \$1 | length of a string    |
|           |         |          | val \$2 | value of a string     |
|           |         |          | peek    | value at an address   |
|           |         |          | id#     | TimeOut application # |

Remember those crazy mix and match animal cards when you were a kid? This is the same idea, except that a variable can only be defined using the "equals" operator. Otherwise you can pick any item out of each category and use them together in a macro.

Any number of operands can be chained together using the four basic math operators (+ - / \*). No parentheses are allowed. The equations are strictly evaluated left to right with no other precedence.

#### Defining String Variables

```
-----
String variables may be defined in many different ways. Literal strings may be surrounded by single or double quotation marks:
```

```
a:<all : $8 = "This is a literal string">!
a:<all : $9 = 'This example has "quotation marks" in it'>!
```

Strings may be defined as the current date or time in these four formats:

```
a:<all $0 = date: $1 = date2: $2 = time: $3 = time24>!
```

```
-----
Strings may be defined as the current Spreadsheet cell or Data Base category: (Manual update a page or so previous said that <cell> would read the current Word Processor line. I think this implies that it would work here also.)
```

```
a:<all : $8 = cell>!
```

A portion of the screen may be used to define a string (see the description of the <screen> a few pages hence. <getstr> must be followed by a space. You can't use A:<all : \$3 = getstr,15>! (When used in the Data Base, always follow <getstr> with a <rtn> i.e. <all : \$3 = getstr 15 : rtn>. See the file "Linking Samples".)

```
a:<all: $3 = getstr 15>!
```

See the description of <getstr> three pages hence for more information.

Finally, a string may be defined exactly like another string. In this example, \$7 is made identical to \$2:

```
a:<all $7 = $2>!
```

Here is a chart showing the various ways to define string variables and use them in conditional macros:

| condition | str     | operator | operand     |                                  |
|-----------|---------|----------|-------------|----------------------------------|
|           |         |          | "text"      | A literal string                 |
|           |         |          | \$2         | Another string variable          |
| if        | \$0     | >        | date,date2  |                                  |
| (define)  | through | =        | time,time24 |                                  |
| ifnot     | \$9     | <        | getstr      | Keyboard input                   |
|           |         |          | cell        | db category, ss cell, or wp line |
|           |         |          | screen      | 80 col text screen               |
|           |         |          | chr\$       | ASCII value of a variable        |
|           |         |          | str         | String equivalent of a var       |
|           |         |          | left        | Left portion of a string         |
|           |         |          | right       | Right portion of a string        |

Any number of operands can be chained together using concatenation (+). No parentheses are allowed. The equations are strictly evaluated left to right with no other precedence. Any characters beyond 80 are ignored.

#### Parameters

```
-----
Here are some of the possible parameters for UltraMacros tokens:
```

#### MACRO

A macro name such as SA-B or BA-CTRL-D

#### NUM

(number)  
A literal decimal number from 0 to 65535

A literal hexadecimal number from \$0 to \$FFFF  
 A variable name from A to Z (the value of the variable is used)

NUM VAR  
 A variable name from A to Z (the value of the variable is used)

NUM2  
 A NUM (see above)  
 A <key> token  
 A <peek> token  
 A <len> token  
 A <val> token  
 A <id#> token

NUM EXP (Numeric Expression)  
 A NUM (see above)

A NUM (see above) if the compiler gives an error, NUM2 is unavailable for This particular command definition

A NUM or NUM2 equation; NUM's must be connected by +, -, /, or \*; the equation is evaluated from left to right. No other precedence is used.

The range of values is 0 to 65535 and the numbers "wrap around" if the range is exceeded. For example. 0 - 1 = 65535 and 65534 + 3 = 1. Because only integer numbers are allowed, division will only return the quotient.

STRING  
 A literal string surrounded by quotes

STRING VAR  
 a string name from \$0 to \$9  
 (The way to remember all this is to keep firmly in mind that NUM variables are contained in alphabetic variables named A through Z and strings are contained in numeric variables named \$0 through \$9. Makes sense to me, how about you?)

STRING EXP (string expression)  
 a STRING (see above)  
 a <chr\$> token  
 a <str\$> token  
 a <date> token  
 a <date2> token  
 a <time> token  
 a <time24> token  
 a <cell> token  
 a <screen> token  
 a <getstr> token  
 a STRING expression; STRING EXP's must be connected by "+" only; the equation is evaluated from left to right until the maximum length of 80 characters is reached.

---

<chr\$ NUM>  
 -----  
 Prints the ASCII value of a variable. See the Key Chart for a complete list. For example, the following macro will print the number 1:

```
a:<all : X = 49 : print chr$ X!
```

As you can see on the chart, 49 is the code for an upper case 1. If X was equal to 177 (49 + 128), an OPEN-APPLE-1 command would be executed.

This command is handy for sending special codes to your printer along with the <pr#> token.

---

```
<getstr NUM>
-----
presents a ">" on the bottom line of the screen, allowing up to 60 characters to be entered. (This is similar to OPEN-APPLE-0.)
```

```
a:<all : $1 = getstr 8 : print $1>! read in 8 characters and print them
```

---

```
<asc STRING>
A new token has been added to UltraMacros. <asc> is used to convert a string character to its ASCII equivalent as shown on the Key Chart. Only the first character of a string is used. This command complements the <chr$> token.
```

```
x:<all $0 = "Test" : print asc $0>! prints "84"
x:<all $0 = "z" : x = asc $0 + 2: print x>! prints "124"
```

Add <asc> to the token list on page 81, and see the sample <asc> macros in Macros Ultra.

```
<goto MACRO>
-----
Sends control to the specified macro name, If goto is not used, the second macro will return to the original macro and continue there. It will behave like a gosub. Goto just jumps to the named macro and keeps on going. No nesting occurs when goto is used.
```

```
a:<all : sa-b : print "The end">!
b:<all : if A = 4 then goto sa-c else rtn>!
c:<all : print $4>!
```

Pressing SOLID-APPLE-C will start this macro example. Control passes to SOLID-APPLE-B. If A is not equal to 4, the macro jumps to SOLID-APPLE-C where string \$4 is printed. Because we used a goto, control does not return to SOLID-APPLE-B, but rather goes back to SOLID-APPLE-A and "The end" is printed.

---

```
<highlight NUM EXP, NUM EXP, NUM EXP, NUM EXP>
-----
Allows you to invert any portion of the AppleWorks screen. This sample will invert the entire screen:
```

```
h:<all : highlight 1,1,80,24>!
```

The first parameter is the left column (1-80)  
 The second parameter is the top row (1-24)  
 The third parameter is the right column (1-80)  
 The fourth parameter is the bottom row (1-24)

If the first parameter is 0, the specified rows will have all highlighting cancelled (the text will be changed to normal). The right column value is ignored if the left column is zero.

---

```
<left STRING VAR,NUM>
-----
Extracts the leftmost numbers of characters specified from a string.

a:<all : "Beagle Bros" : $2 = left $1,6 : print $2>! Prints Beagle (Only the first six characters.)
```

<len STRING VAR>  
-----

Returns the length of the specified string as part of a variable equation. For example:

```
a:<all : A = len $0 : B= len $1 : if A > B then print "$0 is longer">!
```

---

<msg STRING>  
-----

This command prints a message on the screen immediately below the current data window (i.e. on the dash "-----" or underline "\_\_\_\_\_" dividing line). The command syntax is identical to <print?>. Messages are displayed in inverse text unless the message string is surrounded by double quotation marks:

```
m:<all : msg "Normal Text" : key {display normal text; wait for key press}
msg 'Inverse message' : key {Display inverse text; wait for key press}
$9 = date + "+" time: msg $9:key {Display date & time; wait for key press}
msg ">!" do sample messages, then erase all messages.
```

Whenever a message is displayed, the remainder of the line is filled with the second to last character that was already on that line (i.e. the character above the "p" in A-? for help). This automatically erases the vestiges of previous longer messages. As the example shows, a null message erases the entire line.

The msg token must be followed by a colon. The second msg will result in a compiler error, but the first msg is legal:

```
a:<ato : a = id# : if a = 7 then msg ' FileMaster ' : stop else if a = 8 then
msg ' Macro Compiler ' stop>! act differently for each application
```

---

<onerr OPTION>  
-----

Allows you some control over what happens if an error occurs. An error is defined as a keystroke that causes AppleWorks or a TimeOut application to ring the error bell. Normally a macro continues on without regard to the error (the error bell is silenced as well). There are three onerr options:

1.<all : onerr stop>! Stop the current macro after an error. If the macro was called from another macro, control returns to the calling macro. This does not shut down all macros; only the current macro is ended.

2:<all : onerr off>! Revert to normal; ignore all errors. Resets the onerr status to normal, so macros ignore the errors, for better or worse.

3:<all : onerr goto sa-h>! On any error, execute the named macro and the return to calling macro where the error occurred.

The onerr status is always reset to normal when a sequence of macros is done executing.

---

<posn VAR,VAR>  
-----

Assigns the current cursor position to the two variables following the token. The AppleWorks application affects the command like this:

|                | First Variable | Second Variable |
|----------------|----------------|-----------------|
| Word Processor | column         | line            |
| Data Base      | category       | record          |
| Spreadsheet    | column         | row             |

If the cursor is not in one of these three application, both variables will be set to zero. <posn> is compatible with TimeOut applications that use the AppleWorks application. For example, TimeOut Graph works in the Spreadsheet, so <posn> can be used with it.

Start up AppleWorks and add the file Macros Ultra from the UltraMacros disk to the Desktop. Examine the cursor-positioning macros for examples of <posn> usage.

---

<pr# NUM EXP>  
-----

determines where the <print> command sends its information.

<pr# 0> sends all <print> characters to AppleWorks. This is the normal state of affairs.

<pr# 1> sends the characters to the first printer in your AppleWorks printer list. Because AppleWorks' limit is 3 printers, the <pr#> limit is also 3. You must use <pr# 0> to reset the <print> command when you're done.

Start AppleWorks and add the file Macros Special from the UltraMacros disk to the Desktop. Examine it for sample <pr#> usage.

---

The <pr#> command definitely works with the modem and printer ports on the //gs. It may not work with all other interface cards. Experiment, but don't be surprised if you have problems on other machines. I have no idea why.

---

<print>  
-----

Print has the most variations of any single UltraMacros command. The compiler will be happy to point out any errors you might make, but studying this section will make you much less error-prone.

Printing Text  
-----

Like Applesoft, <print> allows a literal text string to be printed. You may use either double or single quotes around the text. The limit is 70 characters of text at a time.

```
a:<all :print "Literal text <rt>">! Prints "Literal text <rt>"
```

The <rt> is NOT converted to an actual RETURN.

```
a:<all : print '"double" quotes inside "single" quotes'">! will print as "double"
quotes inside "single" quotes
```

Printing Numeric Variables  
-----

Print can be used to display the value of any numeric variable. For example, if variable Q holds the desktop number of a specific file, this macro sequence would return you to that file:

```
2:<all : oa-q : print Q : rtn>!
```

A text string may precede the variable like this:

```
a:<all : print :Variable A is now " A">!
```

When printing numeric variables, a "\$" immediately after the print statement will cause the variable's hexadecimal value to be displayed in either two or four characters.

```
a:<all : A = 8 : print$ "Hex A = $" A>! will print "Hex A = $08"
a:<all : X = 61453 : print$ X>! will print "FOOD"
```

Numeric variables can also be printed as characters rather than numbers, The <chr\$> token converts the numeric value to the equivalent key command. See the Key Chart for a complete list. Here's a sample.

```
a:<all : X = 185 : Y = 41 : print chr$ x : print chr$ y>!
```

The Key Chart shows us that 185 is an OPEN-APPLE-9 and that \$41 is an upper case "A". This sample will hump to the end of the file and then print an "A".

## Printing Strings

The ten string variables may be printed by themselves only. No other options may be used when printing strings. These strings may contain text or command keystrokes. To define a string with commands instead of text, just define macro 0 (zero), the same as \$0, and then use a macro like this:

```
a:<all : $2 = $0 : print $2>! execute macro 0 (zero)
```

Because macro 0 (zero) and \$0 are the same thing,

```
a:<all : print $0>! is exactly the same as
a:<all : sa-0>!
```

## NOTE:

ALL PRINT STATEMENTS MUST BE FOLLOWED BY A COLON ":" or ">". Other tokens can be followed by spaces and then another token, but <print> is an exception.

## <rem STRING>

This command allows you to embed a remark in the middle of a macro. The remark does not get used in the macro. The command syntax is identical to <print>. Just surround the remark with single or double quotation marks.

The difference between using <rem> as opposed to just adding a comment after the "!" mark or by using the curly braces {...} is that <rem>'s are preserved when the macro is assembled, so they are still present when you use the Macro Compiler to list the current macros into a Word Processor file. We prefer to use the curly braces to make sure we keep our Word Processor source files handy, but it's your option.

Here's a macro from the Macros Ultra file that deletes from the cursor to the end of the file. Actually, it moves the data to the clipboard so that it can be undone. It's a simple example, but it does illustrate how to use <rem>'s:

```
Z:<all : oa-M>T<rem "Move to the clipboard" : oa-9 : rtn : rem "jump to the end
and do it": left>! zap to the end of the file.
```

Comments and <rem> make it easier to follow the logic of a macro, especially if you want to change a macro you wrote last month or last year.

## <right STRING VAR,NUM>

Extracts the rightmost number of characters specified from a string.

```
a:<all : $1 = "Beagle Bros" : $2 = right $1,4 : print $2>! prints Bros
```

## <screen NUM EXP,NUM EXP,NUM EXP>

Read any part of the AppleWorks screen into a string variable. It is used like this:

```
s:<all : $1 = screen 7,1,15>! Read current file name from top line.
```

The first parameter is the left column (1,80)  
The second parameter is the line (1-24)  
The third parameter is the length (1-80)

<screen> treats all characters as normal text, regardless of how they appear on the screen; it can't be used to tell if something was highlighted. (That is good news. If there is the slightest chance the cursor is within the range of the read performed by <screen> you should first switch to the overstrike cursor (oa-E) or you will have an underscore as part of the string variable. See sa-SPACE in Ultra Macros for method of properly restoring the insert or overstrike cursor.)

## <str\$ VAR NAME>

Converts a numeric variable to a decimal character string. It must be used as part of an equation. Here are some examples:

```
x:<all : A = 4: $3 = " A = " + str$ A + "": print $3>! prints "A = 4"
y:<all : B = $FF : $1 = str$ B : print $1>! prints "255" because 255 is the
decimal equivalent of the decimal $FF used to define B.
```

This command is handy for including variables in a message:

```
a:<ato : I = if# : $1 = "TimeOut ID#" + str$ I : msg $1>! show id#
```

## <val STRING VAR>

<val> is the opposite of <str\$>. It converts a string variable to a numeric value and must also be used as part of an equation. If the specified string starts with a non-numeric character, the value will always be zero. If the first character is a number, it will (and all other numbers following immediately after it) will be converted to a numeric value. Here are some examples:

```
a:<all : $3 = "test4" A = val $3> A will = 0
a:<all : $2 = "48612" : X = val $2> X will = 48612
a:<all : $8 = "280Zx" ; V = val $8> V = 280
a:<all : $0 = "14.88" : B = val $0> B = 14
```

## <wait NUM EXP>

Delays a macro for a set amount of time, or until a key is pressed. The actual delay will vary depending on your computer. Experiment to find the approximate delay needed for a second or a minute on your computer. Here's a macro you can use to calculate delay values:

```
D:<all : msg "Enter a delay value: : $0 = getstr,5 : D = val $0 : bell : wait D
: bell : rpt>! Test wait
```

One suggested use for the <wait> command is to allow a user to browse through a large document without having to touch the keyboard:

```
b:<awp : D = 400 : wait D : down : rpt>! Adjust D as desired.
```

## <wake MACRO at NUM EXP:NUM EXP>

Puts a macro to "sleep" and wakes it at a designated 24-hour time. After a <wake> command has been issued, you can work normally, using macros and any UltraMacros commands as always. When the clock's time matches the sleeping macro's, it springs to life. Use it to set alarms, automatically save a file every few minutes, or everything down at 5:00!

The following example will start macro "A" at noon. then when macro "A" wakes up, it will set macro "C" to wake up at 5:00PM

```
a:<all : wake sa-b at 12:00>!
```



```
b:<all : bell : bell : bell : msg "It's lunch time!" : wake sa-c at 17:00!
c:<all : bell : bell : bell : msg ' Quitting time'>!!
```

Only one macro can be "sleeping" at a time, but as shown in the previous example, each macro that "wakes up" can put another macro to sleep. The time must be given in 24-hour format (0:00 to 23:59); variables may be used:

```
x:<all : M = 50 : h = 7 : goto sa-s>!
s:<all : oa-s : M = M + 10: if M = 60 then M = 0 : H = H + 1 : elseoff wake sa-s
at H:M>!
```

When SOLID-APPLE-X is pressed, the hour and minute variables are set. The current file is saved and macro S is set to wake up at 8:00AM. It will then save the current file every 10 minutes until the <nosleep> command is used.

Note:  
Of course, this command won't be too useful if you don't have a clock in your Apple.

---

#### If-Then-Else Logic

---

One of UltraMacros' best features is its true conditional capability utilizing if-then-else logic. Other macro programs may allow a conditional "if" or two based on keyboard input, but UltraMacros allows a full range of conditional commands using the numeric and string variables. Five tokens are involved with conditional logic: if, ifnot, then, else, elseoff.

<if>  
The key to all conditional macros, <if> is always followed by a numeric string variable:

```
a:<all : if A
```

which is followed by an operator (greater than >, less than <. or equals +)

```
a:<all : if A =
```

which is followed by the expression to be evaluated

```
a:<all : if A = 5
```

If the statement is true, the macro continues normally. If the statement is not true, the macro ends (unless an <else> is present later in the macro).

```
a:<all : if A = 5 goto sa-5>! If A is not 5 the macro stops here
```

<ifnot>  
Same as <if>, except that the statement must be false for the macro to continue normally.

```
a:<all : ifnot A = 5 goto sa-5>! If A *is* 5, then the macro stops here.
```

all numeric conditionals must start with any valid numeric expression such as:

```
a:<all : if A = C + 4 then print A : else stop>!
```

All string conditionals must start with one of these six formats:

```
if $0 = or ifnot $3 =
if $1 > or ifnot $4 >
if $2 < or ifnot $5 <
```

The equation is completed with a string expression, which could be another string variable name, a literal text string, or one of the legal string definition tokens (date, date2, time, time24, screen):

```
a:<all : if $0 = "literal: then print $0>!
t:<all : ifnot $6 > time then goto sa-t>!
2:<all : if $2 < screen 1,7,15 then stop>!
8:<all : ifnot $8 = $9 then print "They're not the same.">!
```

<then>  
Does absolutely nothing but take up one byte of space. It's used to make macro if-then logic more readable:

```
a:<all : if A > 4 then C = 3>! this looks better than:
```

```
a:<all : if A > 4 C = 3>!
```

<else>  
This part of if-then-else logic reverses the true-false condition of the logic. If the statement is true, then execute the first part, else execute the second part. There is no limit to the number of <else's> in one macro.

Whenever an <else> is encountered during a macro, the macro skips ahead to the next <else> or to the end of the macro, whichever is found first. It can be used during debugging to keep part of a macro from executing so a different part can be properly tested:

```
a:<all : print " A " : else print "one" : else print "two">! test part 2
```

This macro will always print "A two". Later the macro could become:

```
a:<all : print "A " : print "one" : else print "two">! test part one only
```

Now the macro will always print "A one". When finished, the macro could be:

```
a:<all : print "A " : if A = 1 then print "one" : else print "two">!
```

There is no direct connection between if and else, so they can be used independently, although they make a good team. Here's a sample:

```
a:<all : if A = 5 then print "five" : else print "Not five">!
```

This does just what you'd expect. If variable A is equal to 5, the word "five" is printed. If variable A is not equal to 5, the words "not five" are printed.

---

#### <elseoff>

---

Does nothing unless used with else (See above). Its purpose is to cancel the conditional status of a macro and cause any commands following the <elseoff> to be executed regardless of any preceding <if> condition.

For example, if a conditional macro is supposed to print a phrase at the end, regardless of what other text is printed, you'd do this:

```
a:<all : if A = 5 then print "A is five" : else print " A is not five" : elseoff
print " at this time.">!
```

If a is five it would print "A is five at this time," and if a is not five, it would print "A is not five at this time."

If the <elseoff> is removed, the macro will print either "A is five" or "A is not five at this time."

---

#### For Experienced 6502 Programmers Only

---

The following three UltraMacros tokens are very specialized and shouldn't be used unless you understand exactly what you want them to do. The were included

because we thought there might still be a few hackers out there who like to deal directly with their Apples. Besides that, we can always use them to write pretty powerful macros ourselves.

See the file Macros Special on the UltraMacros disk for some examples.

### CORRECTION TO THE ABOVE:

Macros Special is not on the UltraMacros disk. It will be on the first TimeOut disk containing sample macros.

---

### <call>

The call token is used to run machine language subroutines. It simply does a JSR to the address specified. It's up to you to make sure that the address is valid and that the routine will return to the macro via an RTS with all bank switches set properly.

A good place to poke in machine language subroutines is the AppleWorks temporary work buffer from \$800 to \$9FF.

### CAUTION:

The buffer is destroyed by AppleWorks disk access and by a few UltraMacros commands. Be careful!

When a macro is operating, the alternate zero page one is active, as well as the second bank of \$D000 memory. Page of the 80 column display is active. If you change any of these, they MUST be restored before your routine returns control to UltraMacros or AppleWorks will surely die.

The call command is a bonus feature and must be used carefully by experts only. Know what you are doing before you do this!

---

### <poke>

Poke is a handy, albeit dangerous, command. Use it to build machine language subroutines for use with <call>.

It can also be used to directly change some flags within AppleWorks. For example, the <insert> token forces the insert cursor on. To force the overstrike cursor on, you can use this:

```
O:<call : poke $10F1,1>! Force overstrike cursor active.
```

The insert cursor continues to blink until another key pressed, and then you see the cursor is changed. To make it instantly change, add an invalid key like this:

```
O:<call : poke $10F1,1 :ctrl-x>! Force overstrike active and make it immediately obvious.
```

We aren't authorized to provide a list of AppleWorks addresses. You'll have to explore on your own. Some information is available from bulletin board systems. Last time we heard, AppleWorks author Bob Lissnor had an AppleWorks board somewhere in Nevada with a lot of handy information. Sorry we can't provide a phone number. (WE CAN! Try (702) 831-1722. Be Nice if you call. How many developers provide a modem line for you to call in and learn and/or voice your concerns about their program?)

---

### <peek>

Peek returns the value found at the specified address. This example from the Macros Ultra file uses <peek> to determine the current file number:

```
1:<call : q = peek $C54 : oa-q esc>! Leave "1" file; go to main menu.  
2:<call : oa-q print q : rtn>! Return "2" the file we left.
```

---

---

### Macro Compiler

-----

This application allows you to compile new macros. It scans a Word Processor document containing macro definitions and converts them into a form usable by TimeOut UltraMacros. It can also display the current macro set by listing the active macro definitions into a Word Processor file.

If you've been following the manual sequentially, you've already used the Compiler to include your name in the default macro set. In any case, add a Word Processor macros file to the Desktop and press OPEN-APPLE-ESCAPE. Select "Macro Compiler". You will see two options.

### Compile a New Set of macros

-----

1. Press RETURN to compile a new set of macro definitions.
2. A "Pause each line?" prompt appears. If you press Y for yes, you will "single-step" through the compiling process and will be asked to press a key to continue after each line is processed. If you choose N for No, the compiler will race along and won't stop until an error occurs or until compiling is completed.
3. A "Compile from:" prompt appears. You may choose to compile from the very beginning of the file or from whatever line the cursor was on when you pressed OPEN-APPLE-ESCAPE to call up TimeOut. If you press "B" to compile from the beginning, the compiler will scan the file until it finds the word "START" on a line by itself. It then will start compiling with the next line.
4. Each Word Processor line will flash on the screen as it is scanned for tokens and text data. The current macro name will be displayed, and a running count of the total bytes used will also be shown.
5. If the file is compiled without error, a message will indicate the success and you will be prompted to press a key to return to the file.

6. If an error occurs, the compiler will attempt to give you as much information as possible. When you press a key and return to the Word Processor the cursor will be on or near the error.

## Macro Compiler Errors

There are several errors which stop the compiler. Macros up to the error are usable, but no macros following the error line are compiled. When you press a key after reading the error message, you will be returned to the file with the cursor on or near the error.

### No errors

The compiler recognized the entire macro file as a valid macro set. That doesn't mean that the macros don't contain potential execution errors. It does mean that all command tokens were used properly.

### No Start Found

The compiler couldn't find the word "START" in the file. The word "START" must be on a line by itself, immediately preceded and followed by carriage returns (no spaces). This message can't occur if you select "Compile from cursor".

### Reserved Macro Name

An attempt was made to define a reserved macro (see page 31). Remember that the named keys such as RETURN and TAB have control key equivalents.

### Incorrect application name

A valid local/global designation couldn't be found. Valid tokens are <all>, <awp>, <adb>, <asp>, and <ato>. Every macro must start with the macro name, followed by a colon ":" followed by the application name. (They are not kidding about the colon. If you don't include it, your macro will probably be ignored and not compiled with NO error messages. See how long THAT takes you to find the first time!)

### Table full

The entire macro table was used up. This refers to the actual macro bytes generated and is not referring to the size of the Word Processor file. The only solution is to create multiple macro files from the one large one or to remove enough macro definitions so the compiled macros will fit into the table space. Since the default macros that come with the disk only use half of the table you can probably rest easy tonight.

### Syntax error

The catch-all error message. Anything the compiler doesn't recognize is a syntax error. This is usually a misspelled token name.

### Not enough parameters

The UltraMacros' token being compiled requires one or more additional parameters. See "Special UltraMacros Tokens with parameters" for a description of all tokens which use additional parameters.

### Too many parameters

The UltraMacros' token being compiled requires at least one fewer parameter. See "Special UltraMacros Tokens with parameters" for a description of all tokens which use additional parameters.

### Logic error

The macro definition was illogical. You might not think so, but guess who's the boss? Remember that UltraMacros is very strict and limited in its string and

numeric variable usage.

### String too long

A sequence of text characters used in a string definition exceeds the character limit.

### END found in line

The compiler was stopped by an END command, not by an error. All macros up to the END line are usable.

### Stopped by an ESCape

You pressed the ESCAPE key during compiling to halt the process. All macros already compiled are usable.

### Display current macro set

This option will list all of the current macros into a Word Processor file. The listing can then be modified and recompiled as desired. The primary purpose of this option is to display recorded macros.

1. Add an AppleWorks Word Processor file to the Desktop. It can be an existing file, or a new one.
2. Press OPEN-APPLE-ESCAPE to call up the TimeOut menu. Select "macro compiler" from the menu.
3. Select "Display current macro set".
4. The current set of macros will be added to the file in token format. This file can then be changed and recompiled as desired.

### Macro Options

The Macro Options TimeOut application contains UltraMacros' user-definable options. From within AppleWorks, press OPEN-APPLE-ESCAPE and select "Macro Options" to get this menu:

1. Launch a new Task
2. Create a Task File
3. Save macro table as default set
4. Deactivate macros
5. Reactivate single-stepping
6. Version
7. Other Activities

The first two options on this menu deal with Task files. Look beyond explanation of 1-7 of the options menu followed by 1-7 of the Other Activities menu.

1. Launch a new Task

When selected, this option reads the AppleWorks disk and looks for Task files. The names are shown on the screen. Press ESCAPE to return to the "Macro Options" menu, or select the Task you want to launch.

## 2. Create a Task file

This option takes whatever macros are currently active in AppleWorks and saves them as a Task file on your AppleWorks STARTUP disk.

First you are prompted to enter a name for the new Task file. Enter a legal ProDOS name (you know, 1 to 15 characters beginning with a letter and containing only letters, periods, and numbers).

If the AppleWorks startup disk is not found, you will be prompted to insert it. At this time you can press ESCAPE to cancel, or you can insert the STARTUP disk and press Return.

When the Macros have been updated, put the previous disk back in the drive.

## 3. Save macro table as default set

This option takes whatever macros are currently active in AppleWorks and saves them into the file "ULTRA.SYSTEM" on your AppleWorks STARTUP disk. These macros will be then be available whenever you start AppleWorks. No compiling will be necessary.

Before the macros are saved you are asked if you want to activate the auto startup macro. If you choose "Yes", the first macro in the macro set will be automatically run each time AppleWorks is started.

If the "ULTRA.SYSTEM" file is not found, you will be prompted to insert your AppleWorks STARTUP disk. At this time you can press ESCAPE to cancel, or you can insert the STARTUP disk and press RETURN. When the macros have been updated, put the previous disk back in the drive.

## 4. Deactivate macros

This option completely disconnects UltraMacros from AppleWorks. Choose this option if you wish to print using the Applied Engineering print buffer. After deactivating, the menu will appear as "4. Reactivate macros".

## 5. Reactivate single-stepping

This option turns on "single-step" mode, which is useful for debugging complex macros. The menu will change to "5. Deactivate single-stepping".

When a macro sends a character to AppleWorks, this option forces a pause before each character actually gets to AppleWorks; the character is sent only after you press a key. If you press ESCAPE the macro will stop, but single-step mode will remain active.

Select "Deactivate single-stepping" to return to normal speed.

## 6. Version

This option shows the current version of the UltraMacros package. You will need to know this number if you ever contact Beagle Bros about UltraMacros.

## 7. Other Activities

Choose this to display the following menu:

1. Set cursor blink
2. Set mouse button response
3. Set mouse response

4. Deactivate the mouse

5. Reactivate key-lock

6. Reactivate screen preserver

7. Set screen preserver delay

## Other Activities

The options on this menu allow you to make changes to how UltraMacros functions. When you exit this menu by pressing ESCAPE, you will be asked if you want to save any changes to your AppleWorks STARTUP disk. If your answer is "yes", the current settings will be in effect every time you start AppleWorks.

### 1. Set cursor blink

Choose this option to adjust the speed at which AppleWorks' cursor flashes. The current setting is displayed and you're prompted to enter a new value. Enter numbers from 1-255 where 1 is the fastest and 255 is the slowest.

### 2. Set mouse button response

choose this option to adjust how long the mouse button delays after it is used to select menu options. If you find yourself jumping several menu steps at time when you press the mouse button, you should increase the delay.

The current setting is displayed and you're prompted to enter a new value. Enter a number from 1-255 where 1 is the shortest delay available and 255 is the longest.

### 3. Set mouse response

Choose this option to adjust how far the mouse has to travel horizontally or vertically before the cursor moves.

The current horizontal setting is displayed and you're prompted to enter a new value. Enter a number from 1-255 where 1 is the most responsive and 255 is the least responsive. Press ESCAPE when desired number is entered.

The current vertical setting is displayed and the same procedure is used to change it.

Apple //gs users can also use the Control Panel Options to change the high speed mouse option to "yes" or "no".

### 4. Deactivate the mouse

This option makes UltraMacros ignore your mouse card. It is useful for //c users who don't have a mouse. They do have mouse cards built in, and the cards sometimes give false readings as though a mouse was being moved. If you experience sporadic random cursor moves on any kind of Apple ][, give this option a try.

Select the option; the menu will now be redisplayed as "4. Reactivate the mouse". Options 1 and 2 will now give "Mouse not found" if selected.

### 5. Reactivate Key-Lock

Key-Lock is a special feature designed primarily for physically disabled AppleWorks users who have a difficult time pressing the OPEN-APPLE or SOLID-APPLE keys in combination with other keys. This option makes the OPEN-APPLE and SOLID-APPLE keys "lock on" until another key is pressed.

Here's how it works. First, select the option. Because Key-Lock is not

activated, the menu option will now be redisplayed as "5. Deactivate Key-Lock".

Press ESC a few times to get back to AppleWorks. Get in a word processor document and press OPEN-APPLE. An inverse "O" appears in the bottom right corner of the screen. The cursor stops blinking and UltraMacros waits until you press another key.

If you press OPEN-APPLE again, the command will be cancelled and the normal cursor will appear. If you press another key, such as 1, the OPEN-APPLE version of the key will be entered in AppleWorks. In this case, the cursor will jump to the top of the document. Now press OPEN-APPLE again followed by 9 and you'll jump to the end.

To execute a macro, press the SOLID-APPLE key. An inverse "S" will appear. As before, you can press OPEN-APPLE to cancel, or another key to execute a command. To start a "BA" macro, press the OPEN-APPLE key followed by the SOLID-APPLE key. The inverse "O" will change to a "B" and the desired macro key can be pressed.

### 6. Reactivate screen preserver

The screen preserver will automatically blank your screen if there has been no key press or mouse move for a specified amount of time. This avoids monitor "burn-in" (i.e. scorching of the phosphors on the monitor screen).

Here's how to use it. First, select the option. Because the preserver is now activated, the menu option will now be redisplayed as "6. Deactivate screen preserver".

Now, sit and wait a few seconds. The screen will blank out, but don't despair. Just press a key to restore it. The screen preserver is tied to the blinking cursor; if an inverse bar menu such as OPEN-APPLE-C "Copy Text?" is active, the screen will never be blanked. The screen preserver is also ignored while the TimeOut OPEN-APPLE-ESCAPE menu is on the screen. It does work within TimeOut applications, though.

### 7. Set screen preserver delay

Choose this option to adjust how long the screen preserver waits before it blanks the screen. The delay is based on the number of cursor blinks, so your cursor blink directly affects it.

The current setting is displayed and you're prompted to enter a new value. Enter a number from 1-255 where 1 is the shortest delay and 255 is the longest.

### Data Converter

The TimeOut Data Converter allows you to quickly and easily transfer data between spreadsheet and data base files.

To transfer data from a spreadsheet to a Data Base file, use the OPEN-APPLE-C command to copy some Spreadsheet rows to the clipboard. Press OPEN-APPLE-ESCAPE and select "Data Converter" from the TimeOut menu. The data on the clipboard will instantly be converted into Data Base data.

Create a new Data Base file or load one in from disk. Place the cursor where you would like to insert the Spreadsheet data, press OPEN-APPLE-C and select "From the Clipboard". Each Spreadsheet row will now be inserted into your Data Base file. Each column from the Spreadsheet will become a Data Base category.

To transfer from a Data Base file to a Spreadsheet file, copy from the Data Base file to the clipboard, call up the TimeOut menu, select "Data Converter", and copy from the clipboard to the Spreadsheet file. Each category from the Data Base will become a Spreadsheet column.

If you're using the AE expander, use UTILITIES to configure Data Converter.

### Allowing Control-@

AppleWorks 2.0 contains a bug which prevents users from entering a CONTROL-@ in a printer interface definition. Here's a fix:

1. Boot the UltraMacros disk and press "F" for "Fix AppleWorks Bug"
2. The CONTROL-@ patch program is run. Follow instructions.

Note: Use OPEN-APPLE-CONTROL-@ to enter the CONTROL-@ code while recording a macro. If you press CONTROL-@ the macro will stop. Likewise, a macro definition must use OPEN-APPLE-CONTROL-@ or it will stop.

### Mouse Control

Once UltraMacros has been installed on your AppleWorks disk, you can use an Apple mouse to speed scrolling and menu selections. Here's how:

Move the mouse to position the cursor just like using the arrow keys. Hold down the OPEN-APPLE key to move the cursor farther and faster within a file.

Press the mouse button to do one of the following:

- (a) Select an option from any AppleWorks or TimeOut menu (the same as pressing the RETURN key).
- (b) Scroll quickly through an AppleWorks file (the direction, up or down, is the same as the last vertical mouse movement).

You can adjust mouse sensitivity or deactivate the mouse using the Macro Options TimeOut application. See previous discussions for details.

Unless you specify otherwise, the mouse is always active (if you have one). If you have a //e with a mouse interface card but no mouse is plugged in, you must deactivate the mouse; otherwise you will probably be faced with an out of control cursor that jumps wildly when you least suspect it. This can also happen on a //c that doesn't have a mouse plugged in.

### Mouse Tip:

The mouse is especially handy for creating Data Base single record layouts. Just hold down the OPEN-APPLE key and use the mouse to drag categories into position.

### Linking Files

You can use the <store> and <recall> commands to link AppleWorks files together. Linking allows you to do things like print an unlimited number of files with one keypress, or have a custom set of macros loaded automatically with any Spreadsheet file.

The <store> command saves the first 15 characters of macro 0 (zero), generally a name, in an unused area or a Word Processor or Spreadsheet file. The <recall> command puts the name back in macro 0 (zero).

Start up AppleWorks and insert the UltraMacros disk. Add the Word Processor file "Linking Samples" to the Desktop and study it for some sample linking macros and ideas.

## Startup Menus

UltraMacros allows you to create handy menus which allow you choose what you want AppleWorks to do next. You can use Task files (see next section), or create menus within AppleWorks files.

Start up AppleWorks and insert the UltraMacros disk. Add the word processor file "Macros Startup" to the Desktop and study it for a sample menu macro set.

## Task Files

Task files are precompiled sets of macros that have been saved on the AppleWorks startup disk as system files. They are called "Task" files because they allow you to quickly and easily execute a specific task.

New tasks can be launched in several ways:

1. From within AppleWorks by using the TimeOut Macro Options application
2. From outside AppleWorks by using a program selector such as Apple Desktop, MouseDesk, Alan Bird's program Selector, ProSel, ECP or Squirt.
3. From outside of AppleWorks by typing -TASK.NAME from Basic with the AppleWorks STARTUP disk in the current drive.

To see a sample task file, start up AppleWorks and insert the UltraMacros disk. Add the Word Processor file "Task Sample" to the desktop.

When a task is launched from outside of AppleWorks, it first loads ULTRA.SYSTEM, which in turn loads AppleWorks. The first macro in the set of macros is then executed. The first macro from "Task Sample" looks like this:

```
]:<all :rtn : rtn : sa-l>! get to main menu and run second macro.
```

The macro enters the two RETURN keystrokes needed to get past the AppleWorks copyright message and accept the current date. It then jumps to the next macro in the set.

Note: See "Task Sample" for replacement first macros if you don't have a clock or if you need to pause to remove the AppleWorks STARTUP disk and insert the PROGRAM disk.

The second macro should actually begin the task. This is the macro that's executed when the task is launched from within AppleWorks. The sample second macro looks like this:

```
l:<all : oa-q esc rtn down down rtn rtn>Rename Me<rtn>!
```

It uses the standard <oa-q esc> sequence to jump to the AppleWorks Main Menu. This is a good technique to make sure your macros work the same no matter where you are when the SOLID-APPLE is pressed. The macro then executes the necessary keystrokes to add a new Word Processor file to the Desktop called "Rename Me">

This example is simple, but it illustrates the potential of Task files. Here are some possible Task file uses:

1. Add a specific group of files to the AppleWorks Desktop
2. Copy a 3.5" disk to a RAM disk using TimeOut FileMaster.
3. Load a Spreadsheet file and graph it TimeOut Graph.
4. Load a Word Processor file and print it with TimeOut SuperFonts.
5. Any complex and repetitive task, such as printing out a weekly report using Data base or Spreadsheet Data.

It's a good idea to create a "Default Macros" task file first and save it on your AppleWorks STARTUP disk. Then when a task is completed, you can quickly get back to your default set of macros. In fact, a Task File can even do that automatically after it's completed its task.

NOTE: Programmers interested in licensing a special type of Task File for use on disks they sell should read the file "Programmer tasks" on the UltraMacros disk.

## The special Case of Macro 0 (Zero)

Macro 0 (zero) is a unique macro because it's used by many special UltraMacros commands. Use macro 0 (zero) only for very temporary macros, because it can be redefined quite easily before you know it. Here's a list of ways that macro 0 (zero) can be redefined:

1. Press OPEN-APPLE-X to record up to 80 characters; the keystrokes are passed on to AppleWorks as they are entered.
2. Press OPEN-APPLE-O to enter up to 60 characters; the keystrokes are not passed on to AppleWorks.
3. Press OPEN-APPLE-^ to read the character under the cursor into macro 0 (zero).
4. Press OPEN-APPLE-& to read the current disk name into macro 0 (zero).
5. Press OPEN-APPLE-\* to read the current path into macro 0 (zero).
6. Press OPEN-APPLE-- to read the current Data Base category or Spreadsheet cell into macro 0 (zero).
7. Press OPEN-APPLE-> to recall the STORE'd name file into macro 0 (zero).
8. It can be redefined from within a macro using <\$0 = ...>

Once macro 0 (zero) has been defined, the keystrokes may be sent to AppleWorks by pressing SOLID-APPLE-O. A handy example is copying a Data Base category and pasting it into the Word Processor, into the Spreadsheet, or into another Data Base category.

1. Press OPEN-APPLE-- while in the Data Base. The current category is read into macro 0 (zero).
2. Move to the new location in the Data Base or anywhere else.
3. Press SOLID-APPLE-O (zero) and the category is duplicated.

The contents of macro 0 (zero) are also used by the SOLID-APPLE-RETURN <find> command to determine what it looks for. If you have a lot of files on a disk, try this:

1. Go to the "Add Files" menu.
2. Press OPEN-APPLE-O. You will be prompted with a >.
3. Enter the file name you wish to find and press RETURN.
4. Press SOLID-APPLE-RETURN. The cursor will jump to the specified name or stop at the end of the file list if it couldn't find a match.
5. Press RETURN to load the file.

Examine the Spreadsheet file called "Macro 0 Memo" on the UltraMacros disk for a handy chart showing the possible macro 0 (zero) uses.

## A Macro Explained

Here's some information about a handy macro that uses just a few of UltraMacros powerful commands. Hopefully it will give you a better understanding of how UltraMacros commands can be utilized.

1. Start AppleWorks and insert the UltraMacros disk in a drive.
2. Add the Data Base files "Addresses" and "Phone Calls" to the Desktop, along with the "Macros Ultra" Word Processing file.
3. Select "Macros Ultra" and use OPEN-APPLE-F to find Phone Calls.
4. You'll see a detailed macro description. Examine it briefly.

5. Switch to the "Addresses" file and put the cursor on a name. Press SOLID-APPLE-CONTROL-P. In an instant you'll see a screen something like this:

```
-----
File:  Phone Calls          REVIEW/ADD/CHANGE      Escape:  Main Menu
Selection:  All Records
Record 2 of 2
-----
Date:  Aug 19 87
Name:  Bryan Ross
Number:  (111) 222-3333
Time St:  5:35 PM
Time End:  -
Comment:  -
-----
Type entry or use @ commands
-----
```

All you need to do is press SOLID-APPLE- when the conversation is over (to enter the time), and you've got a detailed record of the call. How did the macro do it? Examine it step-by-step. The curly {braces} allow you to embed comments between the <token brackets>. These comments are not stored in the macro table, so they don't waste any space.

Nowhere does it tell you that you have to compile the macro file before using it. You should know that, but we're reminding you here anyway.

## TimeOut MacroTools

MacroTools is a TimeOut disk fill of sample macros, TimeOut tips, special TimeOut applications, and a surprise or two. UltraMacros beginners will appreciate the powerful ready-to-use macros and instructional macro tips.

Veteran macro maniacs will love the programming ideas and samples on the disk. They'll especially like "Debug", a TimeOut application that displays all kinds of useful macro table information that only a macro programmer could enjoy. It even allows variables to be examined and modified!

Check the "NOTES" file on the UltraMacros disk for more information about MacroTools.

TimeOut MacroTools will be released during the first quarter of 1988.

## Changes from Super MacroWorks

Here is a brief summary of changes for users converting from Super MacroWorks to UltraMacros. Several obvious differences relate to TimeOut. all compiling, saving of compiled macros, macro listing, changing mouse options, etc., is done using the TimeOut applications. The resulting saving of memory space allows the actual UltraMacros program (ULTRA.SYSTEM) to be more powerful.

The following new tokens have been added to UltraMacros:

ato, begin, call, cell, clear, else, elseoff, getstr, goto, highlight, id#, left\$, nosleep, onerr, peek, poke, posn, print, pr#, rem, right, right\$, screen,

then, time24, val, wait, wake

A significant improvement in an existing command is the new ability of <find> to search any numbered highlighted bar menu. It works with the OPEN-APPLE-Q Desktop Index, the OPEN-APPLE-ESCAPE TimeOut menu and with any normal menu such as the list of printers you're given before printing a file.

The following tokens are not available. They are unnecessary because their functions can be duplicated with existing commands.

end?. menu, resume, swap, OPEN-APPLE-#, OPEN-APPLE-\$, :print, compile, save0, load0, 0=, if0, var=, incvar, decvar, varnot, var

The "var" commands have been replaced with a full set of 26 numeric variables. The other commands can be replaced with the new UltraMacros commands as described in the file "Macros From SMW" on the UltraMacros disk.

The ability to automatically download a Power Print font at startup time was dropped.

NOTE: You may leave Super MacroWorks on the AppleWorks STARTUP disk. The UltraMacros installation program will rename SUPER.SYSTEM to SUPER.SYSOLD.

To use UltraMacros, you can then boot your AppleWorks STARTUP disk, choose "ULTRA.SYSTEM" with a program selector, or type "-ULTRA.SYSTEM" from Basic.

To use Super MacroWorks, type "-SUPER.SYSOLD" from Applesoft BASIC or choose "SUPER.SYSOLD" with a program selector.

## Macro Token List

Here's a complete alphabetical listing of all UltraMacros tokens, along with a short description.

| Token     | Summary                                                                                                                   |
|-----------|---------------------------------------------------------------------------------------------------------------------------|
| adb       | AppleWorks' Data Base application code                                                                                    |
| ahead     | Find next space                                                                                                           |
| all       | Any of AppleWorks' three application types                                                                                |
| asc       | Convert string character to its ASCII equivalent as shown on the Key Chart. Only the first character of a string is used. |
| asp       | AppleWorks' Spreadsheet application code.                                                                                 |
| ato       | TimeOut application code                                                                                                  |
| awp       | AppleWorks' Word Processor application code                                                                               |
| ba-       | Both Apple i.e. OPEN-APPLE and SOLID-APPLE are pushed together                                                            |
| back      | Find previous space                                                                                                       |
| begin     | Start of repeatable section (see rpt)                                                                                     |
| bell      | Sound the AppleWorks error bell                                                                                           |
| call      | Execute a machine language subroutine                                                                                     |
| cell      | Read current cell, category, or WP line to macro 0 (zero)                                                                 |
| chr\$     | Return ASCII equivalent of a numeric variable                                                                             |
| clear     | Set all numeric and string variables to 0                                                                                 |
| ctrl-     | Control key                                                                                                               |
| date      | Display date in this format: November 26, 1987                                                                            |
| date2     | Display date in this format: 11/26/87                                                                                     |
| dec       | Decrement the cursor character                                                                                            |
| del       | Delete key                                                                                                                |
| disk      | Read disk name to macro 0 (zero)                                                                                          |
| down      | Down arrow key                                                                                                            |
| else      | Reverses conditional status of a macro                                                                                    |
| elseoff   | Return to macro being unconditional                                                                                       |
| esc       | Escape key                                                                                                                |
| find      | Find a name or carriage RETURN                                                                                            |
| findpo    | Find a printer option                                                                                                     |
| getstr    | Define a string from the keyboard                                                                                         |
| goto      | Jump to specified macro                                                                                                   |
| highlight | Invert specified screen portion                                                                                           |

```

id#      Returns TimeOut application number
if       Execute macro if condition is true
ifkey    Checks if specified key was pressed
ifnot    Execute macro if condition is not true
inc      Increment cursor character
input    Accept keystrokes until RETURN is pressed
insert   Force the insert cursor on
key      Wait for keypress and return its value
lc       Force cursor character to lower case
left     Left-arrow key
left$    Return left part of string
len      Return length of a string
msg      Display message on screen
nosleep  Cancel sleeping macro
oa-      OPEN-APPLE key
onerr    Set error handler conditions
path     Read disk and file name to macro 0 (zero)
peek     Return value of memory address
poke     Store data in a memory address
posn     Returns cursor position
print    Print variables
pr#      Send print output to screen or printer
read     Read character under cursor to macro
recall   Recall stored text to macro 0 (zero)
rem      Remark within a macro
right    Right arrow key
right$   Returns the right part of a string
rpt      Repeat the current macro
rtn      Return key
sa-      SOLID-APPLE key
screen   Read screen portion into macro 0 (zero)
spc      Space bar key
stop     Unconditionally stop all macro activity
store    Store macro 0 (zero) in a awp or asp file
str$     Return the string equivalent of a numeric variable
tab      TAB key
then     Filler token, does nothing but look pretty
time     Display time in this format: 7:28 PM
time24   Display time in this format: 19:28
up       Up arrow key
uc       Force cursor character to upper case
val      Return numeric value of a string
wait     Wait until keypress or time is up
wake at  Set sleeping macro
zoom     Force zoom out
    
```

TIMEOUT UTILITIES

Using the Utilities

-----  
 To use the TimeOut Utilities, make sure that the file TO.UTILITIES has been copied to your TimeOut applications disk. Start up AppleWorks and press OPEN-APPLE-ESCAPE to call up the TimeOut menu. Select "Utilities" and you will see the following screen:

TimeOut applications utility options

1. Configure
2. Load to memory
3. Dump from memory
4. Change memory status
5. Change name

6. Sort menu

-----  
 Configure

-----  
 The "Configure" option allows you to set new defaults for your TimeOut applications. Configurable options might include printer type, default font, location of files needed by the application, etc. Not all TimeOut applications have configurable options.

To configure an application, select "Configure" from the Utilities menu. Then select the application you want to configure. You will see a menu indicating what options may be configured for that particular application. You should see the current value for each option in brackets [...].

Select an option that you would like to change. Enter or select the new value for that option. Make sure that the TimeOut applications disk is in a drive so that the application can be updated with the new value. The next time you use the application, it will use the new value you have supplied.

After you are finished updating configurable options, press ESCAPE to return to the Utilities menu.

-----  
 Load to Memory

-----  
 TimeOut applications are either disk resident or memory resident. If an application was configured as disk resident when you started up AppleWorks, you can load it into memory using the "Load to Memory" option. Just select the option from the Utilities menu and select which application you would like to load.

-----  
 Dump from Memory

-----  
 If you receive a message from AppleWorks indicating that it was unable to complete an option because of insufficient Desktop memory, you may need to dump one or more TimeOut applications that are memory resident. Select "Dump from memory" from the Utilities menu and select which application you would like to dump. Notice that the amount of free memory indicated in the lower right hand portion of the screen increases with each application you dump. Applications that are dumped are returned to disk resident status for the remainder of the AppleWorks session.

-----  
 Change memory status

-----  
 This option allows you to indicate whether a TimeOut application is disk or memory resident. Note that this only indicates how the application will be treated when you start up AppleWorks. To load an application into memory or to return it to the disk for the current AppleWorks session, you will need to use the "Load to memory" option or the "Dump from memory" option.

-----  
 Change name

-----  
 This option allows you to change the name of the application as it appears in the TimeOut menu. The Beagle Brothers staff carefully selects a good name for each application. However, you have the flexibility of renaming it if you wish.

If the new name you enter is longer than the old name, the name change will not be reflected in the TimeOut menu until the next time you start up AppleWorks.

-----  
 Sort Menu

-----  
 When you apply TimeOut to your AppleWorks STARTUP disk, you are given the option of indicating whether or not you want the TimeOut menu automatically sorted by application name. If you choose not to have the menu sorted, you can still sort it after starting up AppleWorks by selecting "Sort menu" from the Utilities menu.



Key Chart

The Key Chart has 128 possible character codes, with each one having a low and a high value. The high value is 128 greater than the low value. In AppleWorks, the high value represents an OPEN-APPLE command, and the low value represents normal text. These numbers bore most people, but they're vital for understanding how <asc>, <chr\$> and <key> work.

A viewpoint from Some Other Guy

My friend, the cat, states that those keystrokes shown for 0 through 31 are input conventions that have no force of law in the RS232-c world. By that he means that we talk of control-M as if it \*must\* be the RETURN key and control-U as if it must be the right arrow. The fact is that RS232-c does not state that at all. Control-M is "cr" (which is turned by UNIX systems into line feed {cntrl-J which is "nl" i.e. new line}. Is your head starting to hurt? Mine is. Finally, control-U is really "nak" not the right arrow at all.

It is \*convention\* that says these keys and those control codes are associated. Don't fret, Apple abides by those conventions - as do most/all terminal makers. The point of all this is to teach you that you cannot believe \*everything\* you read, no matter what bird brain is the author.

|       | Low | High   | Low | High | Low | High | Low | High |     |
|-------|-----|--------|-----|------|-----|------|-----|------|-----|
|       | 0   | ctrl-@ | 128 | 32   | spc | 160  | 64  | @    | 192 |
|       | 1   | ctrl-A | 129 | 33   | !   | 161  | 65  | A    | 193 |
|       | 2   | ctrl-B | 130 | 34   | "   | 162  | 66  | B    | 194 |
|       | 3   | ctrl-C | 131 | 35   | #   | 163  | 67  | C    | 195 |
|       | 4   | ctrl-D | 132 | 36   | \$  | 164  | 68  | D    | 196 |
|       | 5   | ctrl-E | 133 | 37   | %   | 165  | 69  | E    | 197 |
|       | 6   | ctrl-F | 134 | 38   | &   | 166  | 70  | F    | 198 |
|       | 7   | ctrl-G | 135 | 39   | '   | 167  | 71  | G    | 199 |
| left  | 8   | ctrl-H | 136 | 40   | (   | 168  | 72  | H    | 200 |
| tab   | 9   | ctrl-I | 137 | 41   | )   | 169  | 73  | I    | 201 |
| down  | 10  | ctrl-J | 138 | 42   | *   | 170  | 74  | J    | 202 |
| up    | 11  | ctrl-K | 139 | 43   | +   | 171  | 75  | K    | 203 |
|       | 12  | ctrl-L | 140 | 44   | ,   | 172  | 76  | L    | 204 |
| rtn   | 13  | ctrl-M | 141 | 45   | .   | 173  | 77  | M    | 205 |
|       | 14  | ctrl-N | 142 | 46   | .   | 174  | 78  | N    | 206 |
|       | 15  | ctrl-O | 143 | 47   | /   | 175  | 79  | O    | 207 |
|       | 16  | ctrl-P | 144 | 48   | 0   | 176  | 80  | P    | 208 |
|       | 17  | ctrl-Q | 145 | 49   | 1   | 177  | 81  | Q    | 209 |
|       | 18  | ctrl-R | 146 | 50   | 2   | 178  | 82  | R    | 210 |
|       | 19  | ctrl-S | 147 | 51   | 3   | 179  | 83  | S    | 211 |
|       | 20  | ctrl-T | 148 | 52   | 4   | 180  | 84  | T    | 212 |
| right | 21  | ctrl-U | 149 | 53   | 5   | 181  | 85  | U    | 213 |
|       | 22  | ctrl-V | 150 | 54   | 6   | 182  | 86  | V    | 214 |
|       | 23  | ctrl-W | 151 | 55   | 7   | 183  | 87  | W    | 215 |
|       | 24  | ctrl-X | 152 | 56   | 8   | 184  | 88  | X    | 216 |
|       | 25  | ctrl-Y | 153 | 57   | 9   | 185  | 89  | Y    | 217 |
|       | 26  | ctrl-Z | 154 | 58   | :   | 186  | 90  | Z    | 218 |
| esc   | 27  | [      | 155 | 59   | ;   | 187  | 91  | [    | 219 |
|       | 28  | \      | 156 | 60   | <   | 188  | 92  | \    | 220 |
|       | 29  | ]      | 157 | 61   | =   | 189  | 93  | ]    | 221 |
|       | 30  | ^      | 158 | 62   | >   | 190  | 94  | ^    | 222 |
|       | 31  | _      | 159 | 63   | ?   | 191  | 95  | _    | 223 |

Macro Programming Problems

Please examine all sample macro files on this disk. Use the OPEN-APPLE-F command to search for samples of a specific command. We don't have the time to teach you how to use the macro commands; you'll have to learn from the examples and the manual. There will be more information given with the sample macros on a TimeOut disk which should be released in early 1988.

If you're having trouble with your own custom macros, exhaust every possibility before writing. To have me (Randy Brandt) examine your macros for what might be an UltraMacros problem, send them on a disk to my attention along with a description of the problem and your hardware/software setup.

Please remember that debugging macros are almost last on my priority list (just before taking out the trash), but you might catch me on a good day.

There are a few features which are unclear or not mentioned in the manual:

- String variables can be referenced indirectly by using a numeric variable to specify the string to use:

```
a:<all $0 = "ZERO" : $1 = "ONE" : A = 0 : print $(A) : A = A + 1 :
print " " + $(A)>! prints ZERO ONE
```

```
b:<all B = 3 : $(B) = screen 1,1,6 + "TEST" : print $(B)>!
```

- String tokens requiring one parameter can not use equations. The following macro would be illegal because "getstr 3 + 2" should be "getstr 5" or some other single parameter.

```
a:<all msg "< " + getstr 3 + 2 + screen 1,1,9 + " ">!
```

Parameters for strictly numeric tokens can be equations:

```
a:<all highlight 9, L, len $(A) + 10, L>! from "Macros Menu"
```

Macros Manual

Load the file "Macros Manual" from the UltraMacros disk. It contains many of sample macros described in the manual, as well as a few bonuses.

Customer Support Information

If you have questions or problems, you can contact the Beagle Brothers Technical Support Staff for expert assistance.

Before calling, check the instruction manual to see if it contains the information you need. Write down a complete description of the problem, the version number of the software, and the names and version numbers of any other AppleWorks enhancement programs you're using.

If you have a modem, you may also receive Tech Support on our 24-hour Customer Support System. The system provides an electronic mail and conferencing system, along with the latest information about product updates and changes.

Technical Support:  
(619) 452-5502 8AM to 5PM, weekdays (Pacific time)

Modem Technical support:  
(619) 452-5565 24 hours, everyday

Or, you can write to:

Beagle Bros, Inc.  
6215 Ferris Square, Suite 100  
San Diego, CA 92121

-END- Chapter 4 & END OF ULTRAMACROS DOCS



The Pit Area screen appears, and you're ready to begin with racing season.

## THE RACING SEASON

Nine events make up the racing season. They're scheduled in the following order:

1. Winter Nationals
2. North Nationals
3. Spring Nationals
4. East Nationals
5. Summer Nationals
6. South Nationals
7. Fall Nationals
8. West Nationals
9. World Event

Each event is composed of several races: a qualifying session, the first round of eliminations, the semi-final round eliminations, and the final round eliminations which determines the Top Fuel champion for that event. If you don't qualify for a race, or if you lose a race, you're eliminated from that event and Top Fuel Eliminator goes on to the next event.

### QUALIFYING

You're given two attempts to qualify for an event during the qualifying session. To qualify, you need not beat your opponent, but you must commit any fouls (see "Race Rules"), and you must beat the posted "bubble" time.

The bubble time is the maximum time allowed for the qualifying attempt and is determined by the slowest qualifying speed. There are nine drivers trying to race in each event but only eight are allowed. Therefore, the qualifying time of the eight fastest driver will be the bubble. If you beat that time, then he is eliminated from the field.

### FIRST ROUND

If you qualify, you'll automatically be placed in the first round. Your opponent will be the one with the closest qualifying time to yours. If you win the race, you advance to the semi-final round. Losers will be eliminated.

### SEMI-FINAL ROUND

Two races involving four drivers are held in this round. The winner of each race will advance to the final round. Losers will be eliminated.

### FINAL ROUND

Two drivers will race for the event title. The winner is the champion for that event. The loser is the runner-up. If you've made it this far, Top Fuel Eliminator will then begin the next event.

## RACE RULES

A vehicle may be disqualified from a race for the following reasons:

- o triggering a red light by leaving the starting line too early
- o experiencing engine failue
- o crossing the center line
- o crashing

If one car "red-lights" and the other crosses the center line, the car that rad-lights will be declared the winner since center line crossing is more a serious offense. By the same reasoning, a crash is more serious than line crossing and will disqualify you first. If two cars commit the same foul, the one who gets to the finish line first wins. If

both cars crash, the one that travels the greatest distance wins.

## THE PIT AREA

Each race is preceded by the appearance of the Pit Area screen. It's here, in the pit, that you're presented with playing options for entering the race and for fine-tuning your dragster. The options are designated by icons across the bottom of the screen. Moving the joystick left or right cycles you through the icons, highlighting them as you go. When an icon is highlighted you may select it by pressing the button.

### ENTERING THE RACE -THE XMAS TREE ICON

This is the race icon. Selecting this option puts you at the starting line of the race, so be prepared to put the pedal to the metal before you select it. Once you're at the starting line, there's no backing out. "Xmas Tree" is drag racing parlance for a set of vertically aligned colored lights used to start the race. It appears to the left of your dragster and should be observed carefully. A tachometer appears to the right of your vehicle and should be given equal attention.

The tachometer will first show a rev to an idle of 2000 rpms as the Xmas Tree begins with a staging light. Your dragster will then rev to 5000 rpms, and the Xmas Tree will begin counting down the seconds to the race. Your response time is crucial now, so start alert. The Xmas Tree will quickly run through a succession of yellow light and then hit green. This is your signal to go by pressing the button. A race is often won by launching at the precise moment the green light is given. After that, you tear for the finish line with as much speed and driving skill as you can muster.

You must shift gears only once during the quarter-mile race, and you'll need real skill to pick the precise moment to do so. Shifting is accomplished by pressing the button. Your Dragster's engine "red-lines" at 9500 rpms, and your engine will blow up, costing you the race, if you don't shift before the tachometer reaches the mark. However, you must also be careful not to shift too early or you'll never generate enough horsepower to win.

Steering a 2500-horsepower monster in a straight line for just a quarter of a mile is going to be more difficult than you might think. It will probably take some practice before you gain enough skill to compete against some of the better drivers in this game.

### FINE-TUNING YOUR DRAGSTER

You can increase your chances of winning by fine-tuning various components of your dragster. These adjustments are made by selecting other options available on the Pit Area screen. Each of these options has several settings along with a corresponding calibration. Push the joystick left and right to cycle through the available settings. Press the button to select a setting.

### QUESTION MARK ICON

This option provides you with track information that's essential in determinin what adjustments to make on your vehicle. The track information is of such importance that this option is highlighted automatically whenever the Pit Area screen is accessed. The information changes continually, so it's best to check it before each race and adjust your vehicle accordingly. Logic and experience will dictate what adjustments to make in response to the information.

### CLOCK ICON

Selecting this option allows you to adjust your ignition timing, which is a critical factor in producing horsepower. The higher the number of degrees of advance, the more horsepower will be produced. This

introduces a greater possibility of engine failure, though, so set your timing cautiously.

## FUEL CAN ICON

Selecting this option allows you to adjust the nitro-methane mixture used for fuel in your dragster. This very explosive fuel can be made even more volatile by increasing the percentage of nitro in the mix. This will produce more power but also increase your chances of engine failure. If your racing opponent is slow, a low nitro mix may be the safer way to go.

Selecting this option allows you to adjust the clutch on your dragster. Clutch adjustments allows you to transmit engine power to the rear wheels in a manner most suitable for the track conditions. If the track conditions are good, setting the clutch for high grab will cause the car to accelerate faster. Under slippery track conditions, low grab may be preferable: power will be transmitted to the rear wheels more smoothly, decreasing your chances of spinning your wheels.

## TIRE ICON

Selecting this option allows you to adjust your tire pressure to suit track conditions. Under slippery conditions, a low tire pressure may provide more traction. Traction is a product of friction and resistance, however, so a low tire pressure may also slow you down a bit, especially on dry pavement. Carefully consider the track conditions before choosing your tire pressure.

## AIRPLANE (WING) ICON

Selecting this option allows you to make a wing adjustment. The "wing" is a wing-shaped device located over the rear wheels of the vehicle. It controls the air's angle of deflection as it passes over the rear wheels. As the angle of the wing increases, the downward force of air on the rear wheels increases, resulting in better traction. However, the amount of drag also increases, which slows the vehicle down a bit. There is no free lunch in physics. You must decide where the advantage lies, based on the conditions described in the track information. For instance, under slippery conditions, you would probably benefit from a high wing angle as it would keep the wheels from spinning excessively.

## ENGINE ICON

This options allows you to adjust the supercharger speed. A supercharger is basically a big air pump that forces the air and fuel mixture into the engine under pressure, greatly increasing engine performance. Increasing the supercharger speed, and thus the pressure, increases the amount of horsepower the engine is capable of producing. However, there is a greater danger of engine failure when too much pressure is forced into the engine. As with the other vehicle adjustments, use this one with discretion.

The major factors for determining horsepower are fuel mixtures, ignition timing, and supercharger speed. You'll learn from experience how to deal with these variables for optimum performance. Besides losing a race, there are other indications for a badly set-up vehicle. For example, if you see smoke coming from your wheels in the overhead view of the race, you may want to set up your dragster differently to get better traction.

## A N D T H E W I N N E R I S

After each race is completed the following information is displayed:

o A Performance Analysis of your driving in that race. o A Ladder Chart showing the standing of each driver in the event up to that point.

After each event is completed the following information is also displayed:

- o An Event Points Chart showing the points awarded to you in that event
- o An Accumulated Points Chart showing the points each driver has accumulated up to and including that event.

## PERFORMANCE ANALYSIS

<Elapsed Time>: Your time from starting line to finish line.

<Top Speed>: The speed you were traveling at the finish line.

<Reaction>:  
Based on how well you shifted gears. Shifting gears too early does not allow the engine to develop its full potential of horsepower, which results in a slow Elapsed Time and poor rating. Waiting too long to shift will cause the engine to over-rev and result in an engine failure. Remember, your engine "red-lines" at 9500 rpms.

<Power>:  
An indication of how well you set up your engine in the Pit Area

<Traction>:  
An indication of how well you set up the vehicle in the Pit Area.

<Engine Fail>:  
Caused by an improper pit set-up or a bad shift.

<Crash>:  
Either you hit the wall or the engine exploded during a crash.

<Red Light>:  
If you leave the starting line before the light turns green, you may be disqualified from the race.

<Line Cross>:  
If you cross the center line, you may be disqualified from the race.

At the bottom of your statistics chart a message displayed indicated whether you're: Qualified, Not Qualified, Disqualified, Eliminated, or a Winner.

## LADDER CHART

At the end of each race a ladder chart appears to illustrate each driver's standing in that race. If you qualified for the race, your name will appear among the eight names listed to the left of the ladder chart that appears after the qualifying session. Pay close attention to which driver you're going to race in the first round and each subsequent round. As you'll learn through experience, some drivers are faster than others, so you'll want to set up your vehicle in the Pit Area accordingly.

If you win the subsequent elimination rounds of a race your name will advance to the right, toward the final round that determines Top Fuel honors.

## P O I N T S S Y S T E M

Events Points Chart

After each national event is completed an events points chart is displayed. Points are awarded in four categories as follows:

Qualifying Category:



E,S(3),E,N,SELL DIAMOND,S,W,N(2),BUY FUEL,600,N(2),TURN POINTER TO BRENON, PUSH BUTTON

BRENON I  
-----

E,S(2),W(2),N(2),SHAKE BRIDGE,N,PUT BATTERY IN ROBOT,S(3),E(5),WEAR PACK, TURN DIAL,N,LOOK BUSHES,N,GET ALL,S,TURN DIAL,S,W(3),N,BUY FUEL,900,N(2), TURN POINTER TO EARTH,PUSH BUTTON

EARTH  
-----

<DROP ACE,EGNAD>,[DROP CHART],E,S(2),W(3),N,[TURN WHEEL],W,S,GET TORCH,N,E, N,E,GET WORN BOOK,TURN DIAL,GET SWORD,N,W,DIG,GET ROPE,E,S,[W,W,READ DRAWBRIDGE,E,E],E,N,BUY FUEL,900,N(2),TURN POINTER TO JUBILEX,PUSH BUTTON

JUBILEX  
-----

E,S(3),W,LIGHT TORCH,E,N(2),BUY FUEL,650,N(2),TURN POINTER TO KORANTH,PUSH BUTTON

KORANTH  
-----

<DROP PACK,LIGHTER,TORCH>,E,S(2),E,S(2),OPEN GRATE,D,S,W,TIE ROPE TO PIPE, W(3),E(3),UNTIE ROPE,E,N,U,W,N,CLIMB TREE,W,N,E,N,BUY FUEL,800,N(2),TURN POINTER TO METROPOLIS,PUSH BUTTON

METROPOLIS VII  
-----

<DROP SHOVEL,ROPE,SWORD>,GET ACE,E,S(2),W,N(2),OPEN ACCOUNT(50 SOLS),S,W, DEPOSIT (ALL U HAVE),E,S,W(5),S,E,GIVE BANANA,<GET KEY,PEEL>,W,N,E(4),S(4), E,E,[E,N,TALK KID,S,W],S,WITHDRAW (ALL U HAVE),N,W(4),N,[W,BUY DRINK,BUY INFO,E],E,BET (ALL U HAVE),CHEAT,W,S,DROP PEEL,E(4),S,DEPOSIT (ALL U HAVE),N,W(2),N(4),E,N,W,WITHDRAW (ALL U HAVE),E,S,E,N,BUY FUEL,1600,N(2),TURN POINTER TO KORANTH,PUSH BUTTON

KORANTH -----

<DROP CARD,ACE>,<GET SWORD,ROBOT>,TURN POINTER TO DARTEN,PUSH BUTTON

DARTEN  
-----

TURN POINTER TO VALKYRON,E,S(2),E,PUSH BUTTON,PULL BUTTON,TWIST BUTTON, TURN BUTTON,HIT BUTTON,PUSH BUTTON,UNLOCK DOOR,INSERT SWORD,E,[TALK ROBOT], FOLLOW ROBOT,DROP ROBOT,W(4),TALK TO WING,E(4),FOLLOW ROBOT,S(3),W,N,BUY FUEL,400,N(2),PUSH BUTTON

VALKYRON  
-----

E

AND YOU'VE DONE IT!!!!!!!!!!!!!! MIND SHADOW SOLVE OUT ALSO....  
^^(OR RATHER I'VE DONE IT....)

===== DOCUMENT track.n.pack =====

Track/N/Pack Pro 1.0

by Sergeant Busbee of IPG

Dox by The Bunny Slayer

Well, it's been a long time since Sarge wrote a useful hack, and this one is one of his best. A need has been growing recently for a version of Track-N-Pack that operated in ProDOS and worked on 3.5s as well as floppies. The wait is over...

Track/N/Pack Pro is here!

Why Split Disks?

In case you don't know, disks are "SPLIT" to allow packing and transfer even when a disk packs to more than 280 (or 1600) blocks. TNP strips a certain amount of information from the disk to be split, stores that info in a file, and then erases the blocks that were stored. The packing program then has a lot of blank space and will pack the disk in less than a disk. After transfer, the disk must be unpacked and then UnSplit, which reverses the Split operation.

Loading:

TNP is a ProDOS System file, so it can be run from BASIC by "--TNP.PRO" or from the ProDOS "BYE" screen.

The Menu:

The Menu should look something like this...

```
*****
*       title garbage       *
*****
```

1. Choose Device
2. Split Disk
3. UnSplit Disk
4. Credits
5. Quit

```
=====
1. Choose Device
=====
```

Hitting 1 presents you with a list of the slots and drives of all disk devices on-line. Type the number corresponding to the device you want to split/unsplit from. Only 5.25" and 3.5" disk drives are supported. If you try to split a RAMDISK, you'll get an error from TNP. After you make your choice you'll be back at the menu.

```
=====
2. Split Disk
=====
```

After a warning, type in the name of the file the "split" is going to be stored in. You must type the name in in ALL CAPS (I'm lazy...wait for the next version). Be careful about how you have your prefixes set if you use partial pathnames.

None of that nice user-friendly file selection bullshit here... After you type the filename and hit return, hit RETURN again to start the split. Various errors are possible and TNP will tell you if one occurs.

NOTE: The old DOS version of TNP allowed you to specify how many tracks got

split from the original. TNP PRO doesn't yet support that. The amount split from disks is as follows:

5.25" 32 blocks (the first 4 tracks)
3.5" 192 blocks (the first ??? tracks)

The next version of TNP will support variable length splits.

The drives you selected will whir and what not... if all goes well, you'll be back at the main menu ready to hop into your packer.

3. UnSplit Disk

This glues a disk back together after it's been split. Type in the filename of the file the "split" is in (the same name as in part 2) and insert the proper disks and hit RETURN. The drives will whir again and after a bit the disk will be as good as new!!!

4. Credits

Credit where credit is due...
This is some of Sarge's Bullshit

5. Quit

If you type 'Y' after this, you'll be dropped into the ProDOS "BYE". Any other key will take you back to the menu.

Finale:

If you have comments, questions, or suggestions about TNP PRO, just call THE CAVERNS OF QYV / 618-242-2252 3/12 24hrs and leave a note to Sergeant Busbee (#1). He'll get back to you and probably even answer your question.

This has been an Illinois Pirate's Guild release...
it
is over...

Track/N/Pack Pro is here!

Why Split Disks?

In case you don't know, disks are "SPLIT" to allow packing and transfer even when a disk packs to more than 280 (or 1600) blocks. TNP strips

DOCUMENT triad

\*=====
\* TRIAD \*
\*=====

JOYSTICK OR KEYBOARD. KEYBOARD - EIGHT DIRECTIONS, F TO FIRE.

KEYBOARD: Y/U/I/H/J/K/N/M/,/F=FIRE

CTRL T = TWO PLAYERS/RESTART
CTRL O = ONE PLAYER/RESTART

TIC TAC TOE BOARD:

SELECT A LEVEL TO PLAY USING THE CONTROL KEYS OR JOYSTICK. WHEN YOUR SELECTION IS MADE, PRESS THE 'F' KEY TO START.

MOTHS:

CAN ONLY BE DESTROYED WHEN MOVING IN A HORIZONTAL DIRECTION.

FACES:

IT TAKES TWO SHOTS TO DESTROY A FACE. THE FIRST SHOT DRAWS IT TOWARDS YOUR SHIP. IF YOU DON'T FIRE IN TIME, THE FACE WILL COLLIDE WITH YOUR SPACECRAFT, AND YOU WILL LOSE THE SQUARE. THE FACE WILL ALSO DIVIDE AND MULTIPLY WHEN HIT BY YOUR MISSILE.

BATS:

TO DESTROY A BAT, YOU NEED A SUFFICIENT NUMBER OF MINES ON THE BATTLEFIELD. MINES ARE CREATED EACH TIME YOUR MISSILE STRIKES A BAT. IF YOU HIT A MINE, YOU LOSE THE ROUND.

SAUCERS:

YOU CAN DESTROY A SAUCER ONLY BY FIRING YOUR MISSILE VERTICALLY OR DIAGONALLY.

DEATH MASKS:

THEY CAN BE EXTERMINATED ONLY WHEN THEIR EYES ARE BLACK, AND YOU HAVE TO MAKE THEM TURN BLACK BY HITTING BLINKING DOTS.

CHESSMEN:

THEY START AS PAWNS AND AS THEY ARE HIT, TURN INTO KNIGHTS, THEN ROOKS, THEN QUEENS, THEN KINGS. HIT THE KING AND YOU WIN!

ARROWS:

CAN ONLY BE DESTROYED WHEN THEY MOVE FROM RIGHT TO LEFT. TO CHANGE THEIR DIRECTION, HIT AN ARROW WITH A MISSILE JUST AS IT EMERGES FROM THE LEFT SIDE OF THE SCREEN.

SPIDERS:

ONLY CAN BE DESTROYED BY A SHOT TO THE HEAD.

KILLER BEES:

THE ONLY WORKABLE STRATEGY IS TO MEET THE BEES HEAD ON. SINCE THEY

MOVE ACROSS THE SCREEN, POSITION YOUR SPACECRAFT IN FRONT OF THEM AND FIRE YOUR MISSILE BEFORE THEY COME TOO CLOSE.

=====

DOCUMENT trinity

=====

```
+-----+
|           Infocom's Trinity           |
|           |                           |
|           Cracked By: The Sheik       |
|           |                           |
|           Special Thanx: The Triton    |
|           |                           |
|           A Digital Gang Presentation 1986 |
+-----+
```

## Important Note:

To use one drive, you will have to switch disks often. When you hear a beep and see a cursor (this can appear at any time, even in the middle of a room description), flip the disk and lightly touch the space bar. Make sure you do not hit it more than once or it could register twice and cause loss of data. Always save games often. That way if you do make a mistake it won't be hard to get back to your old position.

To use two drives, make a copy of side 1 and put it in drive 2. Keep side 2 in the original drive 1.

## I. What You Need

### Required

- Apple //e with the extended 80-column text card or an Apple //c
- 128k bytes of RAM
- One 16-sector disk drive

### Optional

- One or more BLANK formatted disks (for saving games)
- Printer (for SCRIPTING)
- Second disk drive (for convenience with SAVES)

## II. Loading the Disk

Turn off your Apple. Insert the story disk in Drive 1 and turn on the computer. If you have an autostart ROM, the story will auto-matically load. If you do not have an autostart ROM, you will see a grid pattern and the asterisk prompt. Type 6, hold down the CONTROL key and press P, then release them both and press RETURN. The disk drive will spin and the story will load. After about 30 seconds, you will see a message asking you to insert side 2 into the drive. Remove the story disk, flip it into the same drive. Press RETURN to complete the loading process. You will not need to flip the disk again unless you reboot or use the RESTART command. If nothing appears after a minute or so, contact The Sheik at the Trade Center.

## III. Talking to the Story

Whenever you see the prompt [>], the story is waiting for you to enter a command. Your command can be up to one line in length. If you make a mistake when entering a command, use either the left-arrow or DELETE key to erase the error. After you have typed in your command, press the RETURN key. The story will respond and the prompt will reappear.

If a description will not fit on the screen all at once, [MORE] will appear at the bottom of the screen. After reading the screen, press any key to see the rest of the description.

## IV. Scripting



You can use the SCRIPT command to print out a transcript of your moves in the story. The SCRIPT function is an optional feature which is not necessary to complete the story and may not be available with certain hardware.

If the SCRIPT command works with your hardware configuration, you may make a transcript as you go along.

1. To start the transcript at any time, make sure the printer is ready, then type SCRIPT at the prompt [>].
2. When prompted, enter the slot number (1-7) in which your printer card is installed. (On an Apple //c the slot number is the port number, which should be 1.)
3. To stop the transcript, type UNSCRIPT. SCRIPT and UNSCRIPT may be used as often as desired.

## V. Saving a Story Position

\*\*\* WARNING \*\*\*: The disk you use for SAVE and RESTORE is maintained in a special format and should not be used for any other purpose. Files of any other kind stored on the SAVE disk will be destroyed by the SAVE command. You need a blank, initialized disk to SAVE your story positions. See your Apple Disk Operating System Manual (Dos 3.3) or Apple Pascal Reference Manual for instructions on initializing a diskette.

You may save up to 4 positions per SAVE disk and RESTORE any one at any time. To save more than 4 positions you must use a new disk. Each position is assigned a number from 1 to 4. You specify a position number (1 to 4) each time you use the SAVE command, and you write over anything previously saved with that number. You must use a different number for each position you want to save.

1. To save your current position, type SAVE at the prompt [>] and press RETURN. You will see the following:

```
SAVE POSITION
POSITION 1-4 (DEFAULT is 1) >
```

Before you insert the SAVE disk, specify which position on the disk you will use or press RETURN to use the default (position 1).

2. You will then see:

```
DRIVE 1 OR 2 (DEFAULT is 1) >
```

The story is asking you which disk drive you want to use. If you have only one disk drive, press RETURN to save to your drive 1. If you have 2 drives it will be more convenient to use the second drive for SAVES, so type, "2" (and RETURN).

3. You will then see:

```
SLOT 1-7 (DEFAULT is 6) >
```

The story is now asking you which slot you want to use. Apple //c owners will not see this message. Specify the slot number or press RETURN for slot 6.

4. Finally, you will see:

```
POSITION 1, DRIVE #1, SLOT 6.
ARE YOU SURE? (Y/N)?
```

The position, drive, and slot numbers should match the ones you just entered. If any of them is incorrect, press N to repeat from step 1. If they

are correct, press Y.

You should now proceed that will appear on the screen. If you follow the prompts correctly you will finally see:

```
OKAY, DONE
```

If you see:

```
FAILED
```

Please contact The Sheik at The Trade Center.

You may now continue the story. You can use the SAVE disk and the RESTORE command to return to this position at any time

## VI. Restoring a Saved Story Position

To return to a previously saved story position, type RESTORE at the prompt [>]. Then follow the steps in Section V, above.

## VIII. Troubleshooting

A. If the story fails to load properly, or if SAVE, RESTORE, or SCRIPT fails, check each of the following items. If none of these offers a solution, contact The Sheik at the Trade Center.

1. Make sure all connections are secured and all power switches are turned on.
2. Inspect all disks for any visible damage.
3. Make sure each disk is in its proper drive. The story disk may only be run from the main drive. For SAVE/RESTORE, make sure that you have typed in the correct drive and slot numbers for the SAVE disks.
4. Make sure all disks are inserted correctly and all drive doors are closed.
5. Make sure your SAVE disk is not write-protected.
6. Make sure your SAVE disk has been initialized properly. As a last resort, try a different disk.
7. If you have turned off the Apple or have pressed the RESET key, follow the instructions for loading the disk (Section II above).
8. Try again, the problem may only be momentary.

If all else fails, you can call the Infocom TECHNICAL HOTLINE at (617) 576-3190. Please note that this number is for technical problems only, not hints.

B. If you receive an error message, follow this procedure:

Boot the story disk and start the story. When the initial screen is displayed, type \$VERIFY at the prompt [>]. The disk will spin for 5 to 10 minutes and one of the following messages (or something like of them) will appear.

1. "DISK CORRECT." This indicates that the disk has been damaged and the story program is intact. The problem may be with your hardware, probably the disk drive. It is also possible the program contains a bug. If you suspect a bug, call the Infocom Technical Hotline number.

2. "INTERNAL ERROR." This reply indicates either hardware trouble or disk damage. Repeat the \$VERIFY process several times. Also try \$VERIFY on your friends computer. If the story works ever replies "DISK CORRECT." the problem is in your hardware.





```
=====
DOCUMENT tunnelscheat.2
=====
```

```
Tunnels of Armageddon Cheat Number Two
By DrMicrochp
```

As most of you know, typing in "K- A - C - P - E - R", at the stage of the game where the color wheel becomes necessary to gain access to the game, will allow you access without consulting the wheel. You simply type KACPER and hit return and you're in.

While playing the game in this fashion I discovered a real first class cheat. After entering the game via the KACPER back door, type/press the letter "Q" while in the game. Presto! You have an unlimited supply of "disintegrator" bullets. These bullets will destroy any door, generator, or guardian. It's similar to Ammo Type 3 but it's unlimited. Also it doesn't seem to matter which way you aim as anything in general direction gets blown away. Constantly firing like this, I made all the way to level/stage 6 without even trying. Now I feel like I can get through this game. No more dodging black wall obstacles! Careful though, as some moving gray walls can still cause you enough damage to put you out of the game. Enjoy!

```
=====
DOCUMENT turbo
=====
```

```

/[-][-][-][-][-][-][-][-][-][-][-][-][-][-][-][-][-]/
[-]                 -- Squelch Productions Presents -- [-]
[-]
[-]         T U R B O  [-]         U N         ---         T H E  [-]   O X   [-]
[-]
[-]
[-]                Written by:  The Game Master  AND  Waldo ?
[-]
[-]
\[-][-][-][-][-][-][-][-][-][-][-][-][-][-][-][-]/

```

The installation and explanation of Turbo Run is so simple that these dox are almost completely unnecessary. However, read it so you understand what this game is.

Turbo Run is the first ARCADE-style on-line game written in ACOS (at least that we know of.) It is written for users with ProTERM.Special Emulation and makes use of nearly all the emulation's functions including animation, mousetext, and music.

Turbo Run is written entirely in ACOS. Also, to facilitate easy installation, Turbo Run is contained ENTIRELY in one file: TURBO.SEG.S Turbo Run will make two files on it's own:

```

          TURBO.VAR           A file to temporarily store the users variables
          TURBO.TOPTEN        TopTen players list.

```

To clear the Top Ten players list, just DELETE the top ten file. It's as simple as that.

If you are running your system off of a GS, it is to your advantage to run the BBS at the "fast" mode (2.7 Mhz).. This will make the game go a LOT faster thus increasing the fun for the player.

To install, just "link" to the game from main.seg or wherever and in the label BACK in Turbo Run change the link back to wherever you want.

The program will automatically check to see if the user has ProTERM emulation. However, should a user have difficulty in getting on, as has been the case with EPIC modem owners, the caller can simply type "PROTERM" when prompted to do so after it says "you don't have ProTERM Emulation." You can take this out if your users don't have this problem.

If your board is running at 300 baud, don't even bother putting this up.

Turbo Run currently is running on a "unlimited play" system. It is up to you, the sysop, to determine any limit of games per call or how you wish to use this game. It can be used as a casino game, or merely for fun.

One last thing, the game looks REALLY bad from local mode.. Please give this game a chance by perhaps calling your system remotely and seeing what this game looks like to the caller. It is worth it. Rumor has it that there will soon be a way to see the terminal emulation from local mode, but currently we know of no way that this is possible.

If your users enjoy Turbo Run, you may be interested in some of our other GBBS games, including WHEEL OF FORTUNE. (sorry, I HAD to plug that.) Forward any questions to any of the following systems:

```

The Cottontail Ranch.....602/433-0159
Hill of the Skull.....602/486-0514
The Tower of Zot West.....602/451-0309
The Back Door.....602/375-9586
The Krack Mart.....602/482-6933

```

The Special Needs Board.....602/991-3669  
Empty Spaces (currently TurboLine).....602/951-1642

Send mail to Waldo ? or The Game Master.

Written 07/09/88

End of Docs.

=====  
DOCUMENT twerps  
=====

-----  
Twerps Documentation  
-----

I have never played it with the keys but with the joystick. I believe a control-J will allow that. Typing ctl-V reverses the vertical axis, ctl-H, the horizontal.

Fly thru the first level like a space invaders game, blasting the aliens, and get to the planet in the bottom left-hand corner. You will then go to level 2. In this level you must gather up the little aliens in the holes by pressing button 0, without getting them eaten by the nasty aliens that will appear at times. You can duck into a hole by pressing button 1, and come out again from a different hole with button 1. The hole you come out of is random. Once you have as many aliens as you can get, go back to your ship and press the button. Then you will go back to level 1, but from the other side. Escape back to your ship to the right hand side of the screen. The problem with this is that you use up fuel \*fast\*. If you see that you're close to using up fuel on level two, go back to your ship fast, and get back past the next level quickly.

=====
   
DOCUMENT u.boat.command
   
=====

\*\*\*\*\*
   
\* U-BOAT COMMAND \*
   
\*\*\*\*\*

A+D CHANGE DIRECTION OF YOUR SUB

D CHANGES HEADING CLOCKWISE
   
A CHANGES COUNTER CLOCKWISE

PDL 0+1 AIM DECK GUN
   
TO FIRE PRESS BTN 0 OR 1.

Q = MOTOR ON
   
Z = MOTOR OFF
   
M = MAP
   
N = MAP DISSAPEARS
   
W = DIVE
   
X = SURFACE
   
S = RELEASE OIL SLICK

SHOOT ENEMY PLANE.....7 PTS.
   
SINK ENEMY SUPPLY VESSEL.....10 PTS.
   
ENEMY DESTROYER.....15 PTS.
   
CREW MEMBER KILLED.....-2 PTS.
   
SINK FRIENDLY SUPPLY VESSEL....-25 PTS.
   
AIRCRAFT CARRIER ESCAPES.....-1000 PTS.

=====
   
DOCUMENT ukrull.prayers
   
=====

..The Covert Society..

File typed by Gator - TC96

This tome is dedicated to Althur, Fire of the Abyss, Seer of Mysteries, Saint of the Unholy, Darkest of the Fallen Ones; Golthur, Lamp of the Heavens, Carrier of Strength, Kepper of Souls; Adron, First of the Heroes, Player of Games and Divine Chariotee  
 r. You who gaze on, call forth these Prayers: the oldest of the gods wait to hear and ensnare you.

The calling of a Priest is a dangerous one, always paid for by the sould of the Priest. The dealings with gods are fraught with treachery for they are jealous masters, vengeful of powerful or gloriuos mortals, and impatient with insignificant humans. Thei  
 r promises are two-edged. The gods gave Prayers to the mortals to bind them in the gods' service; in return for the gods' divine assistance, the Priest must barter with his soul. If a Priest should invoke a god carlessly or incorrectly, the god will  
 punis  
 h the Priest by draining that Priest's energy or stealing the Priest's soul. Thus the Prayers must be used with caution.

The Sect of Priests, working with meticulous care, have purchased and discovered many Prayers; few are simple, the strongest are awesome in their avens, Carrier of Strength, Kepper of Souls; Adron, First of the Heroes, this work are the surest Prayer  
 s: most do not require overmuch of the caster. They have been secured by the blood of many Priests; they are for you to use for the glory of your calling.

The meanings hidden in these Prayers are for you to decipher. A Priest cannot be told the correct meaning of a Prayer: such gnostic experience will come only through the Priest's own dedication. The Prayers in this codex have been translated, with one exc  
 eption, from the original Hurnash. Although such translation can never match the nuances of the originals, the Prayers retain their strength.

Your skill allows you to serve four of the divine suzerains. You are bound to the gods: Ufthu, God of War; Drutho, God of the Underworld; Golthur, God of the Physical Self; and Fshofth, God of the Spiritual Self.

Before you can disturb any of the gods, you must possess an anointed ring to focus your power. Each of these rings was forged in the darkness of the Temple furnaces and dedicated to single god. The power of the rings comes from the purity of the metal:  
 Ir  
 on, Copper, Silver, Gold and PLatinum. Greater than all of these are the Crystal rings; forged by the gods to bind the most powerful of Priests. Each of the four jealous lords demands a separate ring. You will start with two rings from the basest metals;  
 as you grow in power and in devotion you will bw awarded greater rings. These rings will be awarded to you in the four Temples of the Sect of Priests within the Mountain City. Each Temple is used to worship one of the proud gods. Within each Temple is a h  
 umble Shrine; at this Shrine you willbe judged, and if worthy, granted a purer ring to the god ruling the Temple. There are also Altars throughout Mountain City, places where the power of the gods is stronger. These Altars serve all the gods; within these  
 your Prayers will be heard more favorably, and you may offer supplication to any of the gods.

It is possible for a Priest with the basest ring to recite the greatest Prayers, but be warned: the gods are waiting for thr time when your ambition overreaches your power. You should use your power wisely, and within your station. To help you, Prayers fo

r each god are arranged in order from those the most inept acolyte could easily invoke, to those with which only the most experienced adept should dare disturb the gods.

Each Prayer will demand a toll from you. This toll varies according to the god and the Prayer. Every Prayer will deplete your energies; the strongest Prayers would leave a weak Priest broken. Remember this drain, and do not allow your strength to fall too far. It will return, but only slowly.

This, your manual, shall be your guide to communion. Tread carefully within the garden of the gods.

Prayers to Ufthu, God of War

Ufthu, God of War, Tongue of Iron, Qanak Dasoro, Priest of the Scarlet Assassins, Dragon Lord, Master of the Abyss, is the most powerful of the gods. Proud is his strength, unpredictable in his weakness. Ufthu is a wary god, careful in his dealings with mortals, but his greatest weakness is vanity. Take this warning, but know that Ufthu, Silent Huntsman, will heed the calls of one who serves him truly. These Prayers are yours.

RALKOR                    Divine Arrow

Ufthu, O Bow of the Stars,  
Hear this low voice,  
Send down your bolt,  
Against the one who stands against you.

KARNH                    Hammer of Shattering

Ufthu, Sword of the Night, Hammer,  
Defend you lowly subject,  
Smite those who stand near your servant,  
And damn them to the darkness.

DROM                    Strength of the Sword Arm

Ufthu, Soldier of Misfortune,  
Hear your humble Priest,  
Send your strength to those on earth,  
Who bear steel against the dark foes.

IDRIS                    Peaceful Bones

Ufthu, Supreme Lord of Corruption,  
Through this ring I call your divine essence,  
Take back these lifeless bodies that assail us,  
That struggle against death's mortal coil.

THOL                    Mist of Confusion

Ufthu, Jewel of the Desert,  
I call on your breath to come from the ether,  
To slow your enemy,  
To steal from them their skills.

Prayers to Drutho, God of the Underworld

Drutho, God of the Underworld, Goddess of Stealth, Seducer of the Earth Spirits, Queen of Corruption, Ethereal Hermaphrodite, Demon Lover, Lord of the Portals, the youngest of the gods, hides far from the light of the older gods. Within the lowermost cave  
rns of Lithane, Temple of Darkness, Drutho's Priests toil to supplicate their god. The work of these shaven Priests has made Drutho grant these Prayers to all who recognize his/her dominion in the dark kingdoms.

UMESH                    Knowledge Without Wisdom

Drutho, O Worm of the Deep,  
Call forth the meaning of these words;  
Pass your darkest light over their script,  
That they will yield their meaning to me.

HOYAMOQ                The Temple Passage

Drutho, Gol Draquur, moraseth kanu,  
Open this way for your servants;  
Having discovered the portal you had hidden,  
We now must pass through.

TAPU                    Sacred Passage

Drutho, Dark One, hear this Prayer.  
Weave your magic around our passage,  
That we may walk past traps,  
That we may pass danger in safety.

BYNDU                    Drawing Together

Ah, Drutho, grant me the power;  
Make fast the beckoning sign,  
To draw forth opponents unto my presence,  
And bind them beside me, to stay as I will.

MORPETH                Quiet Walking

Drutho, Mistress of Stealth,  
Bind our feet with soft silken cloth,  
Silence our voices and muffle our steps,  
That we may walk without calling our death.

BELAMOQ                Translucent Passage

Drutho, Lord of the Portals, this way resists  
Our most urgent attempts.  
Take its outline, hinge and bolt,  
And dissolve its stubborn form into ether.

Prayers to Golthur, God of the Physical Self

Golthur, Oldest of the Gods, Rulemaster, Keeper of Souls, Lamp of the Heavens, Carrier of Strength, Maker of the Many Little Candles, is a treacherous master. Golthur, the Spider of Time, lies in wait for those whose souls he can steal. Golthur, the Trapper, has given his Priests these Prayers; you who pray to him, tend your words, that your dark husbandry will not call forth your corruption. Walk the words well, for if you fall he will ensnare you and draw your soul through your nostrils. That is his due  
for heeding your command.

SIRDHE                    Patterns of Healing

Golthur of the Labyrinth, we ask your indulgence,  
We who are weakened call you,  
Send your strength to our wearied limbs,  
And we will fight for your glory.

HOLNAK                    Priestly Strength

Golthur, Silent Lord, I ask your kindness;  
Look upon your servant protected by the doyaquur,  
Send your power to course through these arms,  
That I might serve you better in your designs.

## ELIS Walking Into Light

Golthur, you must hear the voice calling from this circle,  
To the lowlands, where one needs your help;  
Take the failing body you see before you,  
And create new and whole its life force.

## TELLIS Caressing Hands

Golthur, Lamp of the Heavens, here at an Altar,  
We come to ask you to give us our strength,  
To give us our health and wholeness,  
We who would supplicate you.

## BEYONG Virginal Sanctity

Golthur, Ancient One, hear your Priest,  
Take from our bodies the poison of your experience,  
Take from our souls the plague of your knowledge,  
That we may walk in the innocence of health again.

## Prayers to Fshofth, God of the Spiritual Self

Fshofth, Invisible Mage, Cold Walker, Thief of the Red Cities, Holder of Mysteries,  
Guardian of the Spirits, Chief of the Eagles, is a strange god. The wild dictates of  
his worship seem hardly those of a god, and are understood by few. Of all of his  
Prayer  
rs these are those that seem to have some chance of being answered by this Master.  
The untranslatable Prayer of Lairain is included: the Priest who can harness this  
Prayer would be powerful indeed. None of the Priests of Fshofth have managed to gain  
its d  
eep secrets.

## NULAMIR The Quiet House

Fshofth, On the shore of the lost lake,  
There is a house. Though the spell makers talk,  
It is quiet still. For though chanting sounds,  
It will little disturb the air where they dwell.

## TULAR Gaunt Dreams

Fshofth, at an Altar there is a glade,  
Green leaves and colored monkeys,  
Fruit drop from the vines, and lie  
Rotting on the ground.

## RULASAIR Gaunt Needs

Fshofth, there is no sound on the rocks,  
No wind among the grasses;  
The liraya has made its kill,  
The pups shall feast tonight.

## EMANUI Growing Health

Fshofth, within the smallest quivering cell,  
After the cold kiss, there is less life strength,  
But growing within the beating heart,  
I feel that quickness return.

## KUURAOTH The Walking Vision

Fshofth, hark at the kauri branch, a bird dips:  
Takes honey from the silvered flowers, and stops,  
Troubled by a dark image, far in the forest.  
Your glass will shatter the foundations of the dream.

## LAIRIAN The Untranslatable Prayer

Umhir deln Fshofth, Du saq mishallfen,  
Ersan su stramanlisa du saq verhallfen,  
Itor ka skirian, thror qastura taras,  
Wur ganar wur stilor wur kas.

## Transfer Station / Ymodem

I wish...for single drive Prince of Persia and a happy new year! Merry Xmas!

[56][[/e Section] Transfer Command:



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DDDD      L                               Presents...
D  D      L                               O-----O
D  D      L                               |         |
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D  D      L                               |   Typed by: Hobin Road   |
DDDD ark  LLLLLL ogic                     O-----O

```

## THE ADVENTURE

Hail, Noble One! Our land is in need of a stalwart hero, one who will brave perils to horrific to consider. A plague has befallen the Realm, a scourge is upon the land! Our villages lie sacked, ruinous mounds of ashes where once trod peasants stout of heart and sound of mind, where once lay fields of grain and fruit, where kine and fowl grew fat upon the bounties of our fair Sosaria. All manner of wicked and vile creatures prey upon our people and ravage the land. 'Tis the doing of one so evil that the Very Earth Trembles at the Mention of his Name. Mondain the Wizard hath wrought his malice well. Our nobles bicker amongst themselves, and each hath retired to the confines of his keep in hopes of watching the downfall of his rivals. Verily, the Evil One hath heaped indignity upon curse by releasing upon the Realm a host of creatures and beasts so bloodthirsty and wicked that our defenseless people fall as grain before the reaper's scythe. These denizens of the underworld hold sway over all that can be surveyed, save for the strongholds of the nobles besotted with their own ambition. Nowhere in our once peaceful country may a traveller find safe passage or lodging, save in the keeps of the self-proclaimed kings -- and they demand hard labors for their indulgences.

Only the young Lord British remains steadfast in the vision of a peaceful and united Sosaria. In his castle and his town the pure of heart will find an ally and replenishment for the needs of one who hath chosen to fight for the Realm.

Aid us in ridding our land of the scourge that hath befallen us, O Noble One. We beseech thee, for without thine aid we shall surely perish before the onslaught of the maleficent necromancer. Slay the evil Mondain!

## FELLOWSHIP

The lands of Sosaria are populated by a diversity of races as varied as the elements. From the tiniest bobbit to the most towering human, our folk show a strength of character unknown in other parts of the world. Until the coming of the foul Mondain, our folk lived in harmony and worked together in the true spirit of comrade-ship. The principal inhabitants of Sosaria are:

### HUMAN:

Endowed with a natural intellect higher than any other race, the humans are the backbone of Sosarian society. Found in all walks of life, they are strong of body and of unexcelled spirit.

### ELF:

Shorter than their human counterparts by the span of three hands the elves of Sosaria are slight of build and swift of movement. Their superior natural agility makes them excellent musicians and clever thieves. At home amongst the trees of the deepest forest or in the alleyways of the capital, The Sosarian Elf makes a stalwart companion and a relentless foe.

### DWARF:

Mountain folk and legendary miners, the dwarves of Sosaria stand but half a humans height, yet often outweigh slender elves. They are

matchless in courage and possess an inordinate endowment of natural strength. Never accept the Sosarian Dwarf's challenge to wrestle for drinks in a tavern, unless thy supply of gold be endless and thy generosity ample.

### BOBBIT:

A small and gentle race, the Sosarian Bobbits are believed to have come to our realm from a distant place. They are said to favour mountainside meadows and the serenity of forest clearings. Their diminutive height being even less than that of a dwarf, they shun any task that involves hard, physical labour, preferring instead the pursuits of study and contemplation. Bobbits are naturally weak, yet possess a serenity indicative of profound wisdom.

## PROFESSIONS

Whilst the professions practiced by our folk are numerous, there are but four courses of action that may be followed by the novice adventurer. These are:

### FIGHTER:

The rigorous training involved in learning to become a fighter results in a stronger, more agile adventurer. The knowledge acquired during this period permits the fighter to use virtually every kind of weapon that might be found in Sosaria.

### CLERIC:

A profession suited to those who are of an introspective nature, the study of the ways of the cleric requires patience and results in a good deal of wisdom. Such is their calm and concentration that at no time will the proper spell cast by a cleric fail to attain its desired result.

### WIZARD:

To become a wizard in our Realm, one must study long and diligently, poring over ancient writings and dusty tomes. Mastery of the arcane arts comes not easily, yet such training hones the intellect to a superior edge! The fruits of the long years of discipline are deemed to be worth the effort, however, for only the wizard may purchase the necessary supplies for the casting of the more powerful enchantments.

### THIEF:

Whilst not a profession held in the highest esteem among those charged with maintaining the public order, thieving is a trade that often serves the adventurer well. Many of the explorer's finds are guarded by clever and devious traps that require nimble fingers and a dexterous hand. Larceny and the opening of locks comes much easier for the thief than for other mortals, for they who follow this occupation are endowed with exceptional agility.

## CASTLES & TOWNES

Sosaria is a land dotted with the castles of the nobility of the Realm and with numerous townes wherein the traveller might purchase supplies and provender. Townes and castles may be entered freely, but woe to the one who foolishly is apprehended in an act of thievery, for the public order is maintained here by burly Guards who fear none.

Each castle is held by a noble, the King of his particular region. Visit these local rulers, they have much to offer the adventurer. The castles are often built of stone and peopled with merchants, courtiers, guards and adven- uh, fools. Beware of the jesters, for although they amuse, they may also deceive.

## SHOPPES

The merchant class of Sosaria is the mainstay of the Realm's economy. All manner of trade goods -- foodstuffs and the handiwork of local

artisans -- can be found in the town and castle shoppes. An adequate supply of gold will help to equip the adventurer with everything from rations to the most esoteric of weapons. Some of the more common emporiums include:

### ARMOURY:

The tailors of protective garments await your pleasure in the armouries of Sosaria. The finest craftsmen in the Realm will swiftly fit out the adventurer in a suit made of worked leather or metal. Price varies according to the level of protection offered by the suit of armour.

### WEAPONS:

The workers of metal in Sosaria know no peer. From a simple carved mace, reinforced with good iron, to the most exquisitely crafted greatswords of tempered steel, the weapons found in the shoppes of the Realm are truly works of art. 'Tis rumored that some of the arms one may find in the distant reaches of our land surpass belief.

### TRANSPORTATION:

Whilst one may travel throughout much of the Realm afoot, there are alternate means of transport that make short journeys pass more quickly, and longer journeys feasible where once such voyages seemed unattainable. Common modes of travel include the use of horses and of sea-going vessels. Uncommon modes of travel (Hmmm!) are also rumored to exist.

### MAGIC:

A once-forgotten discipline, the study of magic has enjoyed a renaissance since the coming of the evil Mondain. Many hold the belief that sorcery is indeed needed to combat sorcery. The practitioner of the arcane arts can purchase the needed tools of the trade in various magic shoppes scattered throughout the Realm.

### FOOD:

None can live without sustenance. The food shoppes of Sosaria provide the local populace with fresh produce and meats, while the adventurer can find provisions therein that will last for weeks in the wilderness with no special care.

### PUBS:

The people of our land are not without a certain fondness for strong spirits and lively companionship. Most settlements are graced with public houses where a tankard of strong ale from the region of Trinsic or a flagon of the best Jhelom mead may be had for but a few coins. Many of the people found in these taverns are quite friendly, and the ones serving the drinks are often fountains of wisdom and gossip.

### DUNGEONS

Our land is an ancient one, where strange and wondrous beings once walked the earth and civilizations rose and fell. There are numerous labyrinths to be found throughout Sosaria, the handiwork of unspeakable creatures and unknown forces. These mazes have become the dwellings of many of the horrors unleashed by Mondain upon our poor land. Indeed, the lowest depths of some of these hellholes contain creatures that make even the staunchest warriors blanch and tremble. Yet these subterranean passages also contain caches of the ill-gotten gains of the predations of Mondain's minions. An intrepid adventurer can finance many an expedition with the spoils of a careful foray in the dungeons of Sosaria. Hearken to my words: The use of extreme caution is needed when exploring underground. The corridors of the dungeons are lined with the bones of explorers who overestimated their abilities!

### STARWALKING

Before the archmage Mondain can be defeated, one's mettle will first have to be tested in the farthest reaches of the heavens. 'Tis said that the Evil One has formed Alliances with Starwalking Monsters of Unparalleled Savagery. These malicious creatures stand poised to swoop down upon our people and devastate them. The need to slay the vile

wizard is doubled in the face of this threat.

Should a champion emerge from the mists of legend, the means by which to combat this menace will appear -- so say the prophets. The legends which foretell of this hero include a number of writings and several ballads sung by the bards of our Realm. Among the more recent discoveries pertaining to the coming of the starwalkers is an arcane manuscript, found on the foothills of M. Drash. Since it appears to hold instructions for the use [of] some form of transport, it has been broadcast throughout the land in hopes that it might prove useful to one engaged in the quest to rid Sosaria of Mondain. The substance of the document is as follows:

"In the heavens, each vehicle has the means to control rotation, as well as thrust and retro (reverse thrust). In the front view mode one can turn left, right, climb, and dive.

"The starways are divided into 49 sectors on a 7x7 grid. In the top view mode one can see all within the current sector. A long range scan may be obtained by use of the 'Inform' control. Consult the Pilots Reference Manual for the symbols needed to interpret a scan.

"One can jump to the next sector in the direction of current travel by using the Hyperjump capability of the vehicle.

"Docking with starbases can be attained at any of the unused docking ports and should be made only at slow speeds while headed directly into the port opening. A docking fee is required. Upon docking, a 'Base Command' query will be issued and the pilot is expected to indicate the direction toward the next vehicle that will be used.

"Reentry takes place when your ship passes over the lands of Sosaria.

### NOTE:

Only the shuttle craft has heat shields. Any vehicle will incinerate if it collides with a star.

"One may encounter and engage in combat with hostile beings in the heavens. Once combat has begun, the pilot cannot return to the top view mode until all enemy craft have been driven from the current sector or the pilot has chosen to hyperjump to the next sector.

### IMPORTANT:

Changing from front view mode to top view mode at high speeds will surely result in a fatal collision. Be wary of fuel levels and shield condition. A ship without fuel drifts forever and a depleted shield spells certain death."

Our most learned scholars have translated the document into the common tongue of the Realm, but certain terms and phrases have no meaning even to the most erudite sage. Nonetheless, such is our desire to be rid of the scourge of Mondain that we make this information available to all.

### THE MAGICAL ARTS

As mentioned elsewhere in this manuscript, the practice of magic had once died out in Sosaria. The power of the mystic tradition proved too corrupting for the general populace and the lords of the land decreed that all who dabbled in sorcery were to be banished. 'Twas not until the coming of Mondain the Wicked that our scholars once again unearthed the dusty tomes that contained the records of the once flourishing arcane arts, and set about to retrain adepts in the use of enchantments. Our leaders realize that once the discipline of magic is reawakened, it shall never again be put to rest. Such is our plight that even the most dreaded of the arts is laid bare to all who will try to learn it and who swear to use its powers to combat the spread of Mondain's vile influence.

While those naturally born to the practice of sorcery, who can invent

their own enchantments and forge new ground in the arts, have yet to emerge as powerful wizards in their own right, a certain progress has been made. There are four artifacts available to the budding mage which will enhance the ability to weave enchantments: Staff, Wand, Amulet, and Triangle. The latter is a magical sword that may also serve as a weapon. Several powerful spells, which will cost the buyer in both gold and experience, may be purchased in the magic shoppes of Sosaria. These include:

**BLINK:**  
The ability to be physically transported a short distance while underground.

**CREATE:**  
The ability to create a wall of magical force directly in front of the spellcaster.

**DESTROY:**  
The ability to remove a wall of magical force that blocks the spellcaster's path.

**KILL:**  
An enchantment hurled at a foe in front of the spellcaster. If successful, this cantrip will destroy the opponent.

**LADDER DOWN:**  
This enchantment creates a magical ladder which permits the spellcaster to descend to the next level of a dungeon.

**LADDER UP:**  
This enchantment creates a magical ladder which permits the spellcaster to ascend to the next level of a dungeon.

**MAGIC MISSILE:**  
The ability to strike a foe with a blast of magical force. The more skilled and well-equipped the spellcaster, the greater the damage inflicted by the blast.

**OPEN:**  
This spell permits the opening of coffins at no risk to the spellcaster by magically disarming any traps.

**PRAYER:**  
The ability, when in dire straits, to call upon one's personal deity in hopes of finding a way out of a pressing dilemma. Should be used only when the spellcaster is in serious need of divine aid.

**UNLOCK:**  
This spell permits the opening of chests at no risk to the spellcaster by magically disarming any traps.

-END- Part 1 of 2

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THE BESTIARY

The realm of Sosaria is populated by a variety of creatures, both natural and unnatural. The latter group hath been on the increase since the coming of the Evil One. Through the efforts of a posterity-minded few, a collection of names and descriptions of the more common beasts hath been compiled and may perused herein.

**ARCHER, HIDDEN:**  
So lacking in courage are the minions of the vile Mondain that his Archers only ply their trade from hiding places high in the treetops of the forests of Sosaria. Their aim, nonetheless, is accurate and many a traveller has died without ever knowing whence came the deadly rain of barbed shafts.

**BALRON:**  
Huge, leather-skinned daemon lords, the Balron are perhaps the most fearsome of the evil minions of Mondain. Armed with vicious barbed whips and the ability to cast devastating fireballs at their victims, these winged scions of Hell have proven to be the nemesis of the flower of Sosarian knighthood.

**BAT, GIANT:**  
Although the Sosarian Giant Bat is but a dumb brute, this large cousin of the more common vampire bat found in other lands is indeed a menace to those unfortunat enough to disturb its subterranean slumber. The Giant Bat lives on diet of animal blood and is not averse to feasting on adventurers.

**BEAR:**  
The Hill Bear towers over the tallest human and is armed with saber-like claws capable of rending even the stoutest plate armor in a single blow. The species was first sighted on the slopes of Mt. Drash, but hath since spread throughout the land. These creatures are extremely ill-tempered and will attack without provocation.

**CARRION CREEPER:**  
These loathsome worms inhabit the deeper reaches of most dungeons, where they feed on the corpses of any luckless creatures they encounter. The numerous legs on their segmented bodies are equipped with small barbs that allow them to move quickly on walls and ceilings, as well as along corridors. Carrion Creepers should be avoided at all costs.

**CYCLOPS:**  
A race of belligerent, one-eyed giants, the Cyclops dwelt in Sosaria long before humans ever landed on these shores. Driven underground many years ago, the Cyclops long to return to the surface and drive humans into the sea. Beware, for they will attack any adventurers on sight.

**DAEMON:**  
Fierce, bat-winged horrors armed with cruel talons and barbed tridents, Daemons were unknown in Sosaria hitherto the advent of Mondain. Drinkers of human souls, Daemons are said to relish the screams of tortured humans above all else.

**DARK KNIGHT:**  
Such is the corrupting influence of the foul Mondain that even the most virtuous of Sosarian chivalry are subject to fall under his sway. The land is now fouled with Dark Knights -- predatory warriors who seek to waylay innocent travellers and to rob them of their hard-earned goods.

**DRAGON TURTLE:**  
These fire-breathing, aquatic dragons inhabit the seas around Sosaria

and are considered an even greater menace to mariners than the winds of a typhoon. They are protected by a shell tougher than enchanted plate armour, and thus are extraordinarily difficult to defeat in combat.

### ETTIN:

Travellers in the forests of our land have oft been fooled into thinking they have drawn near to a group of fellow explorers when they encounter an Ettin, for these two-headed monstrosities have been known to carry on heated discussions with themselves. An Ettin invariably abandons its dialogue when it hath the chance to attack an adventurer.

### GELATINOUS CUBE:

Called 'dungeon sweeper' by some, the Gelatinous Cube is a subterranean dweller that roams corridors in search of food. Their bodies are composed of a clear, corrosive, jelly-like substance which renders them difficult to see, but they may sometimes be detected by the remnants of armor (aha! not 'armour'!) or debris contained within them. They are omnivores, digesting anything they find after absorbing it into their massive bodies. Contact with a Gelatinous Cube hath ruined the armour of many a hardy warrior.

### GREMLINS:

Mischievous kin of the trolls and lizard men, Gremlins are underground creatures of voracious appetite. A favorite diversion is to stealthily approach unwary travellers and pilfer their food rations. Many an adventurer hath been consigned to death by starvation below the surface of Sosaria as a result of the antics of these creatures.

### HOOD:

When the corrupt influence of the unspeakable Mondain spread throughout the Realm, even some of our stalwart peasants fell under the sway of the evil wizard. These warped individuals now roam the countryside attacking travellers. While unskilled in the use of arms, they nonetheless pose quite a nuisance to adventurers.

### INVISIBLE SEEKER:

Among the most dangerous of the denizens of the catacombs below our land is the Invisible Seeker. None have ever seen one of these horrific slayers, for they are -- as their name implies -- unseeable. Their presence is usually first detected when open wounds suddenly begin appearing on the body of a victim. They are, however, susceptible to harm from most weapons.

### KNIGHT:

Like their forest-dwelling counterparts the Dark Knights, the predatory Knights of Sosaria are warriors who have forsaken the ways of Chivary for the paths of Evil. They are fierce opponents and must be treated with care if one is to avoid an untimely demise.

### LICH:

The Lich is an evil spellcaster who, through the necromantic arts, hath entered a state of living death in order to prolong an unholy rein on earth. Woe to the explorer who stumbles upon the lair of a lich, for the undead mage will guard its domain fiercely and attack without hesitation.

### LIZARD MAN:

When Mondain first came to our land he performed unspeakable experiments with his servitors and he fierce reptiles that inhabit some of the streams and rivers in the south of our land. The result was the Lizard Man, a being both reptilian and human in a single body, armed with cruel teeth and a disposition to match its appearance.

### MIMIC:

Beware the treacherous Mimic, for it hath been the doom of many a dungeon explorer. Disguised as a tempting treasure chest, the Mimic patiently awaits the overly-curious adventurer. When the victim makes as if to examine the chest, the Mimic attacks with a ferocity unmatched.

### MIND WHIPPER:

Truly hideous, the Mind Whipper is a being with the body of a human, a face that resembles nothing so much as the underside of a squid, and an unquenchable thirst for the mental energies of its victims. The few who have survived encounters with Mind Whippers have emerged as babbling lunatics, their minds flayed from their souls by the relentless onslaught of these terrible creatures.

### MINOTAUR:

As mentioned before, the evil Mondain experimented ceaselessly with the cross-breeding of man and beast in an effort to create the ultimate soldier. As if the creation of the dread Lizard Man was not enough, the vile wizard also mated the famed Baratarian fighting bull with some of his followers, resulting in the Minotaur -- a horror that walks on two legs like a man, but which has the head and the cruel horns of a bull.

### NECROMANCER:

The Necromancer is a mage whose specialty is the practice of the arcane arts that pertain to the dead. Practitioners of such a morbid specialty were naturally drawn to the foul Mondain as jackals are to the carrion of the plains.

### NESS CREATURE:

The seas surrounding Sosaria are home to a number of beasts, among which numbers the dread Ness Creature. For many years these reptilian behemoths were thought to be naught but the workings of the overwrought imaginations of mariners. The sinking of the frigate PEMBROKE in plain view of a small armada hath disproven this belief.

### ORC:

Small, pig-visaged humanoids, the Orcs were the vanguard of Mondain's first advance. Tribal by nature, they are sub-human at best, just a slight cut above true bestiality. They abhor all things human and cultured and will lay waste to anything fashioned by human hands. 'Tis said that they relish the taste of human flesh.

### PIRATES:

The pirates that infest the coastal waters of Sosaria are the scourge of the honest mariner. They ply the waterways seeking unarmed merchant ships to plunder, and often press the younger crew members into service as marauders. Once engaged, a pirate vessel and its crew will battle to the end, seeking no quarter and offering none.

### RANGER:

Alas! Even the noble Ranger, preserver of the woodlands and keeper of the forests, hath fallen under the sway of dark Mondain! These matchless trailblazers long watched over the preserves of the Sosarian nobility, but as Mondain's treachery took hold, many of them forsook their old ways and became predators themselves. He who is pursued by a Ranger must turn and make a stand, for once on a trail the Ranger will never give it up.

### RAT, GIANT:

The underground passages of the Realm are prowled by oversized rodents, the result of Mondain's necromancy and an abundance of food in the form of victims of the Evil One's minions. The Sosarian Giant Rat is a vicious predator and should not be taken lightly.

### SKELETON:

The progeny of Necromancers and undead Liches, Skeletons are the animated corpses of dead warriors from which the flesh hath withered and fallen away. They fight tirelessly in an effort to carry out the bidding of their dark masters.

### SPIDER, GIANT:

Few moments hold more terror for the intrepid explorer than when a Giant Spider, venom dripping from its fangs, is encountered in the corridor of

a subterranean labyrinth. These creatures are dazzling in their agility and tireless in their search for prey. Fight well, or face a paralyzing sting and the fate of becoming a living hatchery for their young.

### SQUID, GIANT:

Sosarian mariners swap legends of the Kraken, or Giant Squid, in every pub in every port of the Realm. These monstrous, creatures have been known to rise from the ocean depths, seize a vessel in their long tentacles, and drag the hapless vessel and its crew to a watery grave in the space of but a half-dozen heartbeats.

### TANGLER:

Looking for all the world as naught but a vine covered tree stump, the Tangler lurks in subterranean corridors, waiting to ensnare explorers of the underground. Once a Tangler hath enmeshed an adventurer in its tentacles, it will hold the victim fast until starvation ends the struggle. The monstrosity then feasts on the corpse.

### THIEF:

Long before the coming of Mondain, the common cutpurse was a plague to travellers in Sosaria. Lurking in alleyways, poised behind trees, and skulking in dungeon corridors, these villains are always ready to relieve innocent citizens of their valuables and their lives. 'Tis a service to your fellow Sosarian to exterminate a Thief whenever possible.

### TRENT:

Native to the woodlands of Sosaria, the evil Trent seems like an ordinary oak tree until one approaches near enough to be ensnared in the grasp of its pliant branches. Once it hath crushed the life from the victim, the Trent then devours it, leaving no trace of its prey to warn other travellers.

### VIPER:

Since before the dawn of civilization, the race of serpents hath roamed the land. From the most harmless garden snake to the giant constrictors, these legless creatures have always inspired fear in the human race. In the case of the Viper, this fear is well-founded. These vicious reptiles strike fiercely at all who stray too closely. Their venom-laden fangs bring a swift yet painful death.

### WANDERING EYES:

Many a dungeon seeker hath been startled to enter a darkened chamber and be greeted by a number of eyes staring out of the murky blackness. Stare not long, for the Wandering Eyes weave a hypnotic spell that entrances even the most strong-willed and leaves one helpless before the magical onslaught that inevitably follows mesmerization.

### WARLOCK:

Rogue practitioners of the magical arts, Warlocks are the evil servitors of Mondain. The Foul One hath trained them in the casting of bolts of mystic energy and sent them forth to wreak havoc amongst the populace. Slay them if ye can, for the arcane arts should never be used for wicked purpose.

### WRAITH:

Summoned from the nethermost regions of Hell by Mondain's perverse enchantments, Wraiths are the restless souls of dead Clerics. Once on the material plane, they drift about seeking potential 'converts' to the discipline of Evil. Since one must first die in order to be converted, 'tis strongly advised that their enticements be resisted.

### ZZZZZ

Z

Z

Z

### ZZZZZ ORN:

Little is known of the mysterious Zorn. 'Tis a creature that not only

defies logic, but that seems to defy the very laws of nature. It can burrow through anything and is completely omnivorous. In battle it seems to generate far more force than one would estimate possible from a creature of its size. When slain, the Zorn quickly evaporates, thus none have ever been studied closely.

-1/8/87

-THE END.



N:  
Negate time - Requires a special item. Stops time for all outside of the party. Allows an audacious thief to steal vast treasures and escape the treasure's guardians.

O:  
Other command - Allows a player to enter a command not given in this list but rather determined during game play. Examples are [KISS] princess, [JUMP] cliff, [BRIBE] guard and [DIG] beach, although others are possible.

P:  
Peer at gem - REQUIRES a special item, one use for each. On the surface, the world map is shown. In a dungeon, all of the level is visible. In a town or castle, the map shows all inside areas.

Q:  
Quit and Save - Save game to disk

R:  
Ready Weapon - Equips players with the weapon of thy choice, if owned.

S:  
Steal - Attempts to steal chests from behind store counters, success based on thieving abilities.

T:  
Transact - Allows a player to trade with shops or talk to townspeople in order to collect clues vital to winning the game.

U:  
Unlock - Opens doors if you have a key. One use per key.

V:  
Volume - Toggles sound on and off.

W:  
Wear armour - Outfits a player with the armour of thy CHOICES, if owned, for DEFENSE in combat.

X:  
Xit - That's exit, dismount horse or leave frigate.

Y:  
Yell - Allows player to yell any word one feels. Useful when being chased by a dragon. yell, [OPEN] gate!

Z:  
Ztatus - Displays a players status, attributes, and possessions. The Return key scrolls.

WEAPONS & ARMOR

| Weapons        | Equipment | Armor   |
|----------------|-----------|---------|
| Hands.....     | A.....    | Skin    |
| Dagger.....    | B.....    | Cloth   |
| Mace.....      | C.....    | Leather |
| Sling.....     | D.....    | Chain   |
| Axe.....       | E.....    | Plate   |
| Bow.....       | F.....    |         |
| Sword.....     | G.....    |         |
| 2-H Sword..... | H.....    |         |

PART II: The Character

Assign each character a # from 1 to 20

Name:  
up to 13 letters

Sex:  
[M]ale, [F]emale and [O]ther

Race:  
[H]uman, [E]lf, [D]warf,  
[B]obbit and [F]uzzy

Class:  
First letter of class you want

Attributes:  
Divide up 50 points among  
the four attributes.  
Minimum - 5, Maximum - 25

Description of attributes

-----  
Strength - Important for fighting  
Dexterity - Grants speed & cleverness  
Intelligence - Controls Mage spells  
Wisdom - Imparts Clerical power

Maximum attributes attainable for each

|        | Str | Dex | Int | Wis |
|--------|-----|-----|-----|-----|
| Human  | 75  | 75  | 75  | 75  |
| Elf    | 75  | 99  | 75  | 50  |
| Dwarf  | 99  | 75  | 50  | 75  |
| Bobbit | 75  | 50  | 75  | 99  |
| Fuzzy  | 25  | 99  | 99  | 75  |

Characteristics of profession

|             | Weapons  | Armor    | Spell   |
|-------------|----------|----------|---------|
| Fighter     | All      | All      | None    |
| Cleric      | Mace     | Chain    | Prayers |
| Wizard      | Dagger   | Cloth    | Sorcery |
| Thief       | Sword    | Leather  | None    |
| Paladin     | All      | Plate    | Prayers |
| Barbarian   | All      | Leather  | None    |
| Lark        | All      | Cloth    | Sorcery |
| Illusionist | Mace     | Leather  | Prayers |
| Druid       | Mace     | Cloth    | Both    |
| Alchemist   | Dagger   | Cloth    | Sorcery |
| Ranger      | +2 Sword | +2 Plate | Both    |

Spell Attributes/Special of classes

-----  
Cleric: Wisdom  
Wizard: Intelligence  
Thief: Steal/Disarm Traps  
Paladin: Half Wisdom  
Barbarian: Some Steal and Disarm  
Lark: Half Intelligence  
ILLUSIONIST: Half Wisdom, some S & D  
Druid: Greater of both HALVES  
Alchemist: Half Int., some S & D  
Ranger: Lesser of Both halves, some Steal and Disarm

Magical spell energy is based on the character's spell attribute. Energy is replaced at the rate of 1 point per turn on the surface, and one point every four turns in a town or dungeon

## Note:

Druids regain magic points at twice the rate of normal spell casters.

## PART III: The Game

To start up the game, boot side one of the disk. When the option to enter "1" or "2" appears, type in the drive # in which the scenario disk will be.

A sample view of Sosaria appears. Hit the SPACE BAR. you are now offered three choices:

- \* Return to view to see the demo again
- \* Organize a Party to set up the game
- \* Journey onward to begin/continue the adventure

Only the first letter of any option need be used to select that option.

For now, select "0". These are the options that you have:

\* Examine the Register Lets you see what characters are available for adventuring. It displays the name & class of every character. The first 3 letters before a character's name give the character's Sex, Race, and Class. The FOURTH letter states the health of the character: G = good, P = poisoned, D = dead, A = ashes. If the character is already part of a party, a diamond will appear next to his/her/its name.

\* Create a Character This allows you to create characters as described in Part II.

\* Form a Party Allows you to form a Party of up to four members, from the characters on the disk. Use the number that you entered first for each character to choose.

\* Disperse a Party This disbands a party and returns the members to the register.

\* Terminate a Character This clears a character permanently from the register. You would use this to make room for another character, or if the present one is a total loser.

\* Main Menu Returns you to the primary option list.

## SPECIAL NOTES

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### COMBAT:

When combat is joined, a special combat SCREEN appears. Each member of the party is shown separately, as is each monster. The characters can all move, fight and spell individually, in order of their order in the party. Although the players may only attack horizontally or vertically, monsters may attack on a diagonal. You may attack from a distance with a bow, spell or dagger. If you attack with a dagger, it is considered thrown if the enemy is farther than one square away. Experience is given to the character who strikes the fatal blow!

### CHESTS:

When a monster group on land is defeated, a chest will always be left behind. Some will contain treasure, others will be empty. Many of these chests will be trapped. Some traps include: Acid (injures the character opening the chest), Poison (same), Bomb (destroys the contents of the chest and hurts the entire party) and Gas Trap (affects the entire party).

## DUNGEONS:

Map everything in a dungeon. There are many secret doors. Magical winds may blow out your torches. If thou walks slowly, glimpses of faint mystic writings may be noticed periodically. There are also many traps and pits. If the Thief is in the front of the party, he will have an excellent chance of spotting traps before the party trips them. If you find a fountain, be sure to stop and drink carefully.

## TRANSPORTATION:

Most progress is on foot, although you may be able to locate or buy horses. To sail a ship, you may not sail against the wind.

## MOON GATES:

Passing through a Moon Gate will teleport the party to hidden powers. Many areas are only accessible through these gates. The coming and going of the Moon Gates is somehow related to the phases of Sosaria's twin moons, Trammel and Felucca. The phases of these moons is indicated at the top of the screen as follows:

|                    |                    |
|--------------------|--------------------|
| 0: New moon        | 4: Full moon       |
| 1: Crescent waxing | 5: Gibbous waning  |
| 2: First quarter   | 6: Last quarter    |
| 3: Gibbous waning  | 7: Crescent waning |

## TOWN SHOPS:

Weapons shop: Buy/Sell weapons  
The Armory: Buy/Sell armor  
The Grocery: Buy food  
Guild Shop: Buy thieving equipment  
The Pub: Gold may loosen a tongue...  
The Healers: Restorative healing  
The Stable: Buy horses  
The Oracle: Buy knowledge & insight

## SPECIAL MONSTERS:

(There are three types of monster for each reference here, but as they differ only in name, they are not listed.)

### Thief:

Can steal any weapon or armor that is not equipped.

### Pincher:

Can poison

### Daemon:

Can hurl magic attacks

### Dragon:

Can attack from three spaces away, even when not in the combat mode!

### Devil:

Can hurl poisoned magic bolts!

### Pirates:

Can fire cannon at all members of party

### Sea Serpents:

Can hurl magic across water.

### Man-O-Wars:

Can poison/hurl magic!

## PART IV: Magic

A spell will cost you a certain amount of magical energy to cast, as follows:



A: 0 pts  
 B: 5 pts  
 C: 10 pts  
 D: 15 pts  
 (and so on, up to...)  
 P: 75 pts

THE BOOK OF AMBER RUNES (sorcery)

A) REPOND - 0  
 When Orcs, Goblins or Trolls attack the party, cast this Rune. Thou shall be attempting to dispel the magic which is a part of their inner being.

B) MITTAR - 5  
 Hurl this talisman towards thine enemy. A shimmering sphere of light will spring from thy hand, and will strike with a force depending on the skill and concentration invested.

C) LORUM - 10  
 A warm, soft, magical light of short duration will be produced when this spell is cast.

D) DOR ACRON - 15  
 When this spell is cast, the mage and his companions will be transported to the next lower level of the dungeon.

E) SUR ACRON - 20  
 As the words of this spell are chanted, the party will be lifted to the next higher level of the dungeon.

F) FULGAR - 25  
 A fireball will infallingly strike thy foe when this spell is invoked, with a force strong ENOUGH to kill most common men and cause great damage to beasts of greater strength.

G) DAG ACRON - 30  
 This spell will randomly teleport you from one spot to another on the Sosarian surface.

H) MENTAR - 35  
 A blue ball of screaming horror will fly toward thine enemy when this spell is incanted. It will invade his mind, and IRREPERABLY corrupt his mental process in direct proportion to thine own intelligence.

I) DAG LORUM - 40  
 When this spell is cast, an enduring and shimmering light will appear.

J) FAL DIVI - 45  
 This spell will allow you to cast any of the spells normally accessible only to Clerics.

ADVANCED SPELLS:

K) NOXUM - 50  
 As this spell is spoken, it will catch flame and rush at thy foes, thwarting each with a devastating blow.

L) DECORP - 55  
 When the song of Decorp is sung, the air shall shake. Upon whomever thou indicated, the Magic shall descend, and their life shall be extinguished - always and completely!

M) ALTAIR - 60  
 When this spell is cast, time will slow and finally stop, allowing the party to move freely in the suspended state.

N) DAG MENTAR - 65  
 Cast this spell, and thy foes will be struck with a savage blow with damage directly related to thine intelligence.

O) NECORP - 70  
 When the need arises, throw this spell above the heads of thine enemy. It will shatter, and they will quickly be transformed into putrid vestiges of their former beings.

P) 75  
 This spell is never called by name, save when invoked. All does who hear the UTTERANCE are completely and permanently destroyed.

THE ANCIENT LITURGY OF TRUTH (prayer)

A) PONTORI - 0  
 This will allow you to turn undead, and Skeletons, Ghouls and Zombies will be dispelled from their being.

B) APPAR UNEM - 5  
 This will allow you to open a chest with no risk to the party.

C) SANCTU - 10  
 Lay thy hands upon onw who is woun- ded, and he will be healed. In the beginning, thy power will be limited, but thy capacity as a healer will grow and be strengthened with experience.

D) LUMINAE - 15  
 Cast this upon an object, and it will glow with a soft blue light, temporarily lighting your way.

E) REC SU - 20  
 The ceiling shall become translucent and thy party shall float up one level in a dungeon.

F) REC DU - 25  
 The floor will become translucent, and they party shall sink down one level in a dungeon.

G) LIB REC - 30  
 This shall cause you to fade away from one location in a dungeon, and reappear in another.

H) ALCORT - 35  
 With thy touch, the poison coursing in the veins of thy companion shall be transformed into a life-giving fluid.

I) SEQUITU - 40  
 If thou raiseth thy ankh into the air and cryeth out the name of this invocation, thee and thy companions shall rise forth from the depths of a dungeon to the surface.

J) SOMINAE - 45  
 Thine entire self will radiate with a light, that can be sustained INDEFINITELY- ,as it draws forth from thineown inner force.

K) SANCTU MANI - 50  
 Anoint the wounds of thy companion with an oil, and his flesh shall be restored and blood flow through his veins, although he lies quivering on the threshold of death.

L) VIEDA - 55  
 If thy should lose thy way, meditate on this spell, and a vision of thy surroundings shall come to thee.

M) EXCUUN - 60

By speaking the name of this great miracle, thou can direct the pure light of truth at a foe, causing his life to cease.

N) SURMANDUM - 65

It is now within thy power to recall one from the realm of death. Step into the shadow of death, and lead thy companion back to the world of light. If, however, his strength of will is not strong enough to make the return journey, the backlash from this failed miracle will turn his body to ashes.

O) ZXKUQYB -70

Speak softly the words represented by these letters, and most of thy foes will be struck down with a force so strong it will end their lives.

P) ANJI SERMANI - 75

Beseech the One who is Truth and Wisdom, and thy friend's life shall be forever restored.

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DOCUMENT ultima.iii.1
   
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.....ULTIMA III.....
   
.....SUPER-DOC.....
   
.....
   
.....WITH.....
   
.....COMPLETE MAPS OF SOSARIA AND ALL TOWNS.....
   
.....STATUS SHEET OF SPELLS AND ABILITIES.....
   
.....HOW TO SOLVE ULTIMA III.....
   
.....

....ULTIMA III STATUS SHEET....

MAXIMUM ATTRIBUTE VALUE FOR RACE

|        | STRENGTH | DEXTERITY | INTELLIGENCE | WISDOM |
|--------|----------|-----------|--------------|--------|
| HUMAN  | 75       | 75        | 75           | 75     |
| ELF    | 75       | 99        | 75           | 50     |
| DWARF  | 99       | 75        | 50           | 75     |
| BOBBIT | 75       | 50        | 75           | 99     |
| FUZZY  | 25       | 99        | 99           | ??     |

CHARACTERISTICS OF EACH PROFESSION

|             | WEAPONS  | ARMOUR   | SPELL TYPE | SPECIAL                                         |
|-------------|----------|----------|------------|-------------------------------------------------|
| FIGHTER     | ALL      | ALL      | NONE       | NONE                                            |
| CLERIC      | MACE     | CHAIN    | CLERIC     | WISDOM                                          |
| WIZARD      | DAGGER   | CLOTH    | WIZARD     | INTELLIGENCE                                    |
| THEIF       | SWORD    | LEATHER  | NONE       | STEAL, DISARM                                   |
| PALADIN     | ALL      | PLATE    | CLERIC     | HALF WISDOM                                     |
| BARBARIAN   | ALL      | LEATHER  | NONE       | SOME STEAL & DISARM                             |
| LARK        | ALL      | CLOTH    | WIZARD     | 1/2 INTELL.                                     |
| ILLUSIONIST | MACE     | CLOTH    | CLERIC     | 1/2 WIS-S&D                                     |
| DRUID       | MACE     | CLOTH    | BOTH       | HALF OF BOTH                                    |
| ALCHEMIST   | DAGGER   | CLOTH    | WIZARD     | HALF INTELL.                                    |
| RANGER      | +2 SWORD | +2 PLATE | BOTH       | SOME S&D<br>LESSER HALF<br>OF BOTH, SOME<br>S&D |

|                              | WIZARD | SPELL COST | CLERIC                |
|------------------------------|--------|------------|-----------------------|
| DISPELL ORC. GOBLIN OR TROLL | A-0    | PTS        | DISPELL UNDEAD        |
| MAGIC MISSLE (WEAK)          | B-5    | PTS        | OPEN CHEST            |
| LIGHT                        | C-10   | PTS        | HEAL PLAYER           |
| DOWN LEVEL                   | D-15   | PTS        | LIGHT                 |
| UP LEVEL                     | E-20   | PTS        | UP LEVEL              |
| MAGIC MISSLE (STRONG)        | F-25   | PTS        | DOWN LEVEL            |
| RANDOM LAND JUMP             | G-30   | PTS        | RANDOM DUNGEON JUMP   |
| MIND WHIPPER                 | H-35   | PTS        | HEAL POISON           |
| MORE LIGHT                   | I-40   | PTS        | SURFACE               |
| ANY CLERIC SPELL             | J-45   | PTS        | MORE LIGHT            |
| MAGIC MISSLE (WHOLE GROUP)   | K-50   | PTS        | HEAL COMPLETELY       |
| DEATH                        | L-55   | PTS        | MAGIC MAP             |
| NEGATE TIME                  | M-60   | PTS        | DEATH                 |
| SONIC BLAST                  | N-65   | PTS        | RESURRECTION          |
| BLACK PALUGE                 | O-70   | PTS        | ELECTRIC STORM        |
| ATOMIC DESTRUCTION           | P-75   | PTS        | RESURRECTION FROM ASH |

HOW TO SOLVE ULTIMA III

Note that these tips on how to solve are no solution. These are not accurate in any way.

1. Format a party, transfer all food and weapons to one member. Leave the town to save game, reboot, delete empty character shells, and create three more. Go to town and buy these front line men with bows.
2. Consider making a Cleric for you'll need his healing power.
3. You can get 550 hit points by (T)ransacting with the king, if you have enough experience.
4. With these points, go to dungeon in northeast corner of the island, in the blackened area. You'll recognize it by its waterway and protecting ship.
5. In first two levels, you should find two "plates" which you should touch. One is Mark of King, other is Mark of Fire. With the MARK of King you can get 2550 hit points with enough experience.
6. When you leave castle, go west 8 steps and south 34. When moons are in 0,0 conjunction, the Town of Dawn will appear below you. In it are better arms and armor as well as keys, powders and gems. In the lower right hand corner are three guys, each with important clues of Exotic weapons. After leaving, try to find a ship. Try digging on the two-square island near the island town of Fawn.
7. Make your way to the town on the island east of the Mainland. You'll notice it by bribable guard before locked gate. You can save \$100 fee and a key by entering the maze south of the entrance. Go north at the first place you can, then straight east as far as you can, and then north inside gate. Go west to the locked gate. Use a key. Go south to on the entry on the left side of the screen. Go west to the first north possibly, west to the next south possibly, and west again. This should put you next to a guard. Bribe. West lies a treasure area, good for about \$1,100 (about \$2,000 if you have Mark of Force). It's good to have thief who can grab chests, and cleric who can heal him. Repeat this process until you have it all, say about \$13,00 or so. Be careful you don't Combine your gold hoard, give it all, say, to your second or third man, and use both your Thief and Wizard's spells to collect the loot.
8. Loaded with gold and at least four keys, get in your ship, find a whirlpool storm and enter it. You'll be cast on the shore of another island where there's four shrines. Here you can buy capability at \$100 a pop. Shrine of Strength is in the Southwest corner, reached through the mountain entrance. Work your way south from there. You're on right track if you encounter two sets of wild horses. Keep going south. <Pray> at each shrine. Shrine of Intelligence lies behind three locked gates in the north-central area. Don't bother opening up cages. Capture ship that's waiting for you and sail west to where you can disembark. Shrine lies behind the third gate. You reach the Shrine of Wisdom by going north from the entry gate of the Shrine of Intelligence. Track around to another locked gate. After the initial north and east travel, work your way south and slightly east. Ignore the next locked gate you see. Shrine of Dexterity is in the southeast area. After entering the dark area (to the right and north of landing point) work your way northeast.
9. Near initial entry into this area you'll be able to go south. Following that track gets you to the south shore of the Island, where you must capture a Pirate ship. Using another key, sail through the locked gate to the west and into the awaiting Whirlpool in order to get back to the point where you first entered the Whirlpool. Several trips between Death Gulch and Shipwreck Island should bring up your attributes up to a fairly impressive level, and will certainly make your life easier.
10. Now you should have at least two marks and all four Cards. You'll find Mark of Snake on the eighth level of the dungeon on the large island east of the mainland. Another Mark appears on that level. If it isn't the Mark of Force, you'll find it in the west end of level 8 in the dungeon surrounded by lava in the dark mountain area at the southeast end of the island. Lastly, if you want to find the Lord of Time, look in the northwest corner of level 8 in the dungeon locked in by mountains (which you can reach by the Moon Portals.)
11. Once you have 2,550 hit points and all eight Marks and Cards, you're ready for Ultima. "Ready" all of your party with exotic weapons and sail up to the Sanke in the center of the island on the southeast corner of the mainland. <Yell> EZOCANE. It would be wise to make a copy of the player disk before entering the castle, as things can get rough. Go as far west as you can, walking through the fields. Then head north, all the way up. As you go along you'll have some tough battles. It's a good idea to Negate time with a powder at the outset of each battle.
12. In upper central part, you'll encounter three sets of invisible enemies

(floors) each of whom hit pretty hard. Use your Wizard's "P" spell or your Cleric's "O" spell. To get the rest, negate time, line up your men abreast, and march up the room, attacking forward and to sides. Each Floor panel will only take one hit to kill when you find them. When powder wears off, watch which of your guys is getting hit: he's the one nearest to your foe.

13. The time has come! Move to the left of the machine that is Ultima. Insert love, move right, insert Sol, right, Insert Moons, right again and Insert Death. That should do it!!

### ULTIMA III PROPHECIES

Gold  
 100 You'll learn of marks and playing cards and hidden holy shrines.  
 200 Of marks there are but four- Fire, Force, Snake, King.  
 300 Learn their use in Devil Guard or death you'll surely bring.  
 400 Shrines there are but four to which you go and pray.  
 500 Their uses are innumerable and clues throughout I say.  
 600 Suits do number four, called Sol, Moons, Death, and Love.  
 700 Unto the Montors thou must go for guidance from above.  
 800 To aid thee in thy cryptic search, to dungeons thou must fare.  
 900 There seek out the Lord of Time to help you if he cares.

### BARTENDER TIPS

Gold  
 7-9 Thank you kindly.  
 10 Ambrosia, ever heard of it?  
 20 Dawn, the city of myths & magic.  
 30 The conjunction of the moons finds link.  
 40 Nasty creatures, nasty dark, sure thee ready for thee embark.  
 50 None return or so I'm told from the pool dark and cold.  
 60 Shrines of knowledge, shrines of strength are all but lost into the brink  
 70 Fountains fair and fountains foul all are found in dungeons bowel.  
 80 Exodus: Ultima III which is next? Now could be.  
 90 Seek ye out the Lord of Time and the one way is a sure find!

### VILLAGE RUMORS & MISTY WRITINGS

Cards are useful.  
 The King favors a Mark.  
 Seek ye the Mark of Kings.  
 You need a Mark to pass.  
 Marks gained in Dungeons.  
 Hot metal leaved a Mark.  
 Marks are useful.  
 A Mark helps invoke the snake.  
 Invoke the Silver Snake.  
 Conjunctions of moon finds link.  
 Ony exotics will protect you from great evil.  
 Seek the Shrines of Truth.  
 Seek ye the Dungeon of Fire.  
 Beware the Fires of Hell.  
 <Pray> for the invocation.  
 <Pray> in the Circle of Light.  
 Dawn Lasts but a Moment.  
 <Search> for Shrines.  
 <Search> the cards.  
 <Dig> Carefully.  
 <Dig> up Exotics.  
 <Dig> on islands.  
 Baby Bob: Bring me bucks.  
 Seek the Jester in Castle Fire.  
 Jester says: West-8, South-35, and Await the Dawn.  
 Lord of Time says: Love, Sol, Moons, Death. All else fails.  
 Circle of Light: <Yell> EZOCANE.  
 Exodus is four as one.  
 <Insert> cards into Exodus.







DOCUMENT ultima.iii.2

WEST MONTOR -

ASCII art map for WEST MONTOR showing terrain features like mountains, forests, and towns.

LEGEND

Legend table mapping symbols to terrain types: G GUARD, H HORSE, = TABLE, C CHEST, S SNAKE, T TOWN, # WALL, s SHIP, ~ FIRE, I GATE, K KING, \* MOUNTAIN, X COMPUTER, ( ) WATER, C CASTLE, x PERSON, t SMALL FOREST, ^ BIG FOREST, W WHIRLPOOL, P PIRATE SHIP, : BRICK WALK, " FORCE FIELD

EAST MONTOR -

ASCII art map for EAST MONTOR showing terrain features like mountains, forests, and towns.











===== DOCUMENT ultima.v.2 =====

## Ultima V Quick Dox and Reference

Typed by: Chief Justice/CtC 3/15/88  
Reformatted and slightly modded by: Galaxy Stranger 3/19/88

Here are the sides of Ultima V with their corresponding sizes. Make sure you get the correct boot disk, CtC released two versions of the first (boot) side. The first (200 block) version had some errors in configuring the sound to work with a mockingboard; the correct (198 block side) corrects this problem.

|        | Side 1          | Side 2           |
|--------|-----------------|------------------|
| Disk 1 | Program (198)   | Dungeon (191)    |
| Disk 2 | Britannia (151) | Underworld (162) |
| Disk 3 | Towne (206)     | Dwelling (189)   |
| Disk 4 | Castle (200)    | Keep (204)       |

## GETTING STARTED

Insert Disk One, the Ultima V program disk, label side up into your disk drive. Turn on your computer and monitor. You will see the opening graphics. Press the SPACE BAR to exit this view and bring up the main menu. Use the arrow keys and RETURN to select an option.

The first time you play Ultima V, select "TRANSFER FROM ULTIMA IV" if you want to use your character from that game, otherwise, select "CREATE A CHARACTER". From this point, you should follow the on-screen instructions. Remember to use the ESC key to acknowledge all disk swaps. After creating or transferring, you will return to the main menu.

Next, select the "INTRODUCTION" option in the main menu before continuing to the main part of the game. After completing the introduction sequence, select "JOURNEY ONWARD" to proceed to the main part of the game.

In all subsequent sessions, you may skip both the transfer/create character step and the instructions sequence by either selecting "JOURNEY ONWARD" from the main menu or pressing the "J" key while the disk is booting.

If you have at least 128K of memory and a Passport Systems MIDI interface, Phasor, or a Mockingboard that you wish to use, see "MUSIC WITH ULTIMA V".

## MOVEMENT

Except in dungeons or while engaged in combat, your party is represented by a single figure. During combat, each party member is shown and allowed to act independently. Pressing the following keys will move your party or party member in the designated direction:

North: Up arrow or [ or RETURN  
South: Down arrow or /  
West : Left arrow or ;  
East : Right arrow or ' (quote)  
In dungeons, the period key will turn you around.

These keys are also used to indicate direction when attacking and casting spells.

## MENUS

In a game menu, use the directional keys to move the cursor bar and highlight your choice.

When you are satisfied with your selection, press the SPACE BAR. To leave a menu without making a choice, press the ESC key. If you are selecting a member

of the party from the party roster, you may alternatively indicate your choice by typing in the number of the player's position in the roster. A arrow symbol just below a menu indicates that the list extends to include more items in one or both directions.

## COMMANDS

Here is a list of commands that are executed by pressing the designated key:

### A /Attack/

Attempt to engage a person or creature in combat. Must be followed by a direction. In combat, you can aim the weapons in any direction, at any target within the weapon's range by using the direction keys to move the crosshair on top of the target. Press <A> again or the SPACE BAR to fire.

### B /Board/

Board a frigate, skiff, or other conveyance, or mount a horse. If you board a ship from a skiff, the skiff will be stowed and kept ready for later use.

### C /Cast/

Cast a spell. Must be followed by the first letters of the spell's syllables. Only works when the proper reagents have already been mixed and the spellcaster has enough Magic Points remaining. Some spells require additional information (direction or target).

### E /Enter/

Enter townes, castles, and other structures. Party members must be standing directly on structure to enter.

### F /Fire/

Fire cannons. Must be followed by a direction. Ship cannons may only fire when the ships broadsides are facing the target.

### G /Get/

Take possession of gold, food, and other items you find. Must be followed by a direction.

### H /Hole Up/

In dungeons and wilderness, hole up and camp once a day to rest, heal wounds, and recover magical strength. In cities, hole up in an unoccupied bed to quickly pass time. On sea, hole up to make minor repairs to your ship.

### I /Ignite a Torch/

Light a torch, if you have one, to see at night or in dungeons.

### J /JIMMY LOCK/

Unlock most doors and safely open chests with a skeleton key. Keys are re-usable, but often break if the person jimmying is not nimble enough.

### K /Klimb/

Climb up or down ladders in buildings and dungeons, down steel grates, or over small rockpiles, fences, and other objects.

### L /Look/

Identify any object or terrain feature or read signs one step away. Must be followed by a direction. May allow further interaction with some objects, such as wells and fountains.

### M /Mix/

Prepare spell reagents for later use. Enter the first letters of the spell's syllables, then select the appropriate reagents from the menu. Press <M> again to mix.

### N /New Order/

Exchanges the positions of any two party members, excluding the leader. Select the two members to be exchanged from the roster menu with the cursor bar.

### O /Open/

Opens an unlocked door or chest. Opening a locked chest will set off a trap if the chest has one.

P /Push/  
Allows small objects, like tables and chairs, to be moved around the room. May be used to block doors.

Q /Save Game/  
Save the current game status. If you do not use this command to end a playing session, any progress made since the last save will be lost.

R /Ready/  
Equip a party member with personal items from the party's stores. Use the arrow keys and space bar to select or de-select an item in the menubar. Press ESC when finished.

S /Search/  
Search the location or object in the direction indicated. Searching may detect traps on chests, concealed doors, dungeon floor traps, or reveal hidden items. Use the south direction key to search the immediate area in the dungeon halls.

T /Talk/  
Converse with merchants or townfolk in the direction indicated. Conversation is possible over counters, tables, fences, through windows, and doors with windows.

U /Use/  
Use a potion, spell, or other special item found during the game.

V /View/  
Reveals a bird's eye map of the surrounding countryside, city, or dungeon floor currently occupied. View requires a special item.

X /X-it/  
Exit or dismount current form of transportation, leaving it behind while continuing on foot. Horses not left on a hitching post may wander off. Exiting from a ship is possible only if there is a skiff available or if the ship is next to land.

Y /Yell/  
On a ship, Yell will hoist or furl sails. In other situations, Yell will allow you to enter up to two lines of text to be spoken loudly.

Z /Stats/  
Displays the status and attributes of your party members, including several screens of information such as supplies, weapons, and spells. Use the East and West directional keys to change pages. Use the North and South directional keys to scroll up and down long lists. Pressing the ESC or SPACE BAR will exit the Z-stat screens.

1-6,0  
Several commands require that one party member be designated to perform the action. When this is required, an illuminated cursor bar will appear over the names of your party members. Use the directional keys to highlight the name of the character you wish to designate and press RETURN. Or, abort the command by pressing ESC. Instead of designating which party member is to perform a command each time you invoke it, you may set any living player as the "active player". Until you select another party member or disable this feature by pressing 0, this player will be the default player for those commands which require a single party member for execution (i.e., jimmy, get, search, etc.). This player will not serve as the default during combat, although you may separately assign a party member to be the active player during combat. To assign a player as the active player, press the number key from 1 to 6 representing that player's position in the party roster.

<Space Bar>  
Pass a turn, allowing time in the game to proceed. Also aborts any command requiring a directional key.

<Escape>  
Aborts or exits commands which use scrolling menus. Also speeds exit from combat scenes after all foes have been overcome.

CTRL-S  
Turns sound effects on or off.

CTRL-T  
Toggles speed between fast and slow on an Apple ][ GS on any Apple ][ equipped with an Applied Engineering Transwarp or a compatible accelerator card.

CTRL-V  
Set Mockingboard and Phasor volume. Must be followed by a number from 0-9

TO MAKE A BACKUP DISK:

To keep a backup copy of your characters' status or to play more than one game simultaneously, use any ProDOS compatible utility to copy BOTH sides of the Britannia/Underworld disk onto a blank floppy disk.

HINTS

Conversation is integral to Ultima V. Only by piecing together clues from the different inhabitants can you complete your quests. You may ask inhabitants about a number of topics. Often you will need to know what to ask a specific person to glean interesting information. Everyone will talk about their job and give you their name, and asking about these will often help you learn who else to interview and what questions to ask them.

As an example of conversation, you might Talk to Dupre. First you type "JOB". He responds, "I am hunting Gremlins!" Type "HUNTING" and he may respond with an interesting insight. Or Iolo might have suggested that you ask Shamino about his sword. If you have already spoken to Shamino, you would not have known to ask him that, and must seek him out again. You may be asked questions by some of those you meet. Consider carefully before responding; your life may depend on it. How you converse with others will determine how willing they will be to share information they have when you next meet them. Do converse with people more than once. Some people you will meet may be willing to become your travelling companion. If you wish to do so, invite them to "JOIN" your party.

Press RETURN or type "BYE" after an inhabitant's response to conclude a conversation.

Keep a journal of your travels. Keep a list of the clues you pick up; there will be too many for you to simply carry in your hand.

Thoroughly explore the Realm. Exploring each town, castle, keep and other populated spots will prove to be time well spent.

SCREEN VIEWS

<This part of the documentation refers to pictures in the manual. Most of it is common sense, and stuff for beginners. So, we'll skip it.>

MUSIC WITH ULTIMA V

Warriors Of Destiny includes over a dozen musical compositions ranging from willage dances to castle fanfares. To hear the music, you need an Apple //e with 128K of memory and any of the following boards:

SWEET MICRO SYSTEMS  
A. Mockingboard A  
B. Sound I  
C. Mockingboard C  
D. Sound II  
E. Sound / Speech I  
APPLIED ENGINEERING

F. Phasor  
 PASSPORT DESIGNS  
 G. Apple MIDI Interface (for use with MIDI synthesizers)

To start the music, select "ACTIVATE MUSIC" from the Title Screen menu. From the Music Configuration menu, select "CHANGE MUSIC CONFIGURATION."

For each of your music boards, place a letter (from the list above) under the number of the slot in which the board is installed. Only one MIDI board can be used, and the total number of voices for all other boards cannot exceed twelve. Press RETURN after making your music board selections.

To save your settings for later recall, select "SAVE MUSIC CONFIGURATION". To exit from the Music Configuration menu, select "RETURN TO THE GAME."

MIDI INTERFACE

If you selected a MIDI interface, a MIDI Information screen will appear. Set "MIDI CHANNEL" to match your synthesizer. Set "NUMBER OF VOICES" to the maximum number of notes which your synthesizer can play at one time.

The name of each Musical Selection will be displayed with a corresponding Instrument Suggestion. Use the cursor or type the first letter of the title to select a song. Enter MIDI NUMBERS using either of the following methods:

Select an instrument from your synthesizer keyboard. The MIDI NUMBER will automatically be entered on the Apple screen. (This method works with most, but not all MIDI synthesizers.)

-OR-  
 Type in the MIDI NUMBER (MIDI Program Change number) on your Apple. Synthesizers use various numbering schemes, so check your manual. Instrument 1 is usually Program Change number 0. Hit RETURN to hear the song played in that voice.

When finished entering MIDI information, press ESC to return to the Configuration Menu.

\*Note: Phasor boards must be set to "Phasor Mode" (all four switches in closed position.)

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 Ultima V Quick Reference  
 Typed by Chief Justice/CtC 3-15-88  
 Reformatted for better printing: 3-18-88

COMMAND SUMMARY

-----  
 A Attack           H Hole Up           N New Order        T Talk  
 B Board           I Ignite            O Open             U Use  
 C Cast            J Jimmy            P Push             V View  
 E Enter           K Klimb            Q Quit & Save     X X-It  
 F Fire            L Look            R Ready            Y Yell  
 G Get             M Mix             S Search           Z Z-stats  
 SPACE: Abort, pass turn   Ctrl-S: Sound effects on/off  
 Ctrl-T: System Speed      Ctrl-V: Volume level of music  
 Escape: Exit commands, leave battlefield

| WEAPONS      |              |              |               | ARMOUR       |              |              |               |
|--------------|--------------|--------------|---------------|--------------|--------------|--------------|---------------|
| ITEM         | STONE WEIGHT | ATTACK VALUE | DEFENSE VALUE | ITEM         | STONE WEIGHT | ATTACK VALUE | DEFENSE VALUE |
| Dagger       | 1            | 6 (30')      |               | HELMS        |              |              |               |
| Sling        | 2            | 6 (40')      |               | Leather Helm | -            | -            | 1             |
| Club         | 3            | 8 (b)        |               | Chain Coif   | 1            | -            | 2             |
| Flaming Oil  | 2            | 8 (40')      |               | Iron Helm    | 2            | -            | 3             |
| Main Gauche  | 3            | 8            | 1             | Spiked Helm  | 3            | 4 (b)        | 3             |
| Spear        | 4            | 10 (50')     |               |              |              |              |               |
| Throwing Axe | 6            | 10 (40')     |               | SHIELDS      |              |              |               |

|                |    |          |  |                |    |       |   |
|----------------|----|----------|--|----------------|----|-------|---|
| Short Sword    | 5  | 12       |  | Small Shield   | 2  | -     | 2 |
| Mace           | 7  | 15 (b)   |  | Large Shield   | 3  | -     | 3 |
| Morning Star   | 8  | 15 (b,p) |  | Spiked Shield  | 4  | 6 (b) | 3 |
| Bow            | 8  | 10 (70') |  |                |    |       |   |
| Crossbow       | 6  | 12 (80') |  | ARMOUR         |    |       |   |
| Long Sword     | 9  | 15       |  | Cloth Armour   | -  | -     | 1 |
| Two-handed     |    |          |  | Leather Armour | 2  | -     | 2 |
| Hammer         | 16 | 20 (b)   |  | Ring Mail      | 4  | -     | 3 |
| Two-Handed Axe | 15 | 20       |  | Scale Mail     | 6  | -     | 4 |
| Sword          | 13 | 20       |  | Chain Mail     | 10 | -     | 5 |
| Halberd        | 18 | 30 (p)   |  | Plate Mail     | 12 | -     | 7 |

(b) Denotes a Bludgeon: Hit probability is based on Strength, not Dexterity.  
 (p) Denotes a Polearm: May be used to attack over obstacles.  
 (x') Number in parentheses denotes range.

CHART OF SPELLS

|        | SPELL           | EFFECT           | TIME      | REAGENTS                                       |
|--------|-----------------|------------------|-----------|------------------------------------------------|
| 1ST    | An Nox          | cure poison      | anytime   | ginseng, garlic                                |
| CIRCLE | An Zu           | awaken           | combat    | ginseng, garlic                                |
|        | Grav Por        | magic missile    | combat    | ash, pearl                                     |
|        | In Lor          | light            | noncombat | ash                                            |
|        | Mani            | heal             | anytime   | ginseng, silk                                  |
| 2ND    | An Sanct        | unlock           | anytime   | ash, moss                                      |
| CIRCLE | An Xen Corp     | repel undead     | combat    | garlic, ash                                    |
|        | In Wis          | locate           | noncombat | nightshade                                     |
|        | Kal Xen         | call animal      | combat    | silk, mandrake                                 |
|        | Rel Hur         | wind change      | noncombat | ash, moss                                      |
| 3RD    | In Flam Grav    | wall of fire     | dng./com. | peal, ash, silk                                |
| CIRCLE | In Nox Grav     | wall of poison   | dng./com. | nightshade, silk, pearl                        |
|        | In Por          | blink            | anytime   | silk, moss                                     |
|        | In Zu Grav      | wall of sleep    | dng./com. | ginseng, silk, pearl                           |
|        | Vas Flam        | ball of flames   | combat    | ash, pearl                                     |
|        | Vas Lor         | great light      | noncombat | ash, mandrake                                  |
| 4TH    | An Grav         | dispell field    | anytime   | pearl, ash                                     |
| CIRCLE | Des Por         | downward move    | anytime   | moss, silk                                     |
|        | In Sanct        | protection       | anytime   | ash, ginseng, garlic                           |
|        | In Sanct Grav   | protection field | dng./com. | mandrake, silk, pearl                          |
|        | Uus Por         | upward move      | dungeon   | moss, silk                                     |
|        | Wis Quas        | reveal           | combat    | silk, nightshade                               |
| 5TH    | An Ex Por       | magic lock       | anytime   | ash, moss, garlic                              |
| CIRCLE | In Bet Xen      | insect swarm     | combat    | moss, silk, ash                                |
|        | In Ex Por       | magic unlock     | anytime   | ash, moss                                      |
|        | In Zu           | sleep            | combat    | ginseng, nightshade, silk                      |
|        | Rel Tym         | quickness        | combat    | ash, mandrake, moss                            |
|        | Vas Mani        | great heal       | noncombat | ginseng, silk, mandrake                        |
| 6TH    | An Xen Ex       | charm            | combat    | pearl, nightshade, silk                        |
| CIRCLE | In An           | negate magic     | anytime   | garlic, mandrake, ash                          |
|        | In Vas Por Ylem | tremor           | combat    | moss, ash, mandrake                            |
|        | Quas An Wis     | confuse          | combat    | mandrake, nightshade                           |
|        | Wis An Ylem     | xray             | noncombat | mandrake, ash                                  |
| 7TH    | In Nox Hur      | poison wind      | combat    | nightshade, ash, moss                          |
| CIRCLE | In Quas Corp    | fear             | combat    | nightshade, mandrake, garlic                   |
|        | In Quas Wis     | peer             | noncombat | nightshade, mandrake                           |
|        | In Quas Xen     | clone            | combat    | ash, silk, moss, ginseng, nightshade, mandrake |
|        | Sanct Lor       | invisibility     | combat    | mandrake, nightshade, moss                     |
|        | Xen Corp        | kill             | combat    | pearl, nightshade                              |
| 8TH    | An Tym          | time stop        | anytime   | mandrake, garlic, moss                         |

|                    |                |           |                              |
|--------------------|----------------|-----------|------------------------------|
| CIRCLE In Flam Hur | flame wind     | combat    | ash, moss, mandrake          |
| In Mani Corp       | resurrect      | noncombat | garlic, ginseng, silk, ash   |
|                    |                |           | moss, mandrake               |
| In Vas Gav Corp    | cone of energy | combat    | mandrake, nightshade, ash    |
| Kal Xen Corp       | summon         | combat    | mandrake, garlic, moss, silk |
| Vas Rel Por        | gate travel    | noncombat | ash, pearl, mandrake         |

=====

DOCUMENT ultima.v.ltr

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```

O-----O
|                                     |
|               Britannian Writing Key |
|               |Created by Snipper|   |
|               ~~~~~~                |
O-----O
    
```

These won't be the greatest since I have to make them in text-graphics.

-----

| \ = A

-----

| } = B

-----

| \ = C

-----

| X | = D (See Note 2)

-----

| V | = E

-----

| / = F (See Note 1)

-----

| \ = G

-----

| > = H

-----

| = I

-----

| \ / = J

|  
-----

| | = K  
-----

| \ = L  
-----

| | | = M  
-----

| | | = N  
-----

| / = O (See Note 1)  
-----

| < = P  
-----

?  
?  
? = Q  
-----

| \ /  
| \ = R  
-----

| /  
| / = S  
-----

^  
| \ = T  
-----

| \ | = U  
-----

^

/O\  
/ \ = V (See Note 3)  
-----

| \ |  
| \ = W  
-----

| |  
| | = X  
-----

/ \ |  
/ \ = Y  
-----

?  
?  
? = Z  
-----

| |  
| | = EA  
-----

< >  
< > = EE  
-----

| \ /  
| \ = TH  
-----

| \ /  
| \ = ST (See Note 2)  
-----

^  
^  
^  
^  
^  
^ = NG  
-----

Note 1:



In the translation for O, the 'F' shape has a little 'Notch' in the two lines in the 'F' shape. The F is smooth-pointing up.

Note 2:

The "TIE" shape for the letter 'D' has two open spaces in the middle.  
The "TIE" shape for the letters 'ST' have just a long space in the middle.

Note 3:

In the "A" shape in the letter 'V', the top segment is all filled in.

The 'o' is used as a spacing mark in Britannian writing.

|   |   |   |   |  |   |   |   |   |  |  |
|---|---|---|---|--|---|---|---|---|--|--|
| X | / | / |   |  | ° |   |   |   |  |  |
| G | O | O | D |  | L | U | C | K |  |  |

-END-

```
=====
DOCUMENT ultima.v.maps
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```

From the creator of the Wizardry Maps comes...

Ultima V Maps

By Data Man

|        |                            |              |                         |
|--------|----------------------------|--------------|-------------------------|
| Call - | Seventh Star GBBS/STAC/PAE | 305-666-3748 | My board, 5+ years old  |
|        | Shooting Star GBBS/PAE     | 206-838-7686 | Home of PAE, nice board |
|        | University of Piracy       | 415-994-2758 | A Wild and Crazy Place  |
|        | Trade Center               | 206-256-4202 | Be there or not Be.     |

God I hope that is everyone!

Contents

|                        |                        |
|------------------------|------------------------|
| Ultima V Maps Side One | Ultima V Maps Side Two |
| Lord British's Castle  | Serpent's Hold         |
| The City of Yew        | Empath Abbey           |
| East Brittany          | Skara Brae             |
| North Brittany         | Stormcrow Lighthouse   |
| West Brittany          | The City of Minoc      |
| The City of Britain    | The Lycaenum           |
| The City of Cove       | The City of Moonglow   |
| The City of Paws       | Waveguide Lighthouse   |
| The City of Trinsic    |                        |
| Greyhaven Lighthouse   |                        |

That includes all levels of consequence in each city. Each map is a regular 33 sector binary file for viewing with any graphics program. The maps are on Dos 3.3 data disk so they won't boot (3.3 since it will hold exactly 16 pictures per side while a Prodos disks will only hold 11).

Each maps also has a listing on it of the facilities available in each city, such as Provisioner, Armourer, etc... Also are listed any important locations in each town such as Flames, Viewing Rooms, etc...

Below is the listings for each city including the above info and the names of all the inhabitants of the city.

Lord British's Castle

Facilites & Extras

|                         |         |
|-------------------------|---------|
| North Star Armoury      | Level 1 |
| Stable                  | Level 1 |
| Royal Prison            | Dungeon |
| Lord British's Chambers | Level 3 |
| Viewing Room            | Level 2 |
| Kitchen                 | Level 2 |

Items

|                      |         |
|----------------------|---------|
| Harpsicord           | Level 1 |
| Keys                 | Dungeon |
| Ring of Regeneration | Dungeon |
| Black Potion         | Level 3 |
| Scroll An Tym        | Level 3 |
| Magic Carpet         | Level 3 |

Inhabitants

Chuckles the Bumble

Treanna  
 Alistar the Bard  
 Stephen  
 Drudgeworth  
 Desiree  
 Saduj

The City of Yew

Facilities

Provisioner                   Level 1  
 Jail                           Level 1  
 Arms of Justice            Level 1  
 Government Offices        Level 1  
 Apothecary                 Level 1

Items

Silver Sword                 Dungeon

Inhabitants

Madam Pendra  
 Jaana  
 Landon  
 Duclas  
 Greymarch  
 Jerone  
 Felespar  
 Aleyn  
 Mario  
 Judge Dryden  
 Chamfort

East Brittany

Facilities

Shipwright  
 Healers

Items

Two Ren Hur Scrolls  
 Plans for the HMS Cape

Inhabitants

Flint  
 Sir Adam the Torch  
 Master Hawkins  
 Squire Jimmy  
 Milan

North Brittany

Facilities

Inn  
 Stable

Items

Fields of Grain  
 Gems in Tree Trunk

Inhabitants

Thentis  
 Joshua  
 Theoun  
 Kurt  
 Trebor (Wiz IV haunts me still!)  
 Vigil  
 Leos

West Brittany

Facilities

Blue Boar Tavern  
 Graveyard

Items

Fields of Grain

Inhabitants

Phillip  
 Christopher A.K.A. Dibbs  
 Jaymes  
 Camile

Britain

Facilities

Bar  
 Inn  
 Iolo's Bows  
 Orchard

Items

Nothing to steal in this town.

Inhabitants

Terrance  
 Greyson  
 Grennell  
 Gwenno  
 Eb  
 Justin  
 Annon  
 Tika  
 Telila  
 Danya

The City of Cove

Facilities

Temple of Virtue  
 Mysticism Apothecary  
 Healer

Items

Nothing

Inhabitants

Jessica of Sanctuary

Enlor  
 Leona  
 Ava

The City of Paws

Facilities

The Guild  
 Wishing Well Horses  
 The Smuggler's Inn  
 Provisioner

Items

Ring of Invisibility in tree stump

Inhabitants

Glinkie  
 Lorian  
 Donfits  
 Ferru  
 Dr. Cat  
 Bandaii

Trinsic

Facilities

Paladin's Protectorate Armoury  
 Wounds of Honor Healer  
 Horse and Rider Stables

Items

Four Gems Level 2

Inhabitants

Leila  
 Paul  
 Woolfe  
 Hettar  
 Gruman  
 Sindar

Greyhaven Lighthouse

No Facilities

Items

Blue Potion Level 1

Inhabitants

Anthony  
 Lord Kenneth the Composer  
 Chalotte  
 Sir Arbunot  
 David

Serpent's Hold

Facilities

Jail

Siege Crafters Armoury  
 The Flame of Courage  
 Training Room

Items

White Potion Level 2

Inhabitants

Toede  
 Maxwell  
 Monsieur Loubet  
 Gardner  
 Kristi  
 Thol  
 Lord Malone

Empath Abbey

Facilities

Healer

Items

Yellow Potion Level 1

Inhabitants

Hardluck  
 Cory  
 Jessip  
 Barbrea  
 Tim  
 Lord Michael  
 Julia  
 Toshi

Skara Brae

Facilities

Apothecary  
 The Spirit Healers

Items

Yellow Potion Level 1  
 Telescope Level 2

Inhabitants

Temptations  
 Saul  
 Kindor  
 Froed  
 Archmage Flain  
 Saul

Stormcrow Lighthouse

No Facilities

No Items

Inhabitants

Emilly  
Windmere  
  
The City of Minoc

Facilities

Shipwright  
Healers Mission (FREE Healing)  
Mission of the Helpless  
Darkwatch Armoury

Items

Ring of Skull Keys in Tree at NW corner  
Red Potion Level 2  
Scroll In Mani Corp Level 2  
Yellow Potion Level 2  
Scrolls Level 2

Inhabitants

Shenstone  
Foina  
Lady Sahra  
Fenelon  
Rew  
Captain Blythe  
Beggars  
Tactus  
Regima

The Lycaeam

Facilities

Kitchen  
Stable  
Pub  
Healer  
Library  
Flame of Truth

Items

White Potion Level 3

Inhabitants

Rob  
Lady Hayden  
Sir Sean  
Rollo  
Maria  
Lord R'hien  
Lady Janell

Moonglow

Facilities

Provisions  
Herbalist

Items

Black Potion Level 1  
White Potion Level 1  
Scroll KXC Level 1

Scroll AT Level 1  
Purple Potion Level 1  
Torches Level 1  
Leather Armour Level 1  
Ring of Invisi. Level 1

Inhabitants

Don Piatt  
Malik  
Lord Stuart The Hungry  
Zachariah  
Malifora

Waveguide Lighthouse

Facilities

Wishing Well

No Items

Inhabitants

Jaqueline  
Gregory

Well, there you go, that is all the maps I have made so far, if I find many more and there is enough interest I will make them up and send them along. Enjoy them and if you find a mistake, yell at someone else.

-END-

=====
   
DOCUMENT ultima.v.gref
   
=====

FILE: ULTIMA V QREF

Typed by Chief Justice/CtC 3-15-88

COMMAND SUMMARY

-----
   
A Attack           H Hole Up           N New Order        T Talk
   
B Board            I Ignite            O Open             U Use
   
C Cast             J Jimmy             P Push             V View
   
E Enter            K Klimb             Q Quit & Save      X X-It
   
F Fire             L Look              R Ready            Y Yell
   
G Get              M Mix                S Search           Z Z-stats
   
SPACE: Abort, pass turn   Ctrl-S: Sound effects on/off
   
Ctrl-T: System Speed      Ctrl-V: Volume level of music
   
Escape: Exit commands, leave battlefield

WEAPONS

| ITEM              | STONE WEIGHT | ATTACK VALUE | DEFENSE VALUE |
|-------------------|--------------|--------------|---------------|
| Dagger            | 1            | 6 (30')      |               |
| Sling             | 2            | 6 (40')      |               |
| Club              | 3            | 8 (b)        |               |
| Flaming Oil       | 2            | 8 (40')      |               |
| Main Gauche       | 3            | 8            | 1             |
| Spear             | 4            | 10 (50')     |               |
| Throwing Axe      | 6            | 10 (40')     |               |
| Short Sword       | 5            | 12           |               |
| Mace              | 7            | 15 (b)       |               |
| Morning Star      | 8            | 15 (b,p)     |               |
| Bow               | 8            | 10 (70')     |               |
| Crossbow          | 6            | 12 (80')     |               |
| Long Sword        | 9            | 15           |               |
| Two-Handed Hammer | 16           | 20 (b)       |               |
| Two-Handed Axe    | 15           | 20           |               |
| Sword             | 13           | 20           |               |
| Halberd           | 18           | 30 (p)       |               |

ARMOUR

| ITEMS          | STONE WEIGHT | ATTACK VALUE | DEFENSE VALUE |
|----------------|--------------|--------------|---------------|
| HELMS          |              |              |               |
| Leather Helm   | -            | -            | 1             |
| Chain Coif     | 1            | -            | 2             |
| Iron Helm      | 2            | -            | 3             |
| Spiked Helm    | 3            | 4 (b)        | 3             |
| SHIELDS        |              |              |               |
| Small Shield   | 2            | -            | 2             |
| Large Shield   | 3            | -            | 3             |
| Spiked Shield  | 4            | 6 (b)        | 3             |
| ARMOUR         |              |              |               |
| Cloth Armour   | -            | -            | 1             |
| Leather Armour | 2            | -            | 2             |
| Ring Mail      | 4            | -            | 3             |
| Scale Mail     | 6            | -            | 4             |
| Chain Mail     | 10           | -            | 5             |

(b) Denotes a Bludgeon: Hit probability is based on Strength, not Dexterity.
   
(p) Denotes a Polearm: May be used to attack over obstacles.
   
(x') Number in parentheses denotes range.

CHART OF SPELLS

|        | SPELL           | EFFECT           | TIME      | REAGENTS                                       |
|--------|-----------------|------------------|-----------|------------------------------------------------|
| 1ST    | An Nox          | cure poison      | anytime   | ginseng, garlic                                |
| CIRCLE | An Zu           | awaken           | combat    | ginseng, garlic                                |
|        | Grav Por        | magic missile    | combat    | ash, pearl                                     |
|        | In Lor          | light            | noncombat | ash                                            |
|        | Mani            | heal             | anytime   | ginseng, silk                                  |
| 2ND    | An Sanct        | unlock           | anytime   | ash, moss                                      |
| CIRCLE | An Xen Corp     | repel undead     | combat    | garlic, ash                                    |
|        | In Wis          | locate           | noncombat | nightshade                                     |
|        | Kal Xen         | call animal      | combat    | silk, mandrake                                 |
|        | Rel Hur         | wind change      | noncombat | ash, moss                                      |
| 3RD    | In Flam Grav    | wall of fire     | dng./com. | peal, ash, silk                                |
| CIRCLE | In Nox Grav     | wall of poison   | dng./com. | nightshade, silk, pearl                        |
|        | In Por          | blink            | anytime   | silk, moss                                     |
|        | In Zu Grav      | wall of sleep    | dng./com. | ginseng, silk, pearl                           |
|        | Vas Flam        | ball of flames   | combat    | ash, pearl                                     |
|        | Vas Lor         | great light      | noncombat | ash, mandrake                                  |
| 4TH    | An Grav         | dispell field    | anytime   | pearl, ash                                     |
| CIRCLE | Des Por         | downward move    | dungeon   | moss, silk                                     |
|        | In Sanct        | protection       | anytime   | ash, ginseng, garlic                           |
|        | In Sanct Grav   | protection field | dng./com. | mandrake, silk, pearl                          |
|        | Uus Por         | upward move      | dungeon   | moss, silk                                     |
|        | Wis Quas        | reveal           | combat    | silk, nightshade                               |
| 5TH    | An Ex Por       | magic lock       | anytime   | ash, moss, garlic                              |
| CIRCLE | In Bet Xen      | insect swarm     | combat    | moss, silk, ash                                |
|        | In Ex Por       | magic unlock     | anytime   | ash, moss                                      |
|        | In Zu           | sleep            | combat    | ginseng, nightshade, silk                      |
|        | Rel Tym         | quickness        | combat    | ash, mandrake, moss                            |
|        | Vas Mani        | great heal       | noncombat | ginseng, silk, mandrake                        |
| 6TH    | An Xen Ex       | charm            | combat    | pearl, nightshade, silk                        |
| CIRCLE | In An           | negate magic     | anytime   | garlic, mandrake, ash                          |
|        | In Vas Por Ylem | tremor           | combat    | moss, ash, mandrake                            |
|        | Quas An Wis     | confuse          | combat    | mandrake, nightshade                           |
|        | Wis An Ylem     | xray             | noncombat | mandrake, ash                                  |
| 7TH    | In Nox Hur      | poison wind      | combat    | nightshade, ash, moss                          |
| CIRCLE | In Quas Corp    | fear             | combat    | nightshade, mandrake, garlic                   |
|        | In Quas Wis     | peer             | noncombat | nightshade, mandrake                           |
|        | In Quas Xen     | clone            | combat    | ash, silk, moss, ginseng, nightshade, mandrake |
|        | Sanct Lor       | invisibility     | combat    | mandrake, nightshade, moss                     |
|        | Xen Corp        | kill             | combat    | pearl, nightshade                              |
| 8TH    | An Tym          | time stop        | anytime   | mandrake, garlic, moss                         |
| CIRCLE | In Flam Hur     | flame wind       | combat    | ash, moss, mandrake                            |
|        | In Mani Corp    | resurrect        | noncombat | garlic, ginseng, silk, ash                     |
|        | In Vas Gav Corp | cone of energy   | combat    | moss, mandrake, mandrake, nightshade, ash      |
|        | Kal Xen Corp    | summon           | combat    | mandrake, garlic, moss, silk                   |
|        | Vas Rel Por     | gate travel      | noncombat | ash, pearl, mandrake                           |

-END-

```
=====
DOCUMENT ulyssis
=====
```

```
*****
* --* ULYSSES & THE GOLDEN FLEECE *--*
*
*           BY
*
*       BSBAL THE WISE
*
*           &
*
*       MICHAEL DECAYE
*
*****
```

<<<WARNING>>> THIS TELLS EXACTLY HOW TO SOLVE 'HIRES ADVENTURE #4: ULYSSES AND THE GOLDEN FLEECE'. THIS IS NOT A HINT SHEET.

NOTE: (PARANTHESIS) INDICATE A DIRECTION TO MOVE. <BRACKETS> INDICATE AN ACTION -AND THESE- INDICATES A FOOTNOTE

START:

```
(E,S,S,E,E,N)
<GET CHEST>
-YOU CAN'T OPEN THE CHEST YET, YOU'LL NEED THE MAGIC WORD-
(W,S,W,N,N,W,S,W,W,W)
<SAY YES>
-THE GUARD ASSUMES YOU MEAN THAT YOU HAVE AN APPOINTMENT,
OTHERWISE, YOU MAY WAIT AROUND UNTIL YOU GET KICKED OUT-
<BOW>
(E,E,N,W)
<BUY WINE>
<BUY ROPE>
<BUY WAX>
<BUY WOOD>
<BUY SWORD>
<BUY LEATHER>
<BUY FLINT>
-IF YOU READ THE SIGN YOU WILL NOTICE THAT YOU CAN BUY A
LANTERN. BUT IF YOU DO, YOU WILL NEVER FINISH THE ADVENTURE.-
(E,N,W)
<DROP CHEST>
(S)
-IF YOU TAKE THE CHEST IN THE BACK ALLEY, YOU WILL BE ROBBED-
<GET COIN>
(N)
<HIRE CREW>
-YOU NEED THE CREW TO SAIL THE SHIP-
(E)
<GIVE COIN>
-ARE YOU TRYING TO BRIBE A GUARD?!?-
<YES>
<GET NOTE>
-FROM THE BOTTLE, OF COURSE-
(E,N)
<CAST OFF>
(N,W)
<GET BAG>
-IF YOU GO NORTH FROM HERE, YOU WILL LOSE ALL YOUR STUFF-
(E,S,E)
<GET CONDOR>
-POOR BIRD-
```

```
(E)
-THE NEXT SET OF DIRECTIONS ARE FROM THE MAP:-
(N,N,E,S,W,S,W,S,E,N,E,N,E,E)
<GO ISLAND>
(E,S,S)
<GET BRIDLE>
-I WONDER WHO THE BRIDLE IS FOR?
(E,S)
<LOOK HOLE>
<GET DUST>
-DON'T SNORT IT!-
(N,W,N,N,N,N,U,N,E,N)
<GET WATER>
-IT'S MAGICAL-
(S,N,D,S,S,E,E,S,E)
-YES,SOUTH THEN NORTH, YOU DON'T END UP IN THE SAME SPOT-
<TIE LEATHER>
<TO LEATHER>
<THROW LEATHER>
-IF YOU THROW ANYTHING ELSE, YOU WILL LOSE IT DOWN THE FJORD-
(E,N,E,N)
<GIVE JEWELS>
-DRAGONS ARE SO GREEDY-
(N,E,E,N)
<PLUCK CONDOR>
<USE WAX>
<AND FEATHERS>
<FLY>
<GET ROCK>
<GET REINS>
-I WONDER WHO THE REINS ARE FOR-
(D,W,W,S)
<THROW DUST>
-OUCH!-
(E,S,E,E)
<POUR WINE>
<ON ME>
(S,E)
<GO HOLE>
(S,W)
<GO SHIP>
(N,N,W,N,N)
<POUR WATER>
<IN OCEAN>
-POSIDON IS ALLERGIC TO WATER-
(N,E,E,N)
<TIE ROPE>
<TO ME>
-DO YOU WANT TO BE TIED TO THE MAST?-
<YES>
<HOLD WAX>
-TO SOFTEN IT UP-
<WAX EARS>
-PUT THE WAX IN THE CREWS' EARS, OR THEY WILL BE DRAWN TO THE
SIRENS. STRANGE POEM, REMEMBER THE LAST VERSE-
(W,N,N,W,N,N,N)
<GO ISLAND>
(W,W,N)
<LOOK TREE>
<READ CARVING>
-NOTICE HOW THE CARVINGS CHANGE
FROM 'SEVENSEAS' TO 'SVEENSEAS'
(E,E,N,E,N)
-HMM, YOUR MEN SEEM HUGRY-
(W)
<OPEN CAGE>
<GET MALLET>
(E,E,S,E,N)
```

```

<GIVE WINE>
-CYCLOPS LIKE WINE. WHAT DO YOU NEED TO MAKE MORE WINE?->
<GRAPES>
<GET TRUNK>
<SHARPEN TRUNK>
-THE CYCLOPS WILL RETURN SOON-
<MAKE WINE>
<MAKE WINE>
<MAKE WINE>
<MAKE WINE>
<USE TRUNK>
<IN EYE>
-HOW MEAN-
<KILL SHEEP>
-THE SHEEP WILL STILL RUN OUT OF YOUR REACH EVEN THOUGH THEY
ARE DEAD, STRANGE-
<START FIRE>
<COOK SHEEP>
<EAT SHEEP>
-YOUR MEN WOULD'VE EATEN YOU,HAD YOU NOT FOUND THE SHEEP-
(S,S,E,N)
-NOW YOU GET TO OPEN THE CHEST-
<SAY ECEELF>
<LOOK CHEST>
<GET SWORD>
<KILL SKELETONS>
<WITH SWORD>
(E,N,N)
-DID YOU REMEMBER WHAT THE SIRENS SANG?
<SUPPELTUDE>
(N)
<GIVE REINS>
<GIVE BRIDLE>
<USE HAMMER>
<MOUNT HORSE>
<GET FLEECE>
<MOUNT HORSE>
(W)
<YES>
-SAME GUARD-
<GIVE FLEECE>

```

THE KING DELIGHTEDLY TAKES THE THE FLEECE. HE AWARDS YOU A KINGDOM OF YOUR OWN AND 300 BAGS OF GOLD.

CONGRATULATIONS!!!!!!!!!! YOU HAVE SUCCESSFULLY COMPLETED "ULYSSES AND THE GOLDEN FLEECE" AND ARE HEREBY DECLARED A LEVEL-2 ADVENTURER.

```

=====
DOCUMENT unify
=====

```

The Screamer  
June 1, 1987

Unify - A Unidisk Checksum Utility version 1.1

Well this new Unify 1.1 has several errors corrected in it and also some needed improvements.

The main function of this program is to be able to check and make sure that the disk you have received (via modem) is exactly like the original that was sent to you. Although Unify 1.0 was not used often, I hope that this one fairs better as I have had many many bad transfers - if I would have had a UNI.CHK.xxxx file then I would have been able to find this out after unpacking and then get the "bad blocks" over again.

New features:  
-----

- Fully supports multiple drives, and auto-ejects disks for single drive users.
- Now has the capability to Save and Patch a range of blocks, simply specify the starting and ending and Unify will do the rest, including prompting you for disk swaps if necessary.
- Now a "SYS" (SYSTEM) file.
- Faster in speed and also now has the option do not display the blocks and checksums to even further the speed. Approximately three times faster.

Options:  
----- The following documentation will describe, in detail, how to operate Unify.

Main Menu options:

- [S] Save a Block
- [P] Patch a Block
- [U] Unify a disk
- [A] Auto-Unify a disk
- [C] Change slots, drives
- [Q] Quit

Save a Block:

----- Upon selecting this option you will be asked if you wish to [S] Save Selected Blocks or a [R] Range of Blocks. If you only wish to save single blocks or non-consecutive blocks then select "S", if you want to save a consecutive range of blocks (ie: from 100-110) then select "R" to save a range. After choosing an option you will be prompted for the block number to save (or the starting block number and the ending block number for a range). Unify will then read in the block you specified from the source drive and save it under the name of UNI.BLK.xxxx where xxxx is the block number on the target drive.

Patch a Block:

----- Upon selecting this option you will also be asked if you wish to [S] Save Selected Blocks or a [R] Range of Blocks. The Selected Blocks and Range of Blocks are exactly as mentioned in the Save a Block option. After choosing an option you will be prompted for the block number to patch (or the starting block number and ending block number

for a range). Unify will then read in the UNI.BLK.xxxx file from the source drive, where xxxx is the block number, and then patch the target disk.

Unify a Disk:

----- This is perhaps the most important option of Unify, it allows you to Unify a disk and then saves a file UNIFY.name which holds all of the checksums for each block of the disk. This is done so that you can upload the UNIFY.name file along with the ware and when people download it they can use Unify to check to see if their copy matches your copy (Auto-Unifying). If you do not want to save a UNIFY.name file then press ESCAPE. When selected Unify asks you if you wish to output the blocks and checksums to the screen, if you select yes then each block and corresponding checksums will be printed out on your screen, if you select no Unify will tell you to please wait and will Unify the disk without printing any blocks or checksums to the screen (selecting no will speed up Unifying the disk).

Auto-Unify a disk:

----- This option is for checking a disk against a UNIFY.name file. If you suspect you have a bad copy then use Unify to Auto-Unify your disk against the UNIFY.name file and Unify will notify you of any non-matching blocks (or if you're copy is perfect). If there are some bad blocks then you may print them out to any slot or your screen (slot 0) by pressing the slot to dump to. The output is formatted for 80 column printers, and can also print out to an 80 column card as well.

Change slots and drives:

----- This option allows you to change the slots and drives Unify is set up for. SRC denotes the source and TRG denotes the target, the source is always the first asked for disk. A RAMdrive works fine with Unify, but Unify does not support subdirectories. All files, being saved or loaded, must be on the main root directory (ie: not within any subdirectories).

Quit:

----- Well this is pretty self-explanatory, when selected Unify will either exit into BASIC (if BASIC.SYSTEM has been loaded) or will exit via a ProDOS quit call if BASIC.SYSTEM has not been loaded.

Closing Comments:

----- Unify works on ALL Apple's which can handle ProDOS, if you cannot display lowercase simply press ^A at the main menu and everything will then be formatted for uppercase only. Unify works with just about all versions of ProDOS (including ProDOS 8) and also works perfect with Diversi-Cache for speeding up disk access.

-END-

=====
DOCUMENT universe.1
=====

-----+-----+
| Universe Documentation |
| Part 1A |
-----+-----+

-----+-----+
| A T-Men & Wareforce Dox File |
-----+-----+

-----+-----+
| Typed up by |
| The Camel Jockey |
-----+-----+

-----+-----+
| Special Thank to |
| Silicon Warrior |
| & |
| A.P.G |
-----+-----+

-----+-----+
| Written for |
-----+-----+

-----+-----+
| How to Operate Your Starship |
-----+-----+

-----+-----+
| Hyperdrive |
-----+-----+

Theory of Operation:

The hyperdrive is a propulsion system that allows travel at faster-than-light speeds by pusing the spacecraft into an alternate dimension-set called hyperspace. Once in hyperspace, the spacecraft is no longer subject to the rules which govern motion in normal space. Due to the chaotic nature of hyperspace, the aiming system used in reentry is only accurate enough to return the user to a particular star, not a particular planet.

Application:

The hyperdrive is used to trancel between startsystems. It is not accurate enough to use for interplanetary travel. Hyperdrive motors are equipped with the special feature, overload. Overloading the hyperdrive will destroy any other ships within a 50,000 meter radius. It should only be used for emergencies, since it severly damages your hyperdrive.

Warnings:

Never attempt to operate the hyperdrive with an orbital radius of less than 20,000 kilometers or damage may result.
Never attempt to make trips of less than 1 light-year; i.e., 0 light-years, as damage may result.

-----+-----+
| Sub-Light Drive |
-----+-----+

Theory of Operation:



The sub-light drive comes in several different forms. some depend on ejecting matter at very high velocities while others use controlled gravity to drive the ship forward in space. Due to the speed of light being an absolute limit on anything traveling in normal space, a trip between even the closest of starsystems would take years using sup-light drive.

Applications:

The sub-light drive is used for travel between planets in the same starsystem and maneuvering between objects in orbit about a planet.

```
+-----+
| Bridge |
+-----+
```

Theory of Operation:

The bridge is the section of the ship where the captain resides.

Application:

The bridge is not actually featured in the game except that it is assumed the captain is in it while giving commands.

Warning:

The ship is destroyed and the game ends if bridge damage goes below 1 damage point.

```
+-----+
| Accumulators |
+-----+
```

Theory of Operation:

The accumulators are the intermediate storage area between power generation and consumption. They are nothing more than high-efficiency large-capacity batteries. Converters can only provide a slow, steady current while some application, such as using the hyperdrive, require brief bursts of enormous power. The accumulators can provide this capability by storing power over a period of time and releasing it instantly.

Application:

Power flow through the accumulators is automatic.

```
+-----+
| Converter |
+-----+
```

Theory of Operation:

The converter trancsforms Ore IV (a radioactive isotope of hydrogen) into electrical energy.

Application:

The converter operates automatically any time the power leve in the accumulators is less than the power required for a particular job. When the converter is running, it produces a low "whirring" sound. If there is not enough Ore IV for the amount of power required, the computer will beep rapidly and fail to complete its current job. The converter will automatically deplete your Ore IV supply.

Warning:

The ship is destroyed and the game ends if converter damage goes below 1 damage points.

```
+-----+
| Docking Adapter |
+-----+
```

Theory of Operation:

Attached to the exterior of the ship, the docking adapter seals around the outside of another ship's airlock. this allows transfer of goods and personnel to be conducted without the need of breathing equipment.

Applications:

the adapter is used to transfer bouading troops into a target ship and transfer captured goods back to the attacking ship. It is automatically used when you are boarding another spacecraft in the Weapons section.

```
+-----+
| Inertial Compensator |
+-----+
```

Theory of Operation:

The inertial compensator creates a localized internal gravity field in the spacecraft.

Application:

A sup-light drive will produce sufficient acceleration to squash the crew inside a spacecraft. The inertial compensator protects the crew from the effects of acceleration by creating an artificial internal gravity field that protects the crew from acceleration.

Note:

If you do not have an inertial compensator, your maximun acceleration will be limited to 3 gravities.

```
+-----+
| Orbital Scanner |
+-----+
```

Theory of Operation:

The orbital scanner is a sophisticated radar that detect objects spacecraft-size bodies on a solar scale. It cannot generate a picture or discern particular features of an object, it can only tell if something is there.

Application:

The scanner is used to find drydock, high resolution scanning targets, attacking spacecraft, planets orbiting about a star, and the spacecraft's position in space.

Important:

The user must be within range of a scanning beacon to produce an orbital scan. The scanning beacon is a satellite located at an orbital radius equal to five times the radius of the planet.

```
+-----+
| Resource Scanner |
+-----+
```

Theory of Operation:

The resource scanner is used to scan planetary surfaces for traces of Ores I-IV and indicate optimum mining sites.

Application:

The resource scanner is automatically switched on when the user begins mining sites and displays ore concentration, natural hostility, and population sophistication data on each one. This enables you to select the site with the best danger of payoff ratio.

```
+-----+
| High Definition Scanner |
+-----+
```

Theory of Operation:

The high definition scanner uses a large part of the electromagnetic spectrum in order to produce a highly detailed picture of an object and an account of the spacecraft's most probable configuration.

Application:

The high definition scanner can be used to determine whether a particular target presents a threat. It can also be used to find choice targets to board and plunder.

```
+-----+
| Missile Rack |
+-----+
```

Theory of Operation:

A term referring to the system of racks, conveyors, and lifts used to bring missiles from its storage area into firing position.

Application:

The storage of missiles occurs automatically as they are purchased.

Warning:

If the missile rack is destroyed, all your ship's missiles will be lost.

```
+-----+
| Missile Launcher |
+-----+
```

Theory of Operation:

The missile launcher launches the missiles and provides primary course guidance.

Application:

Operation of the missile launcher occurs automatically as firing is requested.

```
+-----+
| Laser |
+-----+
```

Theory of Operation:

The lasers used as weaponry are the flexible-aperture micropulse type. They emit intense beams of coherent light to blind or puncture enemy targets.

Application:

The laser can be used for defense or offense against targets in orbit. Note that the laser cannot be aimed at ground targets (it diffuses and becomes ineffective) or at drydocks (programmed inhibition).

```
+-----+
| Shield Generator |
+-----+
```

Theory of Operation:

The shield generator contains a very fast scanner that checks space around the ship for incoming fire. Within 10 millionths of a second after the scanner detects and incoming object or energy beam, the shield generator shoots a pulse of intense gravity. The gravity either destroys the object, as in the case of a missile, or it distorts and diffuses it, as in the case of a laser beam.

Application:

Functioning of the shield generator is automatic and occurs whenever you are fired upon. The shield may only be able to stop a fraction of the incoming fire.

```
+-----+
| Electronic Countermeasure |
+-----+
```

Theory of Operation:

Electronic warfare dates back to the late Twentieth Century (Common Era) and the basic elements are still the same. Electronic countermeasure, or ECM, is the process of jamming your opponent's tracking radar and missile guidance systems. This dramatically reduces the odds of an incoming missile hitting your ship.

Application:

The ECM will automatically jam missiles as they come in.

```
+-----+
| Assault Capsules |
+-----+
```

Theory of Operation:

Assault capsules are electro-gravitationally driven space shuttles used to land troops on the surface. They are heavily armored and contain two or more VoigtEffect cannons.

Application:

The assault capsule is used to clear a hostile area prior to deployment of ore processors.

```
+-----+
| Crew Armor |
+-----+
```

Theory of Operation:

Crew armor is used to protect the crew from injury and supply additional speed and payload capacity during boarding or ground assaults.

Application:

The computer will automatically ask you for armor when it is needed. You may have only one unit of armor per crew member.

```
+-----+
| Ore Processor |
+-----+
```

Theory of Operation:

An ore processor is a gaint mining platform that can land on the surface of habitable and airless worlds. It has no defense capability and its mining lies

```
ld | +-----+
```

Theory of Operation:

The cargo hold stores up to eighty (80) items of varying size in an atmosphere controlled enviornment.

Application:

Cargo is automatically stored in the cargo hold.

Warning:

If the cargo hold is destroyed, all the cargo inside is lost.

```
+-----+
| Cryogenic Vault |
+-----+
```

Theory of Operation:

The cryogenic vault is a low-temperature (98 degrees K) storage area for passengers and prisoners. Putting non-essential personnel into suspended animation greatly reduces operating costs and accomodations size. A person entering the vault it pumped full of cryo-protectant and his body temperature is reduced to that of liquid nitrogen. The thawing precess i rapid and a certain percentage of revivals fail.

Application:

The cryogenic vault can be used most profitable to carry emigrants to other worlds. Many planets need hard-working immigrants. Underpopulated worlds encourage immigration with kickbacks to transport captains such as yourself. Passengers are placed into the cryogenic vault automatically after returing from a Starport or completing a ship-to-ship boarding in Weapons.

Note:

To find the loading status of the cryogenic vault, check the miscellaneous section of Report Status and look under the heading of "passengers."

```
+-----+
| Orbital Shuttle |
+-----+
```

Theory of Operation:

The orbital shuttle is an electro-gravitic transport used for starport-to-ship operations.

Application:

The orbital shuttle is used to carry cargo, migrants and ore to and from starports.

Warning:

Orbital shuttles have extremly limited range, usually less than 1500 kilometers. It is necessary to manuever your spacecraft in an extremely low orbit to facilitate their use.

```
+-----+
| Autodoctor |
+-----+
```

Theory of Operation:

The atuodoctor is a complex medical computer/robot able to diagnose and tread a myriad of illnesses and injuries.

Application:

The autodoctor is used to heal boarding casualties only. It will operate automatically whenever you are running the Boarding section of Weapons.

```
+-----+
| Ore Storage |
+-----+
```

Theory of Operation:

Ore storage is the series of compartments where ore is stored on your ship.

Application:

Ore is automatically placed and removed in the section of the ship.

```
+-----+
| Crew Quarters |
+-----+
```

Theory of Operation:

The crew quarters are the section of the ship which contain the sleeping, food preparation, recreation, and sanitary facilities for the crew.

Application:

Crew usage of these facilities is automatic.

```
+-----+
| Rescue Pods |
+-----+
```

Theory of Operation:

Rescue pods are a collection of 50 to 200 small plastic spheres, each with a 2 hour air supply.

Application:

Rescue pods are used for mass personnel transfer without the need for a docking adapter.

```
+-----+
| Computer |
+-----+
```

Theory of Operation:

A machine which precesses data using predefined instructions which are provided by the programs kept in mass storage.

Application:

The computer is used to control many of the systems on the ship. A particular program is required for a particular system.

Warning:

The ship is destroyed and the game ends if computer damage goes below 1 damage point.  
tem.

Warning:

The ship is destroyed and the game ends if computer damage goes below 1 damage point.

=====
DOCUMENT universe.2
=====

+-----+
| Universe Documentation |
| Part 1B |
+-----+

+-----+
| A T-Men & Wareforce Dox File |
+-----+

+-----+
| Typed up by |
| | The Camel Jockey |
+-----+

+-----+
| Special Thank to |
| | Silicon Warrior |
| & |
| A.P.G |
+-----+

+-----+
| Written for |
+-----+

+-----+
| Navigation and Orbits |
| & |
| Operation of the On-board |
| Computer |
+-----+

+-----+
| Navigation & Orbits |
+-----+

The area of space containing the Local Group is divide into a cubic volume of space 200 light years on a side. Appendix A contains a list of stars and their coordinates within this cube. Note that the home star of the Local Group, Hope, lies at the center of the cube.

Navigation from star to star is accomplished using hyperspace. The X, Y, and Z coordinates of your destination are fed to the hyperspace navigation program and the rest is handled by the computer. A hyperspace jump, regardless of the distance, takes 6.8 days.

Navigation within a solar system is accomplished using sub-light engines. In order to move from planet to planet, you need to feed te sub-light navigation program the current coordinates of the planet. Since plantes move, their locations cannot be presented in a table. Rather, the current coordinates of a destination planet can be obtained from the solar scan in the sub-light drive section. The coordinates for a planet are given in spherical coordinates, with one slight modification.

When arriving at a planet, you are placed into a standard orbit which is to be defined as an orbit with a radius four times the radius of the planet. All other coordinates for the orbit are zero.

Changing planetary orbits are also accomplished using sub-light engines. For planetary orbits, it is necessary to feed the sublight navigation program the coordinates for the new orbit.

+-----+

| Operation of the On-Board Computer |  
+-----+

The computer system aboard your ship consists of a computer processor and a mass storage unit. These units work together to perform all computer activities aboard your ship. The mass storage unit stores the programs, while the computer processor executes them.

There are ten computer programs that you may purchase to run on your computer. Two of these programs, sub-light navigation and hyperspace navigation, are absolutely essential to operate your ship. The following is a description of each of the ten programs:

+-----+  
| Weapon |  
+-----+

Controls the loading and aiming of missiles and lasers.

+-----+  
| Autofire |  
+-----+

This program is not currently implemented.

+-----+  
| Amphibious Assault |  
+-----+

This program controls the descent and deployment of assault capsules. It must be running for assault capsule use.

+-----+  
| Defense |  
+-----+

The Defense program causes systems aboard your ship to emit random radio-pulses in an effort to confuse incoming missiles.

+-----+  
| Resource |  
+-----+

Controls scanning of a planet surface for valuable ores. Must be used to land ore processors.

+-----+  
| Docking |  
+-----+

Performs all computations necessary in order to dock your ship with either another ship or a drydock. Docking attempts will not be allowed if this program is not running.

+-----+  
| Shuttle Control |  
+-----+

Controls the ascent and descent of orbital shuttles. Must be running to land orbital shuttles.

+-----+  
| Sub-c Navigation |  
+-----+

Performs all computations necessary in order to execute a sub-light maneuver. In addition, this program actually controls the ship attitude and engine thrust to

make the maneuver totally automatic. If this program is not running, no sublight maneuvers will be permitted.

+-----+  
| Hyperspace Navigation |  
+-----+

Performs all computations necessary in order to execute a hyperspace jump. If this program is not running, no hyperspace travel will be permitted.

+-----+  
| Market |  
+-----+

Analyzes the cargo aboard your ship to determine the category (ie. food, narc, arti) of each piece. If this program is not running, you will not be able to determine the category of each piece of cargo.

Each of these programs has a characteristic called timeshare. This is the amount of time-space the program occupies in the computer processor and mass storage. Appendix D contains a list of programs and their timeshare values. For instance, the resource program takes up two timeshare units. From Appendix C, under processors, you can see that the Alkis 2 processor can hold up to 12 timeshare units. This means that the Resource program consumes 2/12 of the processor space. Also from Appendix C, under Mass Storage, you can see that the Skandis unit can store up to twenty-five timeshare units. Thus the resource program consumes 2/25 of the storage space. It is important to note however, that processor space is only used when program is running. Storage space on the other hand is used regardless of the run state of the program.

A program in mass storage has three characteristics: Status, Load State, and Priority. All three of these characteristics can be viewed or changed by you at any time in the Program Control section.

The status of a program may either be "run" or "halt". If the status is read or set to "run", the program is in operation and uses up processor space. A "halt" condition suspends execution and frees up processor space. The status condition does not affect storage space.

The load state of a program may either be "auto" or "manual". If a program is set to manual, the status of that program can only be changed by you. A program in auto can have its status changed by the computer itself. For instance, if the hyperspace navigation program were in a halt status with auto load, the computer could begin executing that program if needed. If you attempt to plot a hyperspace jump, the computer will run the program automatically without your having to change the status manually.

The priority value of a program is only meaningful if the program is set on auto load. Priority values range from zero to nine, with nine having the highest priority. If the computer encounters the need to run a program which is set to auto load, it will first check if there is enough free space in the processor. If there is, it will simply go ahead and execute the program. If not enough free space exists, the computer will attempt to halt another auto load program. The only auto load program the computer will halt are programs with the same or lower priority than one it is trying to run. If the computer cannot free up enough space, it will abort the attempt.

dangerous and tedious. The worst disadvantage for the beginning merchant is the enormous start-up cost. The equipment required for a reasonably profitable mining expedition comes to well over 50,000 credits.

===== DOCUMENT universe.3 =====

|                                                                                         |
|-----------------------------------------------------------------------------------------|
| Universe Documentation<br>Part 1C                                                       |
| A T-Men & Wareforce Dox File                                                            |
| Typed up by<br>The Camel Jockey                                                         |
| Special Thanx to<br>A.P.G & Silicon Warrior                                             |
| Written for                                                                             |
| Commerce in the Local Group<br>&<br>Using Menus<br>&<br>Soung Effects and Their Meaning |

## | Trading |

The object of trading is to buy an item on a world where it is commonplace and relatively inexpensive and bring it to a world with a slightly lower sophistication and run the price up 250%. Multiply that by the 80 products you can carry at a time and you can see the amount of profit involved in a successful trip.

A Starport will offer products only within the range of numbers that have the same ten digit as the port's sophistication. Example, if Grotto's starport has a sophistication of 76, it will offer products that range in sophistication from 70 to 79 (notice these all start with the same tens digit).

The value of a product is based on its sophistication and its base price (a value you will never know exactly). If the product has a base price of 7000 and a sophistication of 73, on Grotto it would sell for approximately 6500 credits. Contrawise, if a product has a base price of 7000 and a sophistication of 79, it would sell for about 7500.

Other merchants at a starport will buy products that are up to 9 sophistication points greater than the starport's sophistication of 85, merchants at the Grotto starport will buy it.

The best method of trading is to buy products with a sophistication slightly less than the sophistication of the starport of the starport you are at. For example, merchants on Grotto are trying to get rid of a product with a sophistication of 73, because on Grotto it's not current technology. You buy that product for a reduced price and bring it to the Stowe starport (sophistication = 67) where it's suddenly the latest thing! Plan on making a 250% profit.

You must take into account a planet's culture as well as its sophistication. On Rouvchorra (culture = 4 Formation f Aristocratic States), for example, many product types are illegal and will be confiscated if you try to bring them down to the starpost. Consult Appendix G to make sure none of the types of products you bring down to a planet are illegal.

## | Passenger Transport |

Some planets in the Local Group have a surplus of people. Other planets are rapidly expanding and need all the manpower they can get. The object of passenger transport is to take people from a planet in the former category and take them to a planet in the latter.

Planets offering emigrants will actually pay you to take people away. Planets that need people will pay you for immigrants. The problem is that many cultures do not accept transportees and all of them want people who are at least 1 and no more than 10 sophistication points greater that of the planet.

Transport captains can expect over 1000 credits per passenger on a well-planned run.

## | Piracy |

In orbit above many of the planets, complete anarchy is the rule. Properly armed, you can profit from this situation. To capture another spacecraft, however, is a long and dangerous process. You must carefully analyze your target and be able to outmaneuver it into a forced docking. Your troops must be stronger and better equipped than your target's to successfully capture it. Once captured, though, the

In the Local Group, the basic currency is the credit. The credit is fixed by the Interworld Trade Commission as being equivalent in value to one unit of Ore IV. This frees the interstellar trader from the problems of barter and exchange difficulties usually found between currencies. Since Ore IV is a common substance but tedious to refine, it provides a stable monetary base.

One of your primary goals, as an interstellar merchant, is to earn money. The four major sources of revenue available to you are: mining, trade in products, passenger transport, and piracy.

## | Mining |

Mining is a fairly straightforward way of earning or actually producing money. It requires at least one ore processor, a resource scanner, a resource program for your computer, and many crewman. In addition, depending how intent you are in your pursuit of ore, you may need a few assault capsules and their various operating paraphernalia.

Once the ore has been mined and refined, you bring it to a starport money exchange where it is converted into credits.

The disadvantages of mining are numerours. The success of a trip out to a mining world depends on how rich the deposits ore are. The process of mining ore is very

ship's entire crew are your prisoners, all their credits and ore are yours, and all their cargo. But only if you live.

```
+-----+
| Using Menus |
+-----+
```

The Flight and Starport disks are "menu drive". This means that all sections are accessed by selecting the section from a menu (or list) of sections on the screen. When a menu is displayed on the screen, you will see a pointer that points to one of the sections on the menu. This pointer may be moved from section to section by pressing the option key. To run a section, you must first use the option key to move the pointer to that section. Pressing the select key will then run the section. To exit a menu and return to the previous menu (if any), press the start key. This procedure is used for all menus in the game.

```
+-----+
| Sound Effects and their Meanings |
+-----+
```

There are several sound effects that are used throughout Universe. These are detailed as follows:

```
+-----+
| Ship Under Attack |
+-----+
```

If your ship is hit by an enemy weapon, you will hear a sound that resembles an explosion. When this sound occurs, one of the parts aboard your ship may take some damage or be destroyed. Upon hearing this noise, you should either transfer to a different orbit (in an attempt to escape the attacker) or fire back.

```
+-----+
| Ore Converters in Use |
+-----+
```

Whenever the ore converters run, you will hear a whirring sound. This sound will last from a few seconds to as long as a minute, depending on how much ore is being converted. A few short beeps will occur if you run out of ore during the conversion process.

```
=====
DOCUMENT universe.4
=====
```

```
+-----+
| Universe Documentation |
| Part 2 |
+-----+
```

```
+-----+
| A T-Men & Wareforce Dox File |
+-----+
```

```
+-----+
| Typed up by |
| The Camel Jockey |
+-----+
```

```
+-----+
| Special Thank to |
| Silicon Warrior |
| & |
| A.P.G |
+-----+
```

```
+-----+
| Written for |
+-----+
```

```
+-----+
| Mortgage, Buying a Ship |
| & |
| Creating the Players Disk |
+-----+
```

```
+-----+
| Mortgage |
+-----+
```

```
+-----+
| Purpose |
+-----+
```

Here is where the game begins. In order to purchase a ship and supplies, you need money. Since stealing is out of the question (morals are assumed here), you must take out a loan. The Central Bank of Axia, so you hear, is the easiest to borrow from. In fact, they don't even do a credit check!

```
+-----+
| Operation |
+-----+
```

The bank, being located at the commercial center of the Local Group, sees a lot of your type looking to buy a ship. Thus, they have devised a loan called the "Merchant's Loan Package". The total value of this package is 300,000 credits and includes the following:

| Part # | Sys # | System Name   | Type        | Quan  | Cost (Units) |
|--------|-------|---------------|-------------|-------|--------------|
| 00     | 00    | Hyperdrive    | Quantum Div | 00001 | 35,000       |
| 04     | 01    | Sub-Light Div | Ion         | 00001 | 20,000       |
| 11     | 02    | Bridge        | Xorconn     | 00001 | 03,500       |
| 14     | 03    | Accumulators  | Alkis Group | 00008 | 08,000       |
| 17     | 04    | Converter     | Fuel Cell   | 00001 | 10,000       |

|                                                |     |               |              |       |        |
|------------------------------------------------|-----|---------------|--------------|-------|--------|
| 88                                             | 36  | Processor     | AE3504       | 00001 | 10,000 |
| 93                                             | 37  | Mass Storage  | Skandis      | 00001 | 05,000 |
| 27                                             | 07  | Orbital Scan. | Manx         | 00001 | 10,000 |
| 49                                             | 13  | Shield Gen.   | Koto Co.     | 00001 | 08,000 |
| 68                                             | 26  | Cryogenic V.  | Ageless Ind. | 00001 | 07,000 |
| 71                                             | 27  | Orbital Shu.  | Quentrix     | 00001 | 10,000 |
| 79                                             | 33  | Ore Storage   | Baynus       | 00001 | 02,000 |
| 82                                             | 34  | Crew Quarters | Kraakobinir  | 00001 | 02,000 |
| n/a                                            | n/a | Fuel          | Ore IV       | 15000 | 15,000 |
| n/a                                            | n/a | Hulls         | Standard     | 00031 | 77,500 |
| +-----+-----+-----+-----+-----+                |     |               |              |       |        |
| \| Total Cost (if purchased Separately) \| 223,000 \| |  |  |  |  |  |
| +-----+-----+-----+-----+-----+                |     |               |              |       |        |
| \| Package Cost \| 173,000 \| |  |  |  |  |  |
| +-----+-----+-----+-----+-----+                |     |               |              |       |        |

framework, and that you must fill it with hulls and parts from the Merchant's Load Package in order to make it operational.

A menu of ship names will appear on the screen. to obtain information on one of the designs, type the number corresponding to the name and then press the return key. The terminal will go blank for a few seconds while it accesses the proper information, then display the first of several screens of information on the ships. The top half of the screen will give you an angled view of the ship. The bottom half will relate the specifications of the ship. The specifications are defined as follows:

The part number and system number of the item in the package are given so that you may use appendix C to look up the specifics on the parts listed.

You must, of course, eventually pay back the load. The payback period is flexible, however. You may choose any period between five and sixteen years.

```
+-----+
| Implementation |
+-----+
```

Payment of the load is done entirely at the end of the period. The nack officer will tell you what year the load is due based on your decision. IF, for instance, the offiver informs you that the load is due in 112, you must apy the load between 112.00 and 112.99. Since you are paying interest on the loan, the longer the payback period you select, the more credits you will eventually have to pay. The bank officer will give you the current interst rate and the amount that will be due at the end of the load period.

To pay back the load, you must visit the Axia drydock withing the due year. The customs agaent will guide you over to a back official and giv eyou the opportunity to pay the loan.

You will also be required to give your name and the name of your ship to the bank officer. This is recorded on your loan agreement in the even that the back needs to locate you. You should enter you last name only.

The goods will be sent to the Axia drydock where you can later place them on your ship. When you have finished obtaining your loan, you will be ushered over to the drylock to select a ship design.

```
+-----+
| Buying a Ship |
+-----+
```

```
+-----+
| Purpose |
+-----+
```

Once you have secured a loan from the back, it is time to purchase a ship. You may use part of the 127,000 credits remaining from your "Merchant's Loan Package" to pay for the ship.

```
+-----+
| Implementation |
+-----+
```

You find yourself in the drydocks of Axia, talking with Zefrep, the sales manager. he will lead you over to a terminal from which you can view the current selections of ten ships. It is important to remember that these ships are merely

```
+-----+
| Designation...The model name for the
| design
+-----+
| Company.....The company who
| constructed the ship
+-----+
| Year.....The year construction
| was completed
+-----+
| Price.....Current cost of
| purchase
+-----+
| Length.....Overall length of the
| ship in meters
+-----+
| Beam.....Overall width of the
| ship in meters
+-----+
| Draught.....Overall height of the
| ship in meters
+-----+
| Mass.....Mass of the ship in
| millions of kilograms
+-----+
| Max. Hulls...The maximum numbers of
| hulls the ship can
| hold
+-----+
| Visibility...The overall visibility
| of the ship (this is a
| number between 0 and
| 99; the higher the
| number, the more
| visible the ship is to
| other ships.)
+-----+
| Integrity....The overall strucural
| integrity of the ship
| (this is a number
| between 0 and 99, the
| higher the number, the
| more strucurally sound
| the ship is.)
+-----+
```

When you are finished reviewing the data, press the return key and the computer will access the next screen information. The last screen of data is a ship overview.

When you are finished reviewing the data, hit the return key and you will find yourself back at the selection menu. You may now select another design to review.

You can obtain additional information on the ships from Appendix H. This will list the size and visibilities for each section on the ship. Ships are divided into maximum of eight different sections. Each section is capable of holding a particular number of hulls. Hulls are the main measure of a parts size. The larger sections will be able to hold more hulls, therefore more parts. Sections also have visibility



factor. This is a measure of how visible the individual section is to another ship. This is a value between one and ten inclusive. The higher the value, the more visible the section is. The more visible sections have the greatest chance of being hit by enemy fire. A good strateg is therefore to place vital parts in the section with te lower visibility factors.

Once you are finished reviewing ship designs, you may purchase a ship by pressing the select key when at the selection menu. Zeprep will thn ask you which ship you want to purchase. To do this, press the number corresponding to the ship you want, then press the return key. The cost of the ship will automatically be deducted from the credits you have. The ship will be moved from the storag area to the drydock area so that you will later be able to place your hulls and parts aboard yur ship.

```
+-----+
| Creating the Player's Disk |
+-----+
```

```
+-----+
| Purpose |
+-----+
```

This section will create the player's disk for the game. This is the disk that is used throughout the game to keep track of all the data on your ship. (See version specifics section for more information on this process.)

```
+-----+
| Implementation |
+-----+
```

While Zefrep is moving your ship into the drydock area, he will ask that you assist the computer in creating the player disk. You will be asked to remove the construction disk from the disk drive, then press the return key.

You will need a black disk to use as the player disk. The computer will ask you to place this disk in the disk drive and press the return key to begin formatting. The format procedure will take almost a minute. If the format is successful, the computer will ask you to replace the construction disk. The format may fail if the disk proves to be defective. In this case, the computer will allow you to place a different disk in the drive and try again.

When you get a successful format and have replaced the constuction disk, the computer will then begin the process of moving data onto the player disk. Simply follow the instructions the omputer gives for inserting disks. Several disk insertions will need to be made during this process. Above all, be patient! Universe is a complex game that requires over three quarters of the space on the player disk for data.

Zefrep will inform you when the process is complete. At this point, your ship, parts, and hulls are in position and you are ready to boot the computer with the flight disk.

After booting the flight disk, you must proceed DIRECTLY to docking control (this is a section on the docking control menu). This section will allow you to place the parts included in the load onto your ship. after placing the parts, you must select purchase items (also on the docking control menu). Here, you will need to hire at least 10 crew members (you may wish to hire at least 15 if you plan to use orbital shuttles) and to purchase enough provisions to last them until you return to a drydock.

This procedure must be followed in the given order. If you fail to do so, you may find yourself sitting in your ship with no parts or crew. This will end the game rather abruptly.

```
=====
DOCUMENT universe.5
=====
```

```
+-----+
| Universe Documentation |
| Part 3A |
+-----+
```

```
+-----+
| A T-Men & Wareforce Dox File |
+-----+
```

```
+-----+
| Typed up by |
| The Camel Jockey |
+-----+
```

```
+-----+
| Special Thanx to |
| Silicon Warrior |
| & |
| A.P.G |
+-----+
```

```
+-----+
| Written for |
+-----+
```

```
+-----+
| Drive Systems |
+-----+
```

```
+-----+
| Drive System |
+-----+
```

```
+-----+
| Purpose |
+-----+
```

This section will allow you to ue the sub-light and hyperspace drives to move from star to star, planet to planet, or change your planetary orbit. This section requires that the sub-light navigation program be running to use the sub-light engines, or the hyperspace navigation program be running to use the hyperspace engines.

```
+-----+
| Implementation |
+-----+
```

After selection drive system from the flight menu, the computer will display the drive system sub-menu. Select the sub-light drive for planet to planet or orbital transfers, or the hyperdrive for star to star transfers.

```
+-----+
| Hyperdrive |
+-----+
```

The computer will display a list of star names, their coordinates, and a visit flag which displays "Y" if you have visited there before, of "N" otherwise. Use the up and down arrow keys to select the starsystem you wish to visit. Note that you do not need to use the shift key when using the arrow keys. Near the top of the screen is an area for entering coordinates manually. This is used if the distance to your destination is too great for your drive an you must make several jumps. You may enter

coordinates here by moving the starsystem pointer up to the annual entry line (use the up arrow key).

After positioning the starsystem pointer, you may then jump to or obtain data on that system. At the far right hand side of the screen you will see a "visited" indicator that is set to "Y" if you have been to that system before, or an "N" if you have not. If the indicator is set to "Y", you may obtain data on the planets orbiting that star by pressing the option key. The planetary data will include the planet name, the sophistication levels of the drydock and starport (including of course whether or not the planet has a starport drydock), and the type of planet. You may return to the starsystem list by pushing the start key.

You may select a star as your destination by pressing the select key. If the starsystem pointer is on the manual entry line, it will first be necessary to enter the proper coordinates. To do this, press the option key and a small cursor will appear after the "X". Enter the X, Y, and Z coordinates, pressing return after each. Then you may press the selection key to select those coordinates as your destination.

You will now see the Local Group map as the hyperspace navigation program plots the appropriate coordinates. The source coordinates will be displayed on the left, while the destination is displayed on the right. The distance between the two locations is given at the center of the map, measured in light-years. The amount of energy needed for the jump is displayed at the bottom of the map.

To make the jump, push the select key. To abort the jump, push the option key and you will return to the starsystem list. If the computer beeps when you push the select key, the hyperspace navigation program has rejected the jump due to insufficient energy or an illegal jump distance.

Once the hyperspace navigation program has accepted a valid jump, the computer will begin calculating, fueling, and sequencing for the jump. Don't be alarmed if you see strange patterns of light on the screen. This is simply sensory distortion due to the hyperspace effect. Providing you obeyed the orbital radius minimum for a hyperspace jump, you will find yourself at the destination. If you were too low in the orbit (less than 20,000 kilometers), you will find that you did not move. You may also have damaged your hyperdrive.

To return to the drive system menu, you must first have the starsystem list displayed on the screen. Pushing the start key from this point will return you to the drive system menu.

```
+-----+
| Sub-Light |
+-----+
```

At the bottom of the screen is the status area. Here is where the computer displays the current scale, coordinates, selected object, and status. Upon entering sub-light drive, you will be in the select scale mode, use the option key to toggle between solar and planetary scales. The select key will activate that scale. The start key will activate that scale. The start key will return you to the drive systems sub-menu.

```
+-----+
| Solar Scale |
+-----+
```

If you select the solar scale, the computer will begin by doing a solar scan. This scan will look for all planets and stars for your current location. The star, if present will be displayed at the center of the display area. Planets will appear as dots, and your ship will appear as a dot with a box around it. The computer will switch to the destination select mode.

To select your destination, use the option key. One of the dots will begin to blink, indicating the current object. Information on this object can be seen at the bottom of the screen. These objects are always planets, with the exception of the one object which is your ship. The data on the object includes the object name and its coordinates, displayed as rho, phi, and theta respectively. All angles are displayed in degrees. Pressing the option key again will select the next object. Continue

pressing the option key again until the destination planet you want is displayed. At this point, press the select key to select the current object as your destination, or the start key to return to the select scale mode.

After selecting your destination, the sublight navigation program will make the appropriate computations. At the bottom of the screen you will see the following information:

```
+-----+
| Time.....Time in minutes needed |
|           | for the transfer       |
+-----+
| Ore.....The amount of Ore IV      |
|           | needed                 |
+-----+
| Energy.....The amount of energy    |
|           | needed                 |
+-----+
```

Push the select key to begin the transfer, or the start key to abort. If the computer beeps after pressing the select key, the sub-light navigation program has rejected the transfer. This is due to either insufficient energy, ore, or the number of gravities of thrust needed for the maneuver is too great. During the transfer, time will be speeded up to approximately 500 game minutes per 1 second of real time. After the transfer, you will return to the select scale mode.

```
+-----+
| Planetary Scale |
+-----+
```

If you select the planetary scale, the computer will begin by doing an orbital scan, then a planetary scan. A polar view of the planet will appear at the center of the display. If your ship is within the range of the orbital beacon for the type of orbital scanner you have, one or more dots will appear, indicating objects in orbit. The computer will switch to the destination select mode and a cursor will appear in the "rho" coordinate. You are now in the destination select mode, and the computer is waiting for you to enter the coordinates of your destination.

The coordinates are as follows: rho, epsilon, theta-epsilon, and theta. To enter the coordinates, simply type in the numbers, entering all angles in degrees. A radius or angle that is too small or large will be rejected. The minimum radius will be 5% greater than the radius of the planet. For example, the minimum orbital radius around Axia would be 6615 kilometers. The maximum radius will be around ten times the radius of the planet. You may hit return for the radius without entering a number if you do not wish to manually enter coordinates. If you have entered coordinates, you may press the select key to select those as your destination. Otherwise, you may press option to display the coordinates of the objects in orbit. You may select an object as a destination by pressing select when the object's data is at the bottom of the screen. Due to the physics of planetary orbits and the limitations of sub-light engines, you will not be able to select a destination whose orbital radius is within 500 kilometers of your ships' orbital radius.

Objects other than an orbital drydock or your ship appear with the description "HRS#". This is a hi-resolution scanner section and enter the appropriate contact must be within range of the scanner, so you may wish to first transfer to the contact's location.

In order for your orbital scanner to pick up other objects in orbit, you must be within range of the orbital scanning beacon. The beacon is a ring of satellites surrounding the planet at an orbital radius equal to five times the radius of the planet. To be within range, the difference between your orbital radius and that of the beacon must be less than the maximum range of your orbital scanner.

After selecting a destination, the sublight navigation program will compute the course and resources needed. The following data will be displayed:

```
+-----+
| Time.....Time in minutes to      |
+-----+
```



Clustedr. Then one day they stopped. There was no indication that there was anything wrong in the Home Cluster. The ensuing panic and fear in the Local Group nearly destroyed civilization; as it is, the LG has been divided into two mutually hostile governments, set on the brink of war. Fortunately, 20 years ago, a second hyperspace booster was discovered at the planet Diftalpa, right in the Local Group. The second booster is currently being towed to Cetus Amicus, where it will be studied in greater detail. It is hoped that in the near future there will be two-way communication between the Local Group and the Home Cluster ... if the Local Group doesn't destroy itself first.

### \*Who You Are\*

The Local Group has been divided into two governments, the Federated Worlds (FW) and the United Democratic Planets (UDP). Although trade and travel continue between the two governments, the situation is deteriorating rapidly.

Almost 8 years ago, you "retired" from the Federated Worlds Special Forces (FWSF), an organization whose function is to gather intelligence data and perform covert operations within the United Democratic Planets. Now you carry the persona of a free trader from Vrommus Prime. Your cover is quite airtight. Occasionally, the FWSF provides you with money and special equipment, but only to send you out on a mission. Not all of your crew is even aware that you are anything else but a trader. So during your travels and missions, you're going to have to earn a living.

-----  
\*\*\*\*\* GETTING STARTED \*\*\*\*\*  
-----

<| I skipped the game warranty & repair section and the paragraphs dealing with how to set up Universe II on your Macintosh, Ibm or Zenith. D.F.|>

### HOW TO USE THIS MANUAL

This manual is broken up into 8 major sections. They are: INTRODUCTION, GETTING STARTED, PLAYING UNIVERSE II, FILE CONTROL, FLIGHT, STARPORT, DRYDOCK, and APPENDIX.

\*Introduction\* contains the background history on which the game is based.

\*Getting Started\* explains the game warranty and repair policies, <|sorry to deprive you of that|> how to boot the program and get it running on your particular computer, how to operate the user interface (pull down menus, buttons, mouse, etc.), and playing tips to help you jump right into the game without having to go through the whole manual.

\*Playing Universe II\* is a guide to the way the systems on your ship work in concert. It details the functions of the various systems available for your spacecraft, your crew and what to do with them, interstellar commerce, the on-board computer, astrogration, warfare, energyd and time, and your mission as a deep-cover agent for the Federated Worlds.

\*File Control\* Explains how to create a new player file, check your disks for any errors, delete old player files, and save current player files.

\*Flight\* describes the workings of each of the various sections involved in operating your spacecraft.

\*Drydock\* describes all of the various services available at the orbital drydocks, including the Labor Mart, new parts, new supplies, and even purchasing a totally new spacecraft.

\*Starport\* explains how to use the text parser, a user interface which allows you to: type in sentences to move about the starports, talk with other characters in the game, and find special clues to help you finish successfully. It also describes the Transaction Terminal, which enables you to buy and sell products, exchange ores for currency, accept and discharge passengers, and send your crew to a technical school to increase their grade.

\*Appendix\* is a convenient collection of tables and data needed to play Universe II. It also includes a glossary, instructions on using the Universe electronic bulletin board, and an index. <| I cut the index because I didn't try to match the page numbers of the actual documentation, and I cut the bit about the Universe BBS because you use have to have an account based on your purchase of the game. |>

We suggest that you read THE STORY SO FAR ... and PLAYING TIPS. Following that, you should read the entire PLAYING UNIVERSE II chapter to understand the ideas behind each of the program sections. Then, you only need to read the sections in FLIGHT, DRYDOCK, and STARPORT as you need them.

Enjoy!

### RUNNING UNIVERSE II ON YOUR COMPUTER

#### APPLE II

#### System Requirements

Apple //e with a 128K 80 column board or Apple //c, 2 disk drives, optional Apple Mouse.

#### \*Starting Omnitrend's UNIVERSE II\*

Universe II is distributed on five disk sides labeled A,B,C,D, and E. To run Universe II, place disk A into drive 1 and turn on the computer. Disk A must not be write protected.

The 128K 80 column board must be enabled so that the double hi-resolution graphics are active. See the 80 column text card manual for more information on enabling the double hi-resolution graphics.

#### \*Using the Menus With a Mouse\*

If you have a mouse connected to your computer, you can use it for selecting menu entries. To display a menu, point to its name on the white bar at the top of the screen and press the mouse button. Hold the button down and move the pointer to highlight the entry you wish to select. Once the pointer is positioned correctly, release the button.

You may often see a window on the screen in which there will be one or two buttons. A button is a rectangle with a word in it such as "Continue". You may click that button by pointing to it with the mouse and pressing the button.

#### \*Using the Menus Without a Mouse\*

To use the menus without a mouse, press the ESC (escape) key in the upper left corner of the keyboard. This will enable you to use the arrow keys to select the items in the menus. To move the pointer in a certain direction, just use the four arrow keys. When the item you want is highlighted, press the RETURN key.

You may also use the key equivalents to select menu entries in the game. When you pull down a menu, you will see the apple character followed by a letter next to every menu entry. To select an entry, press either apple key (located on either side of the space bar) and the letter for



This is the same as the sophistication of the drydock where the part was purchased. Only high-grade engineers and high sophistication drydocks can repair the most sophisticated parts. Typically, the sophistication parts are the best (and costliest).

In addition, some systems have the following characteristics:

**\*Partial operation\* -**  
Any system marked as such will operate at a fraction of its normal efficiency if damaged. The percentage of efficiency is calculated by dividing the current dp level of the part by its maximum dp level. For example, if a sub-light drive with 15 dp maximum and 500 gravities of acceleration is reduced to 11 dp, then its top acceleration is reduced to 367 gravities ( $11/15 = .734$  and  $.734 * 500 = 367$ ). Note: partial operation will affect all of a part's functions adversely.

**\*Constant drain\* -**  
If a system has the note "constant drain" in the Parts List, it will consume power even if it has been severely damaged, although it will stop draining if it is removed or destroyed.

=====
   
DOCUMENT universe.ii.2
   
=====

**\*\* Drive Systems \*\***

**Hyperdrive -**  
Used for interstellar travel. The only way to move from one starsystem to another is to use the hyperdrive. The hyperdrive is too inaccurate to use for moving from planet to planet.

**Sub-light Drive -**  
Used to travel between planets within a starsystem. Unable to propel your spacecraft faster than light, the sublight is too slow to be used for moving between starsystems.

**Gravity Generator -**  
Generates gravity for environmental and protective purposes. The gravity generator will also protect you from acceleration caused by the sub-light drive.

**\*\* Energy Systems \*\***

**Converter -**  
A power generator that transforms Ore IV into energy units.

**Accumulators -**  
Store energy units made by the converter. This system is primarily used when another system, such as the hyperdrive, requires a large amount of energy at a rate much faster than the converter can produce. Essentially a large collection of batteries.

**Ore Storage -**  
Holds the 4 different types of ore (I-IV).

**\*\* Command and Support Systems (C&S) \*\***

**Bridge -**  
The command center of your ship. If the bridge is destroyed, the game ends.

**Crew Quarters -**  
The living quarters and off-duty stations for your crew.

**Computer -**  
The central computer for your spacecraft. It is very powerful, but not a true machine intelligence.

**Autodoctor -**  
An automatic medical repair unit used for raising you and your crew's health percentage.

**Hibernaculum -**  
A cold-storage unit for transporting passengers. The process is dangerous and you should expect to lose a certain percentage of the passengers upon revival.

**Vidcomm -**  
The video communications device for your spacecraft. In this game it is limited to receive only. Messages are stored by repeater units in orbit around all of the habitable planets, so you won't miss any messages that you might need.

**Cargo Hold -**  
Stores cargo that you purchase down at the starports or that you capture from enemy vessels.

### Atmospehrics -

The environmental control for your spacecraft. If this sustem is destroyed, everyone on the spacecraft will die.

### \*\* Scanning Systems \*\*

#### Solar/Planetal Scanner -

Scans the starsystem that you are in or the planet that you are currently orbiting.

#### Resource Scanner -

Scans the surface of habitable or airless planets for the best available mining site.

#### High Definition Scanner -

Provides a detailed scan of any spacecraft within your range.

### \*\* Lander systems \*\*

#### Orbital Shuttle -

Used to travel to and from starports, which are found on the surface of almost all of the habitable planets.

### \*\* Weapon Systems \*\*

#### Missile Launcher -

Powers and launches missiles at enemy ships.

#### Missile Rack -

The system of racks and conveyors used to store missiles and load them in the Missile Launcher.

#### Enhanced Beam Weapon (EBW) -

A type of highly destructive particle-beam weapon.

#### Shield Generator -

Generates a sphere of disruptive gravity waves around your spacecraft, lessening the effects EBW or missile hits upon your spacecraft.

#### Docking Adaptor -

Used only for docking and boarding an enemy spacecraft. It will adhere to the other spacecraft's hull and, if marines are deployed, burn a breach right through the outer hull.

#### Electronic Countermeasure (ECM) -

A variety of jamming equipment which renders your ship invisible to enemy scanners.

#### Assault Capsule -

A lander used on habitable planets with a population sophistication of 40 or greater when you wish to mine ore illiegally. The capsules are siimilar to the orbital shuttles, but they carry marines, are covered with armor, have a cannon mounted on top, and can land almost anywhere.

### \*\* Mining Systems \*\*

#### Ore Processor -

Another lander, this one greatly resembles a flying off-shore oil rig of the 20th century. Used to mine ores on habitable and airless planets.

#### Ramscoop -

A recently invented device which allows you to collect ore IV directly from the atmosphere of a gaseous planet.

#### CREW: USE AND MAINTAINANCE

~~~~~  
Running a complex starship of the 24th century requires the aid of many

skilled technicians. Although you are initially provided with a few crewmen, as ou expand your ship you will find the need to hire more. Each crewman has a number of characteristics on which they should be judged. Hiring the right crewman can make the difference between winning and losing.

The characteristics for each crewman are:

Health -

A measurement of a crewmember's ability to perform his duty. If the health percentage reaches 0, the crewmember dies. Reduced health may result from battle damage, injury when moving dangerous cargo, and changing watch. A crewman with a health percentage of less than 70% may die of untreated injuries during any watch. This is especially true for older crewmen.

Age -

In the time period that Universe II depicts, a crewman's age runs from 20 to 130. All crewmen automatically retire when they reach 130. On a dossier, the promotion date is also the birthdate. Age primarily determines a crewman's ability to resist death from injuries. Older crewmen are more likely to die from untreated (below 70% health) injuries.

Specialty -

Every crewman has a specialty, which they may not switch. They are:

Captain -

The supreme authority on a spacecraft. Captains are invariably asomnigenated and technically always on duty.

Astrogator -

The person responsible for getting the spacecraft from one place to another. An astrogator's grade is especially important for hyperspace jumps. The higher grade astrogators will break the ship out of hyperspace much closer to the habitable zone of a starsystem, thus saving a great deal of time and energy.

Gunner -

The gunner is an expert on all the various forms of weaponry that your ship may carry. A superior gunner hs a greater accuracy with missiles and more skill in using ECM's.

Pilot -

The pilot is the person who flies the orbital shuttles, ore processors, and the assault capsules. All lander-type vehicles require one more pilot to operate. The higher-grade pilots' ships will receive less damage when descending through the atmosphere. In addition, when an assault capsule is on the ground, the pilot mans the cannon and the higher grades are better shots. Pilots also move cargo to and fromm the cargo hold.

Miner -

They are the crewmen who land on habitable and airless worlds to mine the various ores. They are required to launch ore processors. The higher-grade miners (15 and above) will recover even more ore than the resource scanner indicated for the mining site. Since miners work in gangs, it is important to realize that their grades are averaged and that it is the average which determines a particular ore processor's ore recovery rate.

Marine -

Marines are used in two circumstances: boarding & ground assaults. When boarding an enemy spacecraft, the marine works as a individual, neutralizing enemy marines, providing cover fire or capturing control panels. During ground assaults, the marines move as a squad, neutralizing enemy ground squads and attacking enemy defense stations. All marines are outfitted with various types of exosuit armor and

portable cannons. As a marine's grade rises, his ability to move and his accuracy of fire improve.

Engineer -
the fix-it man for your ship. Engineers are very expensive to keep, being the highest paid of all the specialties. As an engineer's grade rises, his speed and ability to repair the various ship-board systems improves.

Grade -
A measurement of a crewman's knowledge of his specialty. Grades run from 1 to 20, grade 20 being the highest. Once a crewmember has been hired, his grade will rise once a year. To speed things up, a crewman can be left at a technical school, where it will take much less than a year per grade (and several thousand credits!).

Promotions -
Promotions happen once a year, on the crewman's birthday. A promotion increases the crewman's grade and income. Once a crewmember's grade reaches 20, promotion day only signifies his next birthday.

Income -
Income is based on the crewman's grade and specialty. The pay scales are:

Specialty	Base Income	Raise Per Grade
Captain	N/A	N/A
Astrogator	15,000	750
Gunner	10,000	600
Pilot	7,000	250
Miner	8,000	300
Marine	4,000	1300
Engineer	19,000	1000

Crew can be paid when entering a drydock, in the Pay Day section. Any crew member which has not been paid in over 60 days will quit.

Watch -
Watch determines which part of the day the crewman is on duty. The day is broken up into three 8 hour watches. Astrogators and gunners stand regular watches. Pilots, miners, marines, and engineers have special watches: They only work when their duties are needed. You as the captain, have undergone a process called asomnigenation. Asomnigenation alters the body's chemistry and makes it unnecessary for you to sleep. Astrogators and gunners can also be asomnigenated. Anyone who is asomnigenated is on a "full" watch and are always available.

****Provisions****

One provision includes enough food, water, etc. to keep one person alive for one day. Usually it is convenient to think of the provisions supply in terms of days, that is, with the current complement of crew, how long before they starve. To calculate the number of provision/days, divide the number of provisions by the current number of crew.

COMMERCE IN THE LOCAL GROUP

In the Local Group, the basic unit of currency is the credit. The credit has been fixed by the Interworld Trade Commission, at the famous Meeting of 2167, as being equivalent in value to one unit of Ore IV. Since Ore IV is a common substance, but tedious to refine, it provides a stable monetary base.

Your primary goal, as an interstellar merchant, is to earn money. The four sources of revenue available to you are: trading, passenger transport, mining, and orbital piracy.

**** Trading ****

The object of trading is to buy an item on a world where it is commonplace and relatively inexpensive and bring it to a world whose sophistication is from 1 to 10 points lower. Suddenly, your product becomes state-of-the-art and highly desirable. Multiply your profit times the 10 products you can carry per trip and you have a sizable amount of credits.

Certain products are even more marketable. Not only will food/spice, lifeforms, narcotics, and jewelry sell at a starport 10 sophistication points lower than the point of purchase, they can be sold at starports up to 10 sophistication points higher than the point of purchase. This reflects the fact that these product types have a more universal appeal and that they are not as dependent on local technology.

Products have several characteristics. They are:

Name -
This is the product's brand name.

Type -
The product's classification. Almost every culture has product types which are illegal to import. In the appendix is a list of the cultures and their illegal product types.

Cargo Size -
A measurement of the product's bulk.

Sophistication -
A measurement of the product's complexity. This figure is always the same as the product's planet of origin. At best, products appeal to a range of 20 sophistication points. This reflects the fact that products too simple for the buyer have been out-moded (no one buys grindstones anymore) and products that are too complex do not have the other supporting technologies required (an ancient Egyptian would not have any use for a television set).

Price -
The value of a product is based upon its sophistication and its original manufacturer's price (a figure you will never know exactly). Note that products up for sale at their planet of origin or on planets outside of the sophistication's range of appeal will be worth 0 credits.

**** Mining ****

Mining is a fairly straightforward way of earning money. It requires at least one ore processor, a mining squad, a resource scanner, a scanner program, and patience. In addition, depending on how intent you are in the pursuit of ore, you may need some assault capsules and their paraphernalia.

Once the ore has been collected and refined, it is brought to a starport, where it can be exchanged for credits.

The disadvantages of mining are numerous. High concentrations of ore are difficult to find. Landing on airless worlds is usually very dangerous. The start-up costs in mining are very high, typically above 50,000 credits.

**** Passenger Transport ****

At every starport in the Local Group there are people waiting for flights to other planets. You, as a merchant, are continually hopping from planet to planet. Equipped with a hibernaculum, you can carry these people for a fair amount of profit, which is based on the distance and sophistication of the destination from your current starport.

** Orbital Piracy **

In many of the less-developed starsystems, complete anarchy in orbit is the rule. Properly outfitted, you can profit from this situation.

Capturing another spacecraft, though, is not a simple process. You need to select a suitable target, scan it, and destroy its entire complement of crew and marines, all without destroying the ship. If it isn't possible to destroy all of the marines, you will have to send over some of your own and hope the can secure the ship.

Once the target ship is captured, you will be able to take all of the credits, ore, and products on board... if you survive.

THE ON-BOARD COMPUTER

In order to operate, your spacecraft must be equipped with an on-board computer. The computer controls many of the other systems on your ship.

The speed of the computer is measured in *tevops per minute* (trillions of operations per minute). Program size is measured in the number of operations which must be executed in a complete run. So, to find the amount of time it takes for a program to completely run, divide the program's size (tevops) by the computer's tevops per minute figure. This will give you the time in minutes.

The following is a list of the programs available for your computer:

Hyperspace Navigation -
Calculates the course, energy, time, and distance required to make a hyperspace jump. This program must be available for the hyperdrive to work.

Normalspace Navigation -
Calculates the course, energy and time required to move your ship anywhere within a starsystem. This program must be available for the sub-light drive to work.

Autodoctor -
Controls the autodoctor. This program must be available for the autodoctor to work.

Hibernaculum -
Controls the freezing and thawing of passengers in the hibernaculum. This program must be available for the hibernaculum to work.

Solar/Planetal Scanner -
Interprets the data gathered by the solar/planetal scanner. This program must be available for the solar/planetal scanner to work.

Resource Scan -
Interprets the data gathered by the resource scanner. This program must be available for the resource scanner to work.

High Definition Scan -
Interprets the data gathered by the high definition scanner. This program must be available for the high definition scanner to work.

Shuttle Guidance -
Controls the ascent and descent of orbital shuttles. This program must be available to launch orbital shuttles.

Ore Processor Guidance -
Controls the ascent and descent of ore processors. This program must be available to launch ore processors.

Assault Capsule Guidance -
Controls the ascent and descent of assault capsules. This program must be available to launch assault capsules.

Missile Track -
Aims and launches missiles at a target object. This program must be available to launch missiles.

EBW Track -
Aims and fires the EBW at a target object. This program must be available to fire the EBW.

ECM -
Controls the ECM unit. This program must be available for the ECM to function.

Athena IRS -
The information retrieval system program. This program contains hundreds of important facts and figures which can be recalled by typing a key word.

When you sell a computer, all of the programs you have purchased for it will be lost. Once a program has been purchased, there is no way to remove it short of selling the computer.

===== DOCUMENT viet.cong =====

```

=====
=          VIET CONG          =
=====

```

VC--Viet-Cong is a stagic simulation of a field commander in vietnam. You are the commander and you move you arvn units around and try to kill as many commies as you can. The game is played like this:

```

arvn units   r1,r2,r3...r9
helicopter   u1
artillery    u2

```

Move your arvn units arround by telling which one you want to move, it will ask you for a direction, which can be n,s,e,w,nw,ne,sw,se, and even es,wn (east-south,west-north).

You move your helicopter by telling what square you want it to go to, and you bomb the commies with you artillery by telling what square to bomb (you have 3 shots with your artillery).

Defence factor:

```

arvn:        2
helicopter   5
artillery    I dunno, never got it attacked since it doesn't move.

```

This means that the arvn units can suffer 2 defeats, and the helicopter unit 5 defeats.

You can tell friendly commies cause they have a little "f" at the lower right corner of their hut--[this does NOT mean that all others are bad little commies, it just means you have'nt converted them to good little commies yet or they're undecided little commies].

To play this game you need the following programs:

```

vc
ah
runtime
vc.page
vc.gun
vcshapes.obj
vc.pic
vc.shapes
map
start
sound

```

run VC to p

--:)> DROSOPHILA MELANOGASTER

===== DOCUMENT vip.professiona =====

VIP Professional uses the Apple // keyboard as follows:

[Arrow key]	Move the cell indicator one cell
[Shift][Arrow key]	Move to previous or next page
[Closed Apple][Right]	Page right
[Closed Apple][Left]	Page left
[Open Apple][Up]	Move the cell indicator to A1
[Open Apple][Down]	End (Bottom right of worksheet)
[Open Apple][letter]	Execute macro
[Closed Apple][Escape]	Break and return to Ready mode from data entry
[Delete]	Delete character before cursor
[Open Apple][Delete]	Delete character under cursor
[Escape]	Back out of current entry or sub-menu
[Tab][Arrow key]	Tab to end of current data or empty block
[Open Apple][Tab]	Toggle Scroll Lock

Tabbing moves the cell indicator to the end of a current block of data. When in an empty area the indicator is moved to the cell preceding the data.

Professional uses ten function keys to perform ten commonly used functions instantaneously. The ten functions are used by pressing [Open Apple] plus the number of the function.

[Open Apple][1]--Help:	Enters the help facility
[Open Apple][2]--Edit:	Toggles in and out of Edit mode
[Open Apple][3]--Name:	Gives a list of the current range names
[Open Apple][4]--Absolute:	Takes cell reference through the absolute cycle
[Open Apple][5]--GoTo:	Moves the cell indicator to a specified cell
[Open Apple][6]--Window:	Moves the cell indicator between windows
[Open Apple][7]--Query:	Repeat last Data Query operation
[Open Apple][8]--Table:	Repeat last Data Table operation
[Open Apple][9]--Calculate:	Invokes a worksheet recalculation
[Open Apple][0]--Graph:	Displays a graph using the most recent settings

DATA ENTRY

Data can be entered in label or value form. A Label consists of text used for headings and other static information on the worksheet. A Value consists of numbers and formulas. While entering data you may press [Escape] or [Closed Apple][Escape] to return to Ready mode. Pressing [Return] will post the entry to the worksheet. Edit mode is entered if an error is detected while keying data.

Labels:

A label is initiated using a letter, a label prefix or an otherwise unused punctuation mark. A label prefix adds special meaning to the label, or allows characters usually used as values to be used as labels. The Worksheet Global Label-prefix and Range Label-prefix commands control defaults.

The Label prefixes are:	' Left justified	" Right justified
	^ Centered	\ Repeating label

Values:

A value is a cell entry which contains the numbers, operators, cell references, and functions fundamental to your sheet.

The characters which begin a value entry are:

0-9, ., +, -, (, @, #, and \$.

The commands available which set the display format for values are /Worksheet Global Format and /Range Format. Specification of a variety of cell layouts is possible.

A Formula may consist of the above values and operations including cell references and @functions. They are covered further in the next section.

A Formula may consist of values and operations including cell references and @functions. Examples are: 3+B7, @sum(D2..D9), @MAX(T3,B4^7). The rules for calculation are as follows:

1. Parenthesized groups are calculated first.
 2. An order of precedence takes place among operators. This means operands of operators of higher precedence are evaluated first.
 3. All else being equal, operators are taken from left to right.
- Plus and minus signs should ideally be used to begin each formula.

Operator	Function	Precedence	Operator	Function	Precedence
^	Exponentiation	1	<>	Not Equal	5
-	Negation	2	>	Greater Than	5
+	Make Positive	2	>=	Greater or Equal	5
*	Multiplication	3	<	Less Than	5
/	Division	3	<=	Less or Equal	5
+	Addition	4	#NOT#	Logical Not	6
-	Subtraction	4	#AND#	Logical And	7
=	Equals	5	#OR#	Logical Or	7

Edit mode is entered when an error in data entry is detected, when you decide to edit an entry, or when you are prompted for information.

To edit a cell, select the cell and then select edit, either by pressing [Open Apple] [2] or by clicking on the Status Line in the Control Panel. When you do this, the entry will appear on the Edit line with the cursor at the end of the entry.

There are several commands which can be used in the edit mode:

[Closed Apple][Up]	First character of entry
[Closed Apple][Down]	Last character of entry
[Open Apple][Right]	Move 5 characters right
[Open Apple][Left]	Move 5 characters left
[Right arrow]	Move 1 character right
[Left arrow]	Move 1 character left
[Delete]	Erases character before cursor
[Open Apple][Delete]	Erases character under cursor
[Escape]	Cancels editing of entry
[Open Apple][9]	Changes formula to result

@Functions perform a variety of useful time saving tasks. They are introduced with an '@' character and can be typed in either upper or lower case. Be sure to use the correct number of arguments.

- @COUNT(range).....Counts the number of items in the range members
- @SUM(range).....Adds the items in the range
- @AVG(range).....Finds the average of range members
- @MIN(range).....Finds the minimum value of range members
- @MAX(range).....Finds the maximum value of range members
- @STD(range).....Finds the standard deviation of range members
- @VAR(range).....Finds the variance of range members

Math functions:

- @ABS(value)....Yields absolute value
- @EXP(value)....Yields value raised to exponential power
- @INT(value)....Yields the integer portion of value
- @LN(value)....Yields the natural logarithm of value
- @LOG(value)....Yields the base 10 logarithm of value
- @SQRT(value)....Yields the square root of value
- @MOD(value-1,value-2)....Finds remainder after division of the values
- @ROUND(value,places)....Rounds value to left or right places of the decimal

- @COS(angle in radians).....Yields the cosine of angle
- @SIN(angle in radians).....Yields the sine of angle
- @TAN(angle in radians).....Yields the tangent of angle
- @ACOS(cosine of angle in radians)....Yields the arc cosine of angle
- @ASIN(sine of angle in radians)....Yields the arc sine of angle
- @ATAN(tangent of angle in radians)....Yields the arc tangent of angle
- @ATAN2(first value, second value)....(See manual for differences.)
- @PI.....Yields the value of Pi
- @RAND.....Yields a random number distributed between 0.0 and 1.0

Logic functions:

- @TRUE.....Always true (1)
- @FALSE.....Always false (0)
- @ISNA(value)....True if the value is not available, otherwise false
- @ISERR(value)....True if value is undefinable, otherwise false
- @IF(condition,value-1,value-2)....Returns the first value if condition is true, else the second value.

Financial functions:

- @FV(payment,interest,number-of-terms) Future value of ordinary annuity
- @PV(payment,interest,number-of-terms)
- @PMT(principal,interest,number-of-terms)
Calculates mortgage payment per term for an ordinary annuity
- @IRR(best-guess,cash-payment-series)
Calculates approximate internal rate of return for cash payments made at regular intervals using your guess at the answer
- @NPV(initial-payment,interest-rate,series-of-future-cash-flo ws)
Calculates net present value of a cash flow series

Special functions:

- @NA.....Yields not available "NA"
- @ERR....Yields error "ERR"
- @CHOOSE(x,set-of-values)....Tests logical expressions or performs lookup
- @HLOOKUP(x,range,offset)....Performs horizontal table lookup
- @VLOOKUP(x,range,offset)....Performs vertical table lookup

Database functions have the format:

- @function(input-range[arg1],offset[arg2],criterion-range[arg 3])
- @DCOUNT(arg1,arg2,arg3).....Counts selected items
- @DSUM(arg1,arg2,arg3).....Adds selected items
- @DAVG(arg1,arg2,arg3).....Finds average of selected items
- @DMIN(arg1,arg2,arg3).....Finds smallest value of selected items
- @DMAX(arg1,arg2,arg3).....Finds greatest value of selected items
- @DSTD(arg1,arg2,arg3).....Finds standard value of selected items
- @DVAR(arg1,arg2,arg3).....Finds variance value of selected items

These functions convert between serial and date calendar formats. A Serial date is a count of the number of days since 1-1-1900; useful for calculations. The result would then be converted back to calendar format.

- @DATE(Year,Month,Day).....Converts serial format to calendar format
- @TODAY.....Changes today's date to serial format
- @DAY(serial-date).....Yields the calendar day from a serial date
- @MONTH(serial-date).....Yields the calendar month from a serial date
- @YEAR(serial-date).....Yields the calendar year from a serial date

Macros are user-programmed commands created with key sequences. Values, labels, functions or commands may be included. For example:

```
'/wcs15~
```

changes the column-width of the current cell to fifteen. /X commands give you

the ability to program VIP Professional.

Auto-execute macros are built by attaching the macro to the digit zero. Each time you reload the worksheet, the macro is automatically executed.

Entering macros:

1. Construct the macro in an empty worksheet cell starting with a label-prefix.
2. Name it with Range Name Create, using [Backslash] and a letter, e.g.: \Q.
3. Use it by pressing [Open Apple] and letter of macro, e.g.: [Open Apple][Q].

Keyboard commands are entered in macros enclosed in braces as shown:

{Up}.....Up one cell	{Down}.....Down one cell
{Right}....Right one cell	{Left}.....Left one cell
{Home}.....Move Home	{End}.....Move to End of data
{PgUp}.....Pages up	{PgDn}.....Pages down
{Del}.....Deletes	{Esc}.....Escape
{Bs}.....Backspaces	{Edit}.....Edit function
{Name}.....Name function	{Abs}.....Absolute function
{GoTo}.....Express function	{Window}...Window function
{Query}.....Query function	{Table}....Table function
{Calc}.....Recalculate function	{Graph}....Graph function
{?}.....Pauses for input until [Return] is pressed	
~.....[Return]	

To use Single-step mode, press [Open Apple][Shift][1]. Press any key to advance to next step. To stop Single-step mode, press [Open Apple][Shift][1].

/X Commands:

/XI(condition)~	Uses if-then condition
/XG(location)~	Goes to a location and continues macro
/XC(location)~	Goes to a location and calls subroutine
/XR	Returns from subroutine. Used with /XC
/XQ	Quits macro execution
/XM(location)~	Displays and processes a user-defined menu
/XL(message)~(location)~	See /XN
/XN(message)~(location)~	Displays prompt in the control panel, accepts a label or number from keyboard & puts it in location

Ranges are specified using an anchor and a free cell. Ranges are always rectangular in shape.

With movement keys:

1. Move the cell indicator to the start cell of the range and press [.]
2. Move the cell indicator to the end cell. Use any movement key.
3. Enter the range.

Explicit addressing:

Type the cell address of the anchor cell. Type [.] then the address of end cell. Enter the range.

With Range Names:

In response to a command prompt, type in a range name. Press [F3] to choose from a list of existing range names.

Changing the Start Cell:

Press [.] to rotate the start cell to the next corner in a clockwise direction.

[Delete], [Escape] and [Closed Apple] [Escape] may be used during range creation to backstep the process. [Escape] "unexpands" the range and returns to the anchor cell. [Delete] unexpands the range and returns to the current cell. [Closed Apple][Escape] ends ranging.

These commands are used to rearrange your worksheet once some data has been entered. Copy duplicates the contents of one cell or range to others and is useful for proliferating data through the sheet. Move rearranges sheet data.

Cells and formulas. Copying labels or plain values is the most straight forward. First a "From" (source) range or cell is specified followed by a destination "To". It is important to note that Copy erases the previous contents of the cell. When copying formulas you should be aware of absolute, relative and mixed cell addresses. If you use an absolute cell address the formula is transferred to the new cell still referencing the same locations. With a relative cell address the formula values change according to their new location. Mixed cell addresses in a formula are a combination of absolute and relative references. The absolute part of a mixed cell address remains the same and the relative part changes.

Move transfers the contents of a cell or range to a new location. Moving cell entries is just like picking them up from one location and placing them at another. Remember the destination will be overwritten. These are powerful commands and should be used with care.

The menu is organized in a hierarchy of commands. Start by typing [/.]. Menu commands may be chosen by either using the arrow keys then [Return] or by typing the first letter of a selection. To retreat to the previous menu level press [Esc]. To exit directly type [Closed Apple][Escape]. The Professional's most powerful commands are accessed through the menu tree.

Worksheet	Governs large-scale changes affecting the worksheet
Global	Affecting entire worksheet
Format	Sets defaulted display for worksheet values
Label-prefix	Sets defaulted alignment for worksheet labels
Column-width	Sets column width for all worksheet columns
Recalculation	Controls calculation sequencing
Protection	Enables protection of worksheet cells
Default	Sets default values for directory and printer
Directory	Sets current Directory
Printer	Sets Print configurations
Update	Saves updated Default commands
Status	Displays status of Default commands
Insert	Inserts columns or rows
Delete	Deletes columns or rows
Column-width	Changes the width of one column
Erase	Erases worksheet contents and goes to initial settings
Titles	Creates or erases worksheet titles
Window	Splits or clears split window
Status	Displays worksheet settings and available memory
Range	Governs Range menu and range-specific commands
Format	Sets display format for range values
Label-prefix	Sets default alignment for range labels
Erase	Erases contents of range cells, keeps formats
Name	Governs range naming
Labels	Names one-celled ranges using label cells
Justify	Sets ragged right margin for a series of labels
Protect	Protects range cells when global protection is enabled
Unprotect	Turns off protection of range cells
Input	Limits movement to input cells which are unprotected

File Names and Disk Prefixes:

VIP stores files by combining the prefix specified in the Worksheet Global Default Directory command with pathname entered. To save a file to another path ignoring the default prefix, precede the filename with a slash '/'. For example, /Budgets/Data saves the file DATA.WKS to the volume /Budgets ingoring the default prefix. Filenames may consist of letters and numbers.

Three types of files are created: Print, Graph and Worksheet. When a file is saved, a file name extension of the appropriate type is added.

A file ending in ".prn" contains printer ready information, ".gph" a graph, ".wks" a worksheet.

File	File management except for saving graph and print files
Retrieve	Retrieves a worksheet file
Save	Saves a worksheet file
Combine	Combines Entire-file or Named-range of saved worksheet
eXtract	Extracts and saves a portion of current worksheet file
List	Lists all files of a specified type on disk
Import	Brings standard ASCII print files to current worksheet
Directory	Changes current disk and directory (prefix)

These commands allow for the controlled printing of a worksheet and the saving of a print file. Printing of graphs is done separately by the GraphPrint program.

Printer	Sends prepared copy to printer
File	Saves prepared copy in a print file
Range	Selects a range for printing
Line	Adds a line between printings
Page	Adds the rest of a page between printings
Options	Governs print options
Header	Creates a header
Footer	Creates a footer
Margins	Sets margin widths
Borders	Selects rows and columns from the worksheet as borders
Set-up	Adds control characters to manage printing
Page-length	Sets the number of lines per page
Other	Commands for documentation and formatting
As-Displayed	Prints worksheet as is
Cell-formulas	Prints the cell contents of all non-blank cells

Options	
Formatted	Prints according to the options chosen
Unformatted	Prints without headers, footers or page breaks.
Clear	Selectively cancels print specifications
Align	Informs VIP that the paper is aligned in the printer
Go	Executes the print of print file save

Graphics are featured on the VIP Professional making use of the Apple //'s colors and screen resolution. Here are the tools available to create your picture of a thousand words:

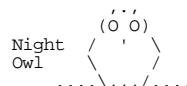
Type	Select Bar, Stacked-Bar, Pie, Line or XY Graph style
X	Specifies the X range
A-F	Choose data ranges
Reset	Selectively cancel graph settings
View	Draw most recent graph on screen
Save	Save graph in graph file
Name	Governs commands for naming graph settings
Create	Names a group of graph settings
Use	Retrieves and draws a graph using named graph settings
Delete	Cancels one group of named graph settings
Reset	Cancels all groups of named graph settings
Options	Governs commands for graph options
Legend	Creates legends
Format	Sets format for XY and Line graphs
Grid	Displays or removes grid lines
Color	Uses color for contrast between data ranges
B&W	Uses patterns to contrast data ranges
Data-labels	Chooses a range to act as labels for data points
Titles	Choose main, X or Y axis titles for a graph
Scale	Sets scale to automatic or manual, chooses a skip factor
Format	Chooses format for scale numbers

These commands govern database creation and use. Common operations used in

conjunction with a database are query, sort and statistical analyses.

Fill.....	Fills a range sequentially given a set increment
Table.....	Creates tables to show affects of changes in input cells
Query.....	Uses criteria to search for information in database
Sort.....	Sorts database using primary and/or secondary key fields
Distribution....	Finds frequency distribution for a range of values

These Dox were extracted from VIP Pro side 2...pathname '/PRO/OVLY/HELPPDATA'



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DOCUMENT visicalc

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VISICALC COMMAND CHART

BY: NIGHT HAWK

```

/B SET AN ENTRY TO BLANK

/C CLEARS THE SHEET, SETTING ALL ENTRIES TO BLANK

/D DELETES THE ROW(/DR) OR COLUMN(/DC) ON WHICH THE CURSOR
LIES.

/E ALLOWS EDITING OF THE ENTRY CONTENTS OF ANY ENTRY POSITION
BY REDISPLAYING IT ON THE EDIT LINE. USE <- -> KEYS & ESC.

/F SETS THE DISPLAY FORMAT OF AN ENTRY TO ONE OF THE FOLLOWING
FORMATS:

/FG GENERAL

/FI INTEGER
/FS DOLLAR AND CENTS
/FL LEFT JUSTIFIED
/FR RIGHT JUSTIFIED
/F* GRAPH
/FD DEFAULT

/G GLOBAL COMMANDS. THESE APPLY TO THE ENTIRE SHEET OR WINDOW.

/GC SETS COLUMN WIDTH
/GF SETS THE GLOBAL DEFAULT FORMAT
/GO SETS THE ORDER OF RECALCULATION TO BE DOWN THE
COLUMNS OR ACROSS THE ROWS
/GR SETS RECALCULATION TO BE AUTOMATIC(/GRA) OR MANUAL(/GRM).

/I INSERTS A ROW(/IR) OR A COLUMN(/IC)
/M MOVES AN ENTIRE ROW OR COLUMN TO A NEW POSITION.
/P PRINT COMMAND
/R REPLICATE COMMAND
/S STORAGE COMMANDS ARE AS FOLLOWS:

/SS SAVE
/SL LOAD
/SD DELETES SPECIFIED FILE ON DISK
/SI INITIALIZE A DISK ON SPECIFIED DRIVE
/SQ QUILTS VISICALC

/T SETS A HORIZONTAL TITLE AREA(/TH), A VERTICAL TITLE AREA
(/TV), SET BOTH A HORIZONTAL & VERTICAL TITLE AREA(/TB)
OR RESETS THE WINDOWS TO HAVE NO TITLE AREAS(/TN)
/V DISPLAYS VISICALC'S VERSION NUMBER ON THE PROMPT LINE
/W WINDOW CONTROL

/WH HORIZONTAL WINDOW
/WV VERTICAL WINDOW
/WL RETURNS SCREEN TO ONE WINDOW
/WS SYNCHRONIZED WINDOWS
/WU UNSYNCHRONIZED

/- REPEATING LABEL
  
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DOCUMENT wapabbs

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IV. WAPABBS PROGRAM NOTES

WAPABBS is, of necessity, a long and complex program. This discussion will attempt to trace the execution of the program from the start through the end of initialization. Following this is a discussion of the subroutines (lines 30-910), and a discussion of the workings of the main routines.

Line 10 sets up HIMEM and certain of the key variables. Change SL if your Micromodem is not in slot 3. Execution then jumps via line 100 to line 20000.

Lines 20000-20999 initialize the program. Lines 20000 and 20010 check to see if the two machine language routines, ABBS1.OBJ0 and ABBS3.OBJ0, are in place; they are BLOADED if necessary. The next lines turn off TRACE, initialize the Micromodem, and hang up the telephone.

Lines 20040-20050 and 20070-20080 set up the variables for some of the PEEKs and POKEs and initialize the bytes as required. Line 20060 references two subroutines, at 30 and 32, which are discussed below. The cumulative effect of these two routines is to set Applesoft's "&" vector, located at \$3F5.

Line 20090 sets up DOS commands as strings in order to save space. Line 20100 sets up the two strings of allowable commands.

Line 20110 says how many messages are allowed in the system at any one time. Many arrays are dimensioned with MS as a subscript.

Line 20120 gives the SYSOP's userid and S1\$ value. It also dimensions array variables. Line 20130 reads in the file names.

Lines 20140-20250 read in the Messages file off of the disk and store the messages summaries in memory beginning at \$6B00. Message 1 is stored first, message 2 second, etc. Lines 20250-20490 sort the message array by date order and create a list in the DA array that lists the messages in date order. Line numbers in this routine were carefully chosen in an attempt to minimize execution time.

Line 20500 loads USERS.OBJ into memory. Lines 20510-20540 load STARTUP into memory. Line 20550 reads the number of days in each month (change this during leap years!) and line 20999 says "READY" and returns execution to line 110, which passes control on to line 1000.

SUBROUTINES

Line 30 sets the Apple to standard system I/O routines: the keyboard and the screen. CALL 1002 is used rather than the traditional PRINT D\$;"PR#0" so that no spurious returns are created.

Line 32 turns the ABBS's I/O routines on and sets the Applesoft "&" vector. Line 33 makes editing simpler. To list a line in a form that is easy to copy with the right-arrow key, do a GOSUB 33:LIST [line number] and the screen will be cleared, the margins will be set to eliminate the extra spaces, and the line will be listed.

Lines 50-55 update the date string, DA\$. If you do not have a CPS Multifunction Card, DA\$ will not be changed.

Lines 200-240 print the Message Header for a number of routines. On input, Z is the message number. On exit, B\$ is the date the message was entered; L is also changed.

Lines 300-350 print most files. After drive 2 is selected (if necessary), the file is read a line at a time. Because MON I is in effect, there is no specific printout of the line. Every second carriage return is converted into a space if the 80-column mode is in effect. If the file is the Messages file, the first 4 records are skipped, since they contain the same information as the message header, which was printed by the routine at line 200. Upon exit, the file is closed. On entry, F is the number of the file; upon exit A\$ and Z are changed.

Lines 400-490 ask the user how far back he wishes to search for messages. "A" will retrieve all messages or summaries; a Return retrieves only those since the user's last call. Entry of a number will retrieve all messages within that number of days, where "0" will retrieve only those messages entered today. "Days" are calendar days, thus to a caller at 12:05 a.m., a message entered 10 minutes before would be one day ago. If no messages are found that qualify (i.e., if K > MC), control goes to line 2000. Upon exit, J is set to the date you are searching for (YYMMDD.HHX), K is the relative message (in date order) that was the oldest message within the chosen number of days. A\$, B\$, J, and JJ are changed.

Line 500 sets up the ABBS to write to File F, Record R.

Lines 600-630 call a machine language routine that takes a userid such as WAP001 and converts it into the record number in the USERS file. On exit, J is the relative record number and A\$ is the numeric portion of the userid.

Lines 700 and 701 open the Messages and Users files as Random-Access files.

Lines 800-810 set up file F for input. Set R to the desired record number before opening Messages or Users.

Lines 900-910 perform a J = VAL(A\$) function that prevents errors that would be inevitable if a user entered "1E99" in response to a request for numeric input. Since WAPABBS does not use negative numbers, this routine returns only absolute values.

Line 1000 begins the "AWAITING CALL" routine. Garbage is collected (line 1000), and all variables are initialized: the cursor is set so that DOS will allow deferred-execution commands, CKMASK is set so that ctrl-C and ctrl-K cannot interrupt execution, SPEED is set to the maximum, the modem is turned on, all files are closed, delay after Returns is turned off, lowercase-to-uppercase translation is turned on, drive 1 is selected, the "Knowledgable User" flag is cleared, 80-column mode is cleared, and WAPABBS waits for a call. Once a call has been received, the CALL INLIN,248 statement has been satisfied and the ONERR vector is reset.

Given the Micromodem's phone answering routine, only a response from the keyboard could have input a non-null string in response to the input statement in line 1000. Line 1010 therefore allows you to do certain things while WAPABBS is operating. If you enter SYSOP, you can change the STARTUP file, look at the "TO SYSOP" file, and check on the number of callers. This routine, at 30000, will return you to the "COMMAND?" level.

To bypass the STARTUP questions, you may enter a ctrl-S, which will automatically log you onto the ABBS. Others cannot use the ABBS while you are using it. Be aware that while ctrl-S relieves you from having to enter your password, it does not check the date you last called in, and so the "Last Call" value will be whatever it was for the previous caller.

You may signal your willingness to chat with users by entering "IN" or unwillingness by entering "OUT". If you enter a ctrl-C, the ABBS will quietly turn off the modem and return to BASIC.

Line 1040 is the first thing that your users will see when they call up. Asking for a return is necessary so that people with acoustic couplers have some time to get set up, and so that people with parity or other problems will see that they need to change something. Experience has taught me not to delete this line. If the user enters a number here, it will become the delay after carriage return when linefeed insertion is selected. Users requiring linefeeds or a delay should enter here a ctrl-J (linefeed), followed by the amount of delay (if any), followed by a Return.

Change line 1050 when you want to let your users know important news about the system.

Users have three tries to enter their passwords. Help is offered after the second unsuccessful attempt. Three incorrect tries jumps control to a "Guest" routine at line 22000.

Line 1100 converts userid's in the form WP0xyz to WAPxyz because otherwise the ABBS would not know the two were the same individual. Line 1120 looks up the password, and line 1130 reads and updates the "Last Call" variable. Line 1140, which only the SYSOP sees, says how many users have logged on. Line 1150 locks out other callers from the ABBS if you are using it. Since the only way for ACTIVE to be 0 at this point is if you have accessed the ABBS from the keyboard, ACTIVE is set to 64 so that any calls while you are using the ABBS will ring unanswered.

Line 1160 is the entry point for the "P" command. Line 1170 offers the user an opportunity to read the Bulletin, which is printed out by line 1180. The user is next shown the message numbers of all messages for him. The numbers are presented in chronological order.

Line 2000 is the "COMMAND?" processor. Once a user has logged on, control will always pass through this line. The ctrl-C and ctrl-K commands always return control to this line after they clear the stack of incomplete GOSUB-RETURNS and FOR-NEXTS. These things must be done: Forbid ctrl-C and ctrl-K briefly so that WAPABBS will be able to do some work without interruption, set ALLOWLC so that all lowercase will be converted to uppercase, turn the modem on (in case something turned it off), turn off MON I, close all files, enable ctrl-C/ctrl-K, set the drive to 1, and request a "COMMAND?"

Line 2010 gets a three-character input line and checks to see if it is a number. If so, control passes to the routine at 5200 that will print out that message. If the line entered was not a number, its first character is treated as a command and looked up in AC\$. If it was not a valid command, a brief summary of legal commands is displayed. Control then returns to the "COMMAND?" processor.

THE ROUTINES (in order of line number):

Note that, for the most part, commands begin on lines with even hundred line numbers. While there were no rigid definitions applied to the order of the commands, you may notice that, generally, commands with line numbers in the 3000's access informational files, commands with line numbers in the 4000's set or clear flags, and commands with line numbers in the 5000-6000's process the Messages file. Upload is the 10000's and Download is the 11000's.

The first routine is the "Help" routine at line 2030 ("H"), which is essentially a one-line description of each available command.

The Bulletin, Meetings, and Instructions files are handled by lines 3000-3200 ("B", "M", and "I"). Lines 3300-3430 ("W") are the "Who" routine, which connects userid's with names. The name-to-number routine asks for the first two letters of the name and searches every user record for a match. The number-to-name routine, at line 3400, treats the USERS file as a Random-Access file and looks up only that particular password generally name.

Line 3500 ("S") lists the Club Store file.

Lines 3600-3690 ("Y") allow you and one other user, whose userid is stored in T2\$, to look at one or all records in the USERS file. This will also print out passwords, except that the SYSOP's password cannot be printed. The SYSOP's password can only be inspected by a text editor from the keyboard of the ABBS.

Lines 3700-3750 ("O") control the public opinion poll. If you are the user, WAPABBS asks you if you wish to examine the file. Note that WAPABBS's error handling routines will cause program execution to return to the "COMMAND?" processor at the end of the Opinion file listing. If you do not ask to see the listing, and in any event for all other users, the question is posed and the user is asked if he or she wishes to respond. (You may wish to insert a routine that checks to see if the user has answered the question before.) If the user wishes to enter a response, up to 65 characters are allowed. Note that if this file fills up disk 2, your users may be thrown off of the system by a disk full error. Monitor the size of this file carefully.

Line 4000 ("K") toggles the "Knowledgable User" flag. If equal to one, many prompts are shortened; thus "COMMAND?" becomes "?".

Lines 4100-4180 ("N") allow the user to select linefeeds after carriage returns, delays after carriage returns, or overall speed delays. Read your Micromodem manual for a detailed description of how linefeed insertion and delay after carriage returns work.

Lines 4200-4230 ("C") allow the user to request a chat with the SYSOP. If the SYSOP comes to the ABBS keyboard and enters ctrl-A ctrl-B, line 4300 will print a greeting and enter Chat mode. Note that while in Chat mode, both you and the user must insert Returns at least every 248 characters. You will notice when chatting that WAPABBS will not allow you to enter more than 248 characters per line, but your user will hear beeps for every extra keystroke either you or he makes! Chat mode can ONLY be exited by ctrl-C or ctrl-K, which either you or the user can enter.

Lines 4400-4430 ("T") allow the SYSOP and the users designated T1\$ and T2\$ to change the date. This is unnecessary if you have a CPS Multifunction card. The date must be entered in the form YYMMDD.HHMMSS, where YY=year, MM=month, DD=date, HH=hours, MM=minutes, and SS=seconds.

Lines 4500-4530 ("?") simply prints out the letters of allowable commands. You, T1\$, and T2\$ are shown the special commands only you three may enter. Line 4600 ("+") toggles the 80-column mode. Only the subroutine beginning at line 300 recognizes 80-column mode, which merely converts every other Return into a space.

Lines 5000-5030 ("Q") give a quick summary of the messages for you, from you, and for all. Message numbers are listed in chronological order. Returns are inserted periodically so that message numbers are not split across text screen lines.

Lines 5100-5150 ("S") scan the message summaries. The user is first asked whether he wishes to flag messages for later reading in full; if he says yes, FG is set to 1 and the FG(MS) array is cleared. The user is then asked how far back he wishes to scan. See the description of the subroutine beginning at line 400. JJ is set to 0 so that, if no messages are selected for reading in full, execution will return immediately to line 2000. Then each message summary is listed, followed (if applicable) by a query as to whether the user wants the message flagged. Note that the SYSOP can read all message summaries, whereas others can read the summaries of messages to them, from them, or for all. Once a message is flagged, JJ is set to 1. At the conclusion of the summary of the most recent message, if the user has flagged any messages, KK is set to 0 and the user is sent to the "L" command at line 5810; otherwise, control returns to line 2000.

Lines 5200-5240 print particular message numbers. The SYSOP can read any message. If the message was to the user, he is asked whether he would like to delete it at once. If he does, control passes to the Delete subroutine at 5350; otherwise control returns to line 2000.

Lines 5300-5380 ("D") delete messages. Lines 5300-5310 merely let you select the message to delete. Only the sender of the message, the recipient and the SYSOP can delete a message. The actual deleting is done by a subroutine beginning at 5320. On entry to the subroutine, J is the message number to be deleted. The "From" portion of the message summary is made equal to "EMPTY". Note that the message number is pulled out of the DA(MS) array and placed at the top of the inactive message portion of the array, i.e., at DA(MC+1). All other message numbers are moved up one in the array. On exit, K, L, Z, and B\$ are changed; note that KK is reduced by one. KK is used by the Flush Messages ("F") routine.

Line 5400 ("E") calls the Enter Message subroutine at 5401-5680. This is one of the most important routines in WAPABBS, and you should consider studying it carefully.

After making sure that space is available for the message (line 5401), ctrl-C/ctrl-K recognition is disabled. J is set to the message number at the top of the available number stack. The user is asked to designate the recipient. Lines 5420-5460 handle the response. (Note that line 5440 handles the "C" response.)

Beginning with line 5470, the entry of the Message summary, lowercase is allowed. WAPABBS treats lowercase as lowercase only during entry of a message or its summary; at all other times, lowercase is converted by the ABBS into uppercase. Following the summary, the user enters the text of the message one line at a time. After he has entered a null line or the tenth line of text, ALLOWLC is turned off and the user is asked whether he wants to save the message. If he answers anything but "N", the messages is written to disk from the M\$(13) array. After writing to disk is complete, the message summary is entered into memory using the "&" routine. Note that these two steps must be done after the user has approved the message, because if the user had begun to enter a message to ALL and had gotten cut off, a partially entered message would still have the text of someone else's old -- and perhaps confidential -- message, which would be retrievable by everyone. After the message is saved, FG(J) is set to 0 so that the message will not be retrieved by the flagging process, which may be underway if the Message Entry was entered from the "L" routine rather than directly with "E".

If the user elects not to save the message, he is presented with three options: edit the message, cancel it, or re-enter it from scratch. Cancelling the message concludes the Entry subroutine; "R" returns to the top of the Entry subroutine. Editing allows the sender (or the SYSOP) to change any part of the message except the date and the sender's userid. In many respects the Edit routine is merely a specialized Entry routine, allowing entry of particular lines instead of an entire message. By and large, the same variables are used in Edit as in Entry.

Lines 5800-5840 ("L") list out the full text of messages much in the same way as "S" lists out summaries. JJ is 0 to distinguish "L" from the flagged listing printed out by the "S" command, which enters at line 5810. KK is used as the index into the DA(MS) array, and Z is the actual number of the message being listed. Note again that the SYSOP sees all messages, whereas others can see messages for themselves, from themselves or for all. After listing the message in line 5830, the user is offered the option of deleting the message if it is to him.

The user is then asked if he would like to enter a message. If he responds Yes, the "Entry" subroutine at 5401 is called. In any event, WAPABBS goes back to line 5810 to list out the next message.

Lines 5900-5930 ("F") Flush old messages from the files. Only the SYSOP can flush messages. All messages older than message number KK are printed and you are given the opportunity of deleting them. At any given moment, KK is the relative number in the DA(MS) array of the message being listed, and JJ is the relative number in the DA(MS) array of the latest message that you will be offered the opportunity of deleting.

Lines 6000-6050 ("A") allow you or the sender of a message to edit it after it has been sent. This routine calls the Edit subroutine at 5550. K is used to measure how many lines of text are in the message.

Line 9000 ("R") is set aside for a command of your own design.

Lines 10000-10020 ("X") are the introduction to the File Transfer System. Line 10020 prints the instructions for File Transfer.

Lines 10030-10140 allow the user to send files to the ABBS. After verifying that the user knows the Upload password, which he must have learned from you, he is asked for a file name, and the file name is checked against other upload file names. (Make sure that you tell users not to use the name of another program on disk 2.)

The user is also asked for the file type, which will affect how the program is downloaded.

The actual uploading process is done by line 10120. When the user sends a line consisting of "EOF" (End of File), uploading ends. If a line has less than 4 characters, i.e., shorter than the shortest valid BASIC or assembly language program line, it is ignored. Each valid line is written to disk as it comes in, so that it need not be stored in memory. When the upload is completed, two null lines are written (the second is as a safety precaution) and upload is concluded.

Downloading (lines 11000-11120) is automatic for a user with an Apple and a Micromodem. After offering the user a choice of files available (note that the first record of UPLOAD2 is the number of files available for downloading.) Line 11060 actually begins the downloading process. A ctrl-R is sent to the user's Micromodem to force it into remote mode. Now the ABBS is running the user's Apple. "FP" or "INT" is sent to clear memory and select the proper language. After a short pause in case Applesoft must be loaded off of a disk, the file is sent out. Downloading is terminated at the first occurrence of a null line, although a null line at the outset will not terminate downloading. The "POKE PEEK . . ." line is used by the Micromodem to select full duplex so that the ctrl-T sent thereafter will return the user's ABBS to the proper state. The user is then sent an instruction on how to save the file.

OTHER ROUTINES:

Line 19000 prints a sign-off message prior to hanging up the telephone. Lines 22000-22060 print a message to people who fail to sign on successfully after three attempts. You should change this program to suit your situation. Line 22060 allows up to 9 messages to be sent to you by people without passwords. This is necessary to keep from overwriting the first character of the first message to you. (Also, without a limit certain unpleasant people might try to fill up your disk space with garbage.)

Lines 28000-28510 ("Z") are a security section. In order to access remotely certain system data, a caller must know your password, but even then they must first run the gauntlet of three or so questions to which you AND ONLY YOU should know the answers. I have set up 10 questions; you should use your own. If the answer is wrong, control passes to line 28500, which allows one wrong answer but makes you answer three more questions. The second wrong answer disconnects the caller. The questions are presented in random order so that a caller would have some difficulty setting up a program to call your ABBS repeatedly and try out answers.

The system information, which can be accessed remotely by "Z" or directly from the keyboard by entering "SYSOP" in response to the AWAITING CALL line, consists of two parts: the STARTUP file and housekeeping. The first part walks you through the STARTUP file, in the order of date (which is actually done by a routine at 4410), bulletin date, Upload password, T1\$, and T2\$. Hitting return by itself does not change the current entries. If any changes were made to STARTUP, they are recorded.

You are then shown any special messages that have been left for you (line 30090). You may delete these messages to clear the file for additional messages. You are then shown the number of free bytes. This is not done by the FRE(0) command, which does housecleaning before telling you the amount of free space; rather, this value is the amount of free space prior to doing any housecleaning. You will then see the number of people who have signed on, and you may clear this number if you wish. Next, the ABBS tells you if an error has occurred. If one has, you may request that the ABBS's screen be printed on your remote terminal. You may then have the option of rebooting the entire ABBS system. You should do this if an error has already occurred and you do not want the next error to shut the system down, or if some random byte has been changed erroneously. Note that resetting the system will cause the ABBS to ignore you for a few seconds, then disconnect you.

Errors are handled by lines 40000-41010. The ONERR GOTO line sends control first to line 41000, which checks for an END OF DATA error; this is not treated as an error and execution continues with the "COMMAND?" line. If this is not the cause of the error, the modem is turned off and the error number is printed on the screen. If no error has occurred before -- which will be the case if PEEK(34) is 0 -- certain key variables are printed as well. If the error were a DISK FULL or a bad response to an input statement or a ctrl-C interrupt, the ABBS continues execution with the "COMMAND?" prompt. Otherwise, the ABBS hangs up and awaits another call.

If the error is the second one to occur, line 40100 shuts down the system. You may wish to have the system reboot itself, because quite often the error will have been caused by a random glitch in memory, which can be cured by reloading DOS and WAPABBS.

Line 45000 is used as an exit by the part of ABBS1.OBJ0 that freezes up the system if program execution ends. Whenever the flashing "\$33" appears, a ctrl-C from

the keyboard will cause a jump to line 45000, which shuts down the modem and returns to BASIC.

AND IF YOU NEED HELP

If you require further assistance with this program, write to:

Thomas S. Warrick
ABBS SYSOP
c/o International Apple Core
908 George Street
Santa Clara, California 95050

You may also try writing me through Washington Apple Pi at Post Office Box 34511, Bethesda, Maryland, 20817, although this address may change in the future. In either case, please enclose a self-addressed, stamped envelope. (If you are a member of Washington Apple Pi, you will get our journal, which will have our current address. Membership will also entitle you to use our ABBS, which will allow you to send messages to me directly.)

SELF-IMPROVEMENTS

This program is intended to be tinkered with and improved upon. If you make any improvements or modifications, please pass them on to your fellow Apple users through the address above. An IAC member club using WAPABBS should send its name and address, its SYSOP's name, and the club ABBS phone number so that you can be informed of updates and revisions of this program as they become available.

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DOCUMENT war.in.russia
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WAR IN RUSSIA
BY: DOS TOYEVSKI AND PALANTIR COMPUTING

THIS IS A COMPLICATED PROGRAM AND MANY OF THE ALGORITHMS TAKE MUCH TIME TO COMPLETE. IF THE SCREEN GOES BLANK DURING ANY STAGE IN THE GAME FOR AN UNSEEMING AMOUNT OF TIME, DON'T WORRY. IF YOU ARE THE CURIOUS TYPE, FROM THE MAIN PAGE, PLAY A SAVED GAME, THEN CAT WITH THE ORIGINAL DISK IN THE DRIVE. CHOOSE ALL YOUR OPTIONS THEN HIT <SPACE> TO PLAY.

ADJUSTMENT PHASE

- 1. DIVIDE GROUP:TAKES UNIT AND SPLITS IT AS ORDERED INTO TWO GROUPS.
2. TRANSFER GROUP:FORMS A LARGER GROUP BY COMBINING TWO SMALLER GROUPS WITHIN THE SAME HEX.
3. TRANSFER AIR:FERRY STRENGTHS BETWEEN LUFTFLOTTE GRUPPES IN THE IMMEDIATE AREA.
4. CHECK MAP:TACTICAL DISPLAY WITH SCROLLING OVER THE ENTIRE FIELD WITH UNIT IDENTIFICATION IF DESIRED.
5. CHECK STRATEGIC MAP:STRATEGIC DISPLAY OF THE ENTIRE PLAYING FIELD.
6. BUILD FACTORY:WHAT IT SAYS;YOU GET A LIST OF CITIES AND SUPPLIES WITH WHICH TO WORK.
7. BUILD UNIT:CITIES HAVE FACTORIES AND MEN; HERE YOU CHOOSE THE OUTPUT TO PUT INTO ACTION IN THE FOLLOWING PHASE.
N. NAVAL MOVEMENT:I HAVEN'T SEEN IT VALID YET.

ONCE YOU HAVE FORMED YOUR COMBAT GROUPS THEN IT IS TIME TO PLOT YOUR MOVE.

AXIS MOVE

DEPOT SUBMOVE

AUTO MOVE:
WATCH IT GET THE SUPPLIES TO THE NEXT LOCATION FOR YOU

MANUAL MOVE:
YOU GET THE SUPPLY PACKET THERE YOURSELF

DISTRIBUTE:
SUPPLIES ALL UNITS IN THE PRESENT HEX

TERRAIN:
SHOWS THE TERRAIN UNDERNEATH
ALL UNITS ON THE BOARD

SUPPLY SCAN:
YOU GOT ME

BUILD A RAIL:
EXTEND A PRESENT RAIL NETWORK

MOVE COMBAT SUBMOVE

1-6:
MOVE THE UNIT IMMEDIATELY

GET UNIT:
MOVE THE UNIT ON WHICH THE CURSOR IS POSITIONED

REPLACE:
REFORM PREVIOUSLY SPLIT UNITS INTO A MORE POWERFUL, LARGER GROUP.

TAC PLOT:
MOVEMENT PROGRAMMING FOR THE UPCOMING COMBAT PHASE

XRAIL:
MOVE BY RAIL IMMEDIATELY

ABORT:
CLEAR ALL DECISIONS AND START FRESH WITH THIS UNIT

NEXT UNIT: FINISHED WITH THIS UNIT, CONTINUE

STATUS INDICATORS:

S->SU UNIT NEARBY

M->MOVED IN THIS PHASE

N->NO MORE MOVES ALLOWED

U->UNCOMMITTED, NO SU UNIT NEARBY

QUIT:
END MOVE WITH ALL UNITS AUTOMATIC ENTRENCHMENT OF ELIGIBLE UNITS

AIR OPERATIONS SUBMOVE

1-6:
FLY IN THAT DIRECTION IN PREPARATION FOR A FURTHER ACTION, RANGE IS 4
HEXES

BOMB CITY:
ONLY AN ENEMY CITY

GROUND ATTACK:
AGAINST ENEMY SU UNITS

ABORT:
START THIS LUFTWAFFE UNIT'S MOVE FRESH

QUIT:
DONE WITH ALL LUFTWAFFE UNITS

COMPUTER PROCESSING OF COMBAT

SAVE GAME?
X)IT GAME? IF YES SEE SU STATUS?
BACK TO MAIN MENU

THIS IS AN IMCOMPLETE DOCUMENT, IF YOU COME ACROSS ANY IMPROVEMENTS
PLEASE POST A REVISED VERSION. IT WILL BE APPRECIATED. I WILL IMPROVE
IT AS TIME GOES BY.

DOS TOYEVSKI CALL SATAN'S HOLLOW--> 409/744\6477

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DOCUMENT warriors.rasii

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* FRED SOFTWARE * PRESENTS:

WARRIORS OF RAS
VOLUME II

KAIV

SAVING/RESTORING GAMES & CHARACTERS

TO SAVE A GAME IN PROGRESS, TYPE THE COMMAND SAVE. YOU WILL BE ASKED
IF YOU WANT TO SAVE THE GAME (G) OR ONLY THE CHARACTER (C). YOU MIGHT
WANT TO SAVE ONLY THE CHARACTER SO THAT IT COULD BE LOADED INTO
ANOTHER WARRIOR OF RAS GAME, SUCH AS DUNZHIN OR WYLDE.

CHOOSE A # FROM 1 TO 5: THAT IS THE NUMBER YOU WILL USE TO RESTORE
THAT GAME OR CHARACTER.

TO RESTORE, SIMPLY FOLLOW THE PROMPTS WHEN YOU BOOT THE DISK.

BEGINNING THE ADVENTURE

THE FIRST THING YOU WILL WANT TO DO IS (B)UY SUPPLIES. YOU START OUT
WITH 2000 SILVER COINS (OR, IF PLAYING AN OLD CHARACTER, WHATEVER
TREASURER YOU HAVE COLLECTED). FOR 1800 SILVER COINS YOU VAN BUY A
"STANDARD PACK", WHICH CONSISTS OF A SUIT OF CHAIN MAIL, THREE
ORDINARY SWORDS, 10 TORCHES, 15 MEALS WORTH OF FOOD AND WATER, A
CROSS, A FLINT & STEEL, THREE ROPES, TWO DIRKS, A PICK AND A MIRROR.
TO BUY THIS, ENTER A "@" INSTEAD OF AN ITEM NUMBER.

THE (S)TASH AND (R)ETRIEVE COMMANDS ARE USED TO SAFELY STORE TREASURE.
SINCE EVERY POUND YOU CARRY SLOWS YOU DOWN, IT IS IMPORTANT TO LEAVE
BEHIND TREASURE THAT YOU DON'T NEED.

(E)NTER THE KAIV, WHEN YOU ARE READY. THE OBJECT OF KAIV IS TO FIND A
GREAT TREASURE, SOMEWHERE IN ITS FARTHEST REACHES.

COMMANDS

THE FOLLOWING COMMANDS ARE AVAILABLE. ALL CAN BE ABBREVIATED TO ONE
LETTER, ALTHOUGH SOME WILL REQUIRE AN OBJECT OR A DIRECTION AS WELL.
FOR A LIST OF THE ABBREVIATIONS, USE THE HELP (Q) COMMAND.

AIM (A):
ALLOWS YOU TO TAKE CAREFUL AIM AT YOUR OPPONENT. YOU MUST ALSO ENTER
THE BODY PART THAT YOU ARE AIMING AT. YOU LOSE ONE BLOW TO TAKE AIM.

BRIBE (K):
OFFER SOME OF YOUR TREASURE TO YOUR OPPONENT, IN HOPES THAT IT WILL
LET YOU PASS. YOU MUST KNOW HOW MUCH TREASURE YOU HAVE BEFORE YOU USE
THIS COMMAND.

CLIMB (C):
CLIFFS (MARKED ON YOUR MAP) CAN BE CLIMBED USING THIS COMMAND. HAVING
A ROPE INCREASED YOUR CHANCES, BUT YOU WILL LEAVE THE ROPE BEHIND IF
YOU USE IT.

DISUSE (V):
STOPS THE EFFECT OF THE USE COMMAND (SEE BELOW).

DRINK (D):
USED TO DRINK WATER, WHEN YOU ARE THIRSTY, OR TO DRINK POTIONS, IF YOU

DECIDE TO TRY THEIR EFFECTS.

DROP (B):
USED TO DROP ITEMS THAT YOU NO LONGER WANT. IF YOU WISH TO FIND IT AGAIN, YOU MUST REMEMBER WHERE YOU DROPPED IT. YOU CANNOT FIND ARMOR OR SHIELDS IF YOU DROP THEM.

EAT (E):
USED TO EAT FOOD, WHEN YOU ARE HUNGRY. EATING AND DRINKING ARE VITAL AND DAMAGE WILL RESULT IF YOU IGNORE HUNGER AND THIRST.

EXTINGUISH (Y):
PUTS OUT A LIT TORCH. A TORCH MUST BE OUT IF YOU WISH TO STORE IT IN YOUR PACK.

FACTS (ESC):
THIS SHOWS INFORMATION ABOUT YOUR CHARACTER, SUCH AS LEVEL, EXPERIENCE, AND TREASURE. MOST IMPORTANTLY, IT LISTS YOUR VITAL SPOTS AND HOW MUCH DAMAGE THAT PART CAN TAKE. IF A PART OF YOUR BODY IS HIT FOR MORE DAMAGE THAN IT CAN HOLD, YOU WILL BE KILLED.

FETCH (F):
TRANSFERS AN ITEM FROM YOUR PACK TO YOUR HANDS. IF BOTH YOUR HANDS ARE FULL, YOU WILL HAVE TO PUT SOMETHING YOU ARE CARRYING IN YOUR PACK.

FOOTSTEPS (NO ABBR):
TURNS OFF THE SOUND YOU MAKE WHEN YOU WALK.

FORCE (X):
IF YOU USE THIS COMMAND, YOU WILL SWING WITH GREATER STRENGTH. HOWEVER, YOU WILL ALSO BE MORE LIKELY TO MISS YOUR TARGET COMPLETELY.

GET (G):
PICK UP AN ITEM FROM THE FLOOR OF THE KAIV. IT WILL PICK UP THE 1ST ITEM FOUND. IF THERE ARE SEVERAL OBJECTS, YOU WILL HAVE TO USE SEVERAL GET COMMANDS, OR YOU CAN USE THE NAME OF THE ITEM YOU DESIRE (SUCH AS GET SWORD). GET PUTS THE ITEM IN YOUR PACK.

HELP (Q):
LISTS ALL ABBREVIATIONS AND CHOICES OF TARGETS ON MONSTERS.

HIDE (N):
ALLOWS YOU TO HIDE FROM FOES. IF SEEN, YOUR FOE GETS A FREE SWING.

HIT (H):
FOR FIGHTING, IT ALLOWS YOU TO HIT ANY TARGET ON THE FOE, BUT YOU MUST SPECIFY WHICH TARGET. NOT ALL CREATURES HAVE ALL TARGETS - FOR EXAMPLE, FIGHTERS DON'T HAVE FORELEGS.

INVENTORY (@):
SHOWS ALL OF THE ITEMS YOU ARE CARRYING.

LIGHT (L):
LIGHTS A TORCH, IF YOU HAVE BOTH A TORCH AND A FLINT & STEEL.

MOVE (M):
FOR MOVEMENT. YOU MUST ALSO SPECIFY A DIRECTION (N, S, E, W). IF YOU WISH TO MOVE MORE THAN ONE STEP, ENTER THE # OF STEPS TO MOVE AS WELL.

PICK (P):
IF YOU HAVE A PICK, YOU CAN USE THIS TO DIG A PATH THROUGH A WALL. THIS IS USEFUL IN CASE OF A CAVE-IN.

QUIT (NO ABBR):
USED TO END THE GAME. NOTHING WILL BE REMEMBERED, UNLESS YOU USE THE SAVE COMMAND FIRST.

REMOVE (O):
TAKES OFF WORN ITEMS, SUCH AS ARMOR OR RINGS, AND STORES THEM IN YOUR PACK. IF YOU ARE WEARING MORE THAN ONE ITEM, YOU SHOULD SPECIFY WHICH YOU WISH TO REMOVE.

RUN (R):
USED TO ATTEMPT TO ESCAPE FROM A FOE. REGARDLESS OF WHETHER OR NOT IT WORKS, THE OPPONENT GETS A FREE STRIKE.

SAVE (NO ABBR):
ALLOWS YOU TO SAVE A GAME OR CHARACTER (SEE ABOVE).

SOUND (NO ABBR):
TURNS OFF ALL SOUND EFFECTS.

STORE (S):
PLACES AN OBJECT IN YOUR PACK. YOU MUST SPECIFY WHICH ITEM.

SWAP (J):
EXCHANGE THE CONTENTS OF YOUR RIGHT AND LEFT HANDS.

USE (U):
ACTIVATES MAGIC RINGS AND WANDS. SEE THE DESCRIPTION OF MAGICAL ITEMS, BELOW.

WEAR (W):
PUT ON ARMOR OR RINGS.

TO SPEED UP THE PACE OF THE ADVENTURE, HIT THE RIGHT ARROW (-->) KEY.

MAGICAL ITEMS

ALL MAGIC ITEMS CAN BE INDICATED WITH THEIR FULL NAMES, SUCH AS WAND OF FIRE, OR ABBREVIATED, AS W O FIRE OR FIRE.

RINGS:
MUST BE WORN AND ACTIVATED. SOME WORK ONCE, OTHERS UNTIL YOU DISUSE THEM.

WANDS:
ALWAYS OFFENSIVE WEAPONS. A CREATURE MAY BE ABLE TO EVADE THE SPELL. SOME WANDS CAN BE USED ON INANIMATE OBJECTS, SUCH AS WALLS.

POTIONS:
MUST BE DRUNK. EACH HAS A CERTAIN TIME FOR WHICH IT IS EFFECTIVE. YOU MAY NOT DRINK A SECOND UNTIL THE EFFECTS OF THE FIRST HAVE WORN OFF.

HAZARDS

TO AVOID A TRAP, HIT ANY KEY BEFORE THE TRAP IS FULLY SPRUNG, AND YOU MAY ESCAPE.

POOLS:
SHOWN ON THE MAP, BUT THERE IS NO WAY TO DETERMINE IF THEY ARE ACID OR MERELY WATER.

SLIMY FLOORS & PITS:
NOT SHOWN ON THE MAP, AND POTENTIALLY HARMFUL.

CLIFFS:
MARKED ON THE MAP, THEY CAN BE CLIMBED, BUT YOU MAY FALL. ON THE OTHER HAND, IF YOU STEP OFF OF A CLIFF, SERIOUS DAMAGE WILL RESULT.

CAVE-INS:
IF YOU ARE TRAPPED BY A CAVE-IN, YOU CAN OFTEN PICK YOURSELF OUT. CAUTION IS ADVISED, BECAUSE YOU MAY UNDERMINE THE ENTIRE STRUCTURE OF THE KAIV!

WINDS:
WILL MERELY BLOW OUT YOUR TORCH, WHICH CAN BE EASILY RE-LIT WITH A FLINT & STEEL.

THE GHOST:
OCCASIONALLY, YOU MAY HEAR A GHOSTLY VOICE SAY "GO AWAY!" YOU WILL BE TELEPORTED TO ANOTHER PART OF THE KAIV.

THE LADY:
YOUR LUCK CAN TURN BAD OR BE IMPROVED AT THE WHIM OF THIS VOICE, WHO WILL TELL YOU IF SHE LIKES OR DISLIKES YOU.

MAGIC CREATURES:
SOME OF THE FOES YOU ENCOUNTER WILL HAVE THE ABILITY TO PARALYZE YOU, TURN YOU TO STONE, OR DRAIN EXPERIENCE LEVELS. IF YOU SEE THE WORD "SAVE" WHEN FIGHTING ONE OF THESE CREATURES, YOU MUST HIT A KEY AND HOPE FOR THE BEST.

DENIZENS OF THE KAIV:

THIS IS A LIST OF THE CREATURES THAT YOU MAY ENCOUNTER. THEY ARE LISTED ROUGHLY IN ORDER OF THE LEAST TO THE MOST POWERFUL.

GHOULS:
NOT VERY POWERFUL, BUT THEY CAN PARALYZE.

ZOMBIES:
QUITE WEAK IN SOME PLACES, BUT OTHER PARTS OF THEIR BODIES CAN ABSORB GREAT PUNISHMENT. THEY ARE ALSO SLOW.

WOLVES:
OFTEN APPEARS IN PACKS.

SKELETONS:
DANGEROUS FIGHTERS, BUT WITH BRITTLE BONES.

FIGHTERS:
MALICIOUS BANDITS & RUFFIANS.

DWARVES:
DISLIKE HUMANS. THEY CARRY AXES AND WEAR LEATHER ARMOR.

ELVES:
QUICK MOVING AND GOOD SWORDSMEN, AND ALSO CRAFTY BARGAINERS.

LIONS:
FAST AND POWERFUL.

HARPIES:
CAN PARALYZE VICTIMS WITH ITS SCREECH, BUT NOT A POWERFUL FIGHTER.

GARGOYLES: CAN PARALYZE, AND HAVE A THICK, LEATHERY HIDE.

OGRES:
STUPID, BUT VERY DANGEROUS.

WARRIORS:
WEARING HAUBERKS AND CHAIN MAIL HELMS, AND CARRYING FINE SWORDS, THEY ARE LESS TREACHEROUS THAN THE FIGHTERS, BUT THEY TAKE WHAT THEY WISH.

GOBLINS:
CARRY MACES AND WEAR LEATHER ARMOR.

COCKATRICES:
CAN TURN TO STONE THOSE WHO FEEL THEIR BREATH OR BITE.

DIREWOLVES:
FAST AND DEADLY.

GORGONS:
CAN TURN YOU TO STONE, BUT CAN BE AVOIDED IF YOU HAVE A MIRROR.

GRIFFONS:
HUGE AND VERY DEADLY.

WYVERNS:
SIMILAR TO DRAGONS, BUT NOT AS CRAFTY. IT HAS HARD SCALES FOR ARMOR.

LORDS:
MAGNIFICENT FIGHTERS, ARMED WITH LEGENDARY SWORDS AND WEARING PLATEMAIL AND WAR HELMETS.

TROLLS:
TOUGH ARMOR. THEY HATE ALL NON-TROLLS.

MANTICORAS:
EXTREMELY QUICK, WITH DELICATE WINGS.

CAVEBEARS:
ALWAYS HUNGRY.

WRAITHS:
CAN DRAIN ONE EXPERIENCE LEVEL

VAMPIRES:
CAN DRAIN TWO LEVELS, AND FEAR NOTHING BUT THE CROSS.

MAGICAL ITEMS & THEIR EFFECTS:

P/FIGHT:
INCREASES ATTACK VALUE BY 4

P/HASTE:
INCREASES YOUR MOVEMENT

P/HEALTH:
HEALS ALL WOUNDS INSTANTLY

P/HIDING:
MAKES YOU INVISIBLE

P/IRONSKIN:
INCREASES PROTECTION BY 4

P/STRENGTH:
DOUBLES DAMAGE DONE

P/SUPER-FIGHT:
INCREASES ATTACK BY 8

P/ETHEREALNESS:
MOVE THROUGH WALLS

R/SHIELD I:
MAGIC PROTECTION OF 2 PTS

R/SHIELD II:

R/SHIELD III:

R/FIREBALLS:
BLOWS UP THINGS

R/INVISIBILITY:

MAKES YOU INVISIBLE

R/TELEPORTATION:
MOVE TO RANDOM PLACE

R/HEALING:
SPEEDS UP NATURAL HEALING

R/LIGHT:
GIVES LIGHT WITHOUT A TORCH

W/COLD:
FREEZES THINGS HARD

W/FEAR:
CAUSE VICTIMS TO RUN IN PANIC

W/FIRE:
BLOWS UP THINGS

W/LIGHTNING:
ZAPS OPPONENTS

W/PARALYZATION:
TURN FOES TO STATUES

W/WITHERING:
YEECH!

SOFTDOCS WRITTEN BY SAUL OF FRED THANKS TO THE LITERATE PIRATE * FRED
SOFTWARE - JANUARY 1984

=====

DOCUMENT wasteland

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WASTELAND
Supplied by: Blue Adept
Cracked by: The Saltine
for
The Crackforce

Getting Started

The first thing you must do before playing Wasteland, is copy sides 1-4 using CopyA or a similar program. Remove write protect tabs from sides 1-4 and you are ready to begin.

Insert the boot disk, turn on your computer, and the game will automatically load. You will then see the title screen with two options at the bottom: 'Start' and 'Utils'. Press S to start gameplay, or U for utilities.

Utilities Menu

To use an option, press the first letter, or use arrows to choose:

Copy Since the Crackforce removed all copy protection from Wasteland there is no need to use this option. It will not work because it assumes you have an original, so use CopyA or Fast Copy to copy sides 1-4. You need not copy side 0, the boot side, because it is not used after the game is started.

Restart Automatically restarts your party near the Ranger Center. Use this command if your party is hopelessly stuck somewhere, or if you want to start the game over with the same characters. To restart, save the game where you are. Copy all sides with CopyA or Fast Copy. Insert the Boot disk (disk 0), reboot, select U at the menu, then select R at the next menu. Next, insert the old side 1 when the message "Please put side 1 in drive 1." Then insert the new copy of side 1 when you see "Please put destination Wasteland character disk in drive 1." Now you're ready to start over with your old characters - minus all the items and cash they were carrying.

Print

Prints all of your characters' statistics.

Start

Starts the game. You're asked "Use last saved game (y/n)?" Choose Y if you want to start where YOU last saved the game with the Save command. Choose N and you'll start where the COMPUTER last saved the game (Which happens anytime you answer "yes" to "Enter new location?"). With either choice, you'll be prompted to insert one or more disk sides. If you're new to the game, you'll start in the Ranger center.

IMPORTANT: Wasteland is a dynamic game, and it's very important that you understand how it keeps track of and saves the game. As you play, the game constantly changes, and permanently updates those changes to the disk. Once you change something, it's changed forever! If you pick up an item from a spot, you can't return to that spot and find it there again. If you kill the wrong person, you can't go away and then come back hoping to find him or her alive.

The game is divided up into many locations. Any one of the following could be a location: a floor in a building, a section of a desert, a path in a sewer. In the course of your adventure, you'll often be asked "Enter new location (Y/N)?" If you answer "yes," the game will save and changes to that location, and your party's status. If you switch to another location by viewing a disbanded party, the statuses for all the parties are saved on whatever disk side you end up on.

If you use the Save command, your location and party status is saved to side 1. The next time you load Wasteland, and answer "yes" to "Use last saved game?" and

pick up where you left off. However, if you or your computer shuts down before you can use Save, then answer "no" when asked "Use last saved game?" The program will search for the place where it was last saved. This way, you're unlikely to lose any important items you've acquired.

What can you do if a character dies? Don't save the game. Shut the computer off and reboot. Answer "no" when asked "Use last saved game?" Your characters will now come back alive, but without the items they acquired since the last time you saved.

Time and Distance

The maps in Wasteland vary in scale. The large desert map contains the various city maps, which, in turn, contain building maps or whole underground levels of sewers and hideouts. In combat, distances may seem a bit off for the map you're on, but these are tactical distances and are valid in combat only.

Because of the difference in scale of the maps, time passes differently on them. Though a single keystroke on the computer will move you one space north in both the desert and in a building, the amount of time that each move takes is different. The game takes this into account for healing and deterioration purposes. Remember that time passes for characters in the main party as well as for any disbanded characters who are not moving. If you disband a character and send him off to find a doctor to help a wounded comrade, the seriously-wounded character will still bleed away.

If you want time to pass without moving your party, press <ESC>.

Selecting Options

Whenever you need to select an option, just press the first letter in that command (The one exception is unEquip, in this case press E.)

Whenever you're selecting from a menu that appears along the bottom of the screen, you have two choices:

- 1) press the first letter of the command, or
- 2) use the left or right arrow keys to highlight the command, and press <RETURN>.

Whenever you need to select an item, skill or attribute from a list, simply enter its number. To scroll through a list, you have three options: Use the up and down arrows, left and right arrows, or I and K keys. An item or skill number with a "_" next to it (i.e. "6_"), marks the end of the list. Movement Commands

Use the following commands to move your party around:

I	Move up
J	Move left
K	Move down
L	Move right
Spacebar	Toggles view of party roster on and off

Ranger Center

When you're in the Ranger Center, you see the following options at the bottom of the screen:

Create	Creates a character.
Delete	Deletes a character.
Start	Starts you outside of the Ranger Center.

Non-Combat Commands

At any time, except during combat, you can use the following commands by pressing the first letter of the option:

Use

Use a skill, item, or attribute.

Enc

Encounter - call up combat commands.

Order

Establish a new party Order.

Disband

Disband - break up the party in two or more groups. This command is also used to permanently dismiss a Non-Player Character from your party.

View

Switch the View between two or more groups.

Save

Save the game. Refer above for an explanation of saved games in Wasteland.

Radio

Radio in to Ranger Center to see if a party member has earned a promotion.

<SHIFT>-#

Call up the Use command for a specific character.

<CTRL>-S

Use the first skill listed for the character in the first party slot.

<CTRL>-R

Reorder a character's skills or possessions. You must first select a character from the roster and view either the skill or possession menu before using this command.

Combat Commands

Run	Move party or individual character one space.
Use	Use a skill, item, or attribute.
Hire	Hire a Non-Player Character to join your party.
Evade	Evade an attack.
Attack	Attack an enemy.
Weapon	Change weapons.
Load/unjam	Unjam and/or Load a weapon.
<CTRL>-A	Show list of encounter groups to attack. Will only work with player characters, not hired NPC's provided your foes are within range of your weapons.
To speed up the combat message scrolling rate, press the up arrow or <CTRL>-K. To slow it down, press the down or <CTRL>-J.	

Viewing Characters

Enter a number from 1 to 7 to view that character's statistics. Here are some options that you can use while in this mode.

From the first screen:

Pool	Pool cash. Pools all the party's loot and gives it to the character you're viewing.
Div cash	Divide cash. Divides the cash evenly among the characters.

From the second (Item) screen:

Enter any item number for the following choices: (When prompted Y?N, the Y will be highlighted. Press <RETURN> to accept the option).

Reload
Reload weapon. (Only shows if you choose an ammo clip that's appropriate for your currently-equipped weapon.)

Unjam
Unjam weapon. (Only shows if you used a jammed weapon.)

Drop
Drop an item.

Trade
Trade an item.

unEquip
Equip or unequip an item.

<CTRL>-R
Reorder items.

From the third (Skill) screen

<CTRL>-R
Reorder skills.

-END-

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WAR IN MIDDLE EARTH - tips on playing the game

(the following is from a post on the Lexicon Exchange - 213-690-6326)

The object: Defeat Sauron and his forces.

How to do it: Move your characters around, and avoid the baddies. Drop the Ring in Mount Doom if possible.

You can send your people to different locations on the map, and in some places you'll meet other character (Go to Buckland and meet Merry.. go to Bree and gain Aragorn.. go to the forest and meet a couple elves, get to Rivendell and gain Gandalf, Legolas, Boromir, Gimli..

You can also get special objects whcih are located in locations here and there around the game. This is the tough part of the game. Send a character (or group, in case they get attacked) to the location and then zoom in so you have a closeup (Seeing the characters walk).. this part is slow and a pain, but then you can pick up items. Get more items, and you can start controlling forces of humans, rangers, calvary, dwarves, and elves.

I found a way to get going fairly well. Send your hobbits straight to Buckland and get Merry. While they're travelling, have the two forces of yours to the far south (Faramir and 200 rangers, Eomer and a bunch of Calvary) come up and join with your hobbits. After you've given the commands, hit the hourglass and turn stuff up to "very hasty". When your hobbits get to Buckland and get Merry, go sit in the middle of the forest there (in the square east of Buckland there is a nice staff whcih someone can use as a weapon). Have them sit and wait in the middle of the forest (so the Nazguls don't get you) until your Rangers and Calvary come up from the south. Join them togethr, go get Aragorn, and head east to the forest.

By this time, the Nazguls have all vanished. When you exit the forest and cross the river before Rivendell, they will re-appear, and will wipe out your party under most circumstances. This is where your Farramir/Rangers and Eomer/Calvary come in. Use the combat command to have all your characters "withdraw", while you let the calvary "Charge" and the rangers "Engage" or "Charge".. nine nazguls are no match for 300+ battle troops. I lost about 17 altogether.

From that point, things get a bit easier. You can walk around without fear of the Nazguls and locate some objects to get some troops. Look in these locations for some helpful objects:

- South of Ost-In-Edhil (South of Buckland)
- North of Erebor (far east, where the Dwarves are parked). Dwarven hammer.
- East of Mt. Gundebad (east of Mt. Gram. Orcs sitting here). Treasure.
- South of Mt. Gram. (north of Rivendell). Mithril Armour, Red Arrow, Black flask. Red Arrow is important, as it gets humans in on the action.
- North of White Towers (east of Buckland/Hobbiton). HEaling potion.
- Forlond (Northwest of Hobbiton). Palantir, which tells you where to find other things. South of Forlond.
- West of Annuminas (due north from Hobbiton). Gold Sceptre, gets more humans in on the action.

Also look at Michel Delvins, Tuckborough, Grey Havens, Belegost, and there is also a dagger west of the Barrow Downs (east of Buckland).

It is an enjoyable game if you can get into it, and have something to read for the slow parts of the game. The word protection doesn't pop up too often, but is a pain in the ass. I modified my game to work on a hard drive to speed

things up.

The Byter

To instruct your people to go to a location, get to the small map (not the big, overall one). Use the red arrow (click on it), then point and click on the character group you want to redirect, and point and click to the location you want them to go to.

When you get into combat, the combat options will appear.

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A War in Middle Earth Dox ----- written by Morgoth

OK, these are the dox for War in Middle Earth.

There are 3 different screen levels. The top level shows the whole map of Middle Earth. This game is icon oriented. The 3 icons to the side are

orb - tells status off all forces on map
 load/save - loads/restores saved game
 magnify - allows you to go to the next map level down
 hourglass - changes rate at which time goes by

At the middle level, the icons go as follows

orb - tells status of selected party
 map - goes to top map level
 magnify - allows you to go to the next level down
 hourglass - changes rate at which time goes by

At the scene level, the icons are

orb - tells status of party on the screen
 map - goes to middle level map
 hand/bottle - gets/puts things down

I assume as I haven't seen the dox is to get the ring to Mt. Doom. To do so, you have all the good forces at your disposal. The blinking forces are yours to do so as you wish. The non-blinking ones are either your enemies or neutral forces. Neutral forces go under your command at different times of the game or when you get certain magical objects to those groups.

The best way to learn how to play is just dive in. At first be careful of the Nazgul. They'll kick yer ass quickly if they get to Frodo. You would be best going to Bree first via Bombadil's house.

To see what a certain place is, just click on it. If it is important at all, the game will tell you so. You can play the game militarily forgetting the books altogether, or you can play it following the book (which is probably safest at first).

At some point in time, the protection scheme will ask you for coordinates to a particular place. What follows is a list of places and what I believe to be their coordinates.

Place -----	Coordinate -----
Harad Road	G7
Nurn	F8
Barad-Dur	E8
Mt. Doom	E8
Carach Angren	E8
Cirith Ungol	E8
Minas Morgul	E8
Durthang	E8
Dagorlad	D7
Morannon	D7
Pelargir	F7
Linhir	F6
Calembel	E6
Pinnath Gelin	E5
Anfalas	F5
Erech	E6

Ethring	E6
Lossarnach	E7
Dol Amroth	F6
Henneth Annun	E7
Cair Andros	E7
Osgiliath	E7
Rammast Forts	E7
Minas Tirith	E7
South Rhun	D9
North Rhun	C10
East Emnet	D6
Dunharrow	D5
Edoras	D5
Hornburg	D5
Rohan	D5
Isenford	D5
Isengard	D5
Derningle	D5
Dol Guldur	C6
Lorien	C6
Dimrill Dale	C5
Hollin Gate	C5
Ost-In-Edhil	C5
Iron Hills	A9
Dale	B7
Erebor	B7
Thranduil's Palace	B7
Goblin Town	B5
Mt. Gundabad	A5
Rivendell	B5
Ford of Bruinen	B5
Mount Gram	A5
The Last Bridge	B5
Weatherstop	B5
Midgewater Marsh	B5
Sarn Ford	C4
Bree	B4
Deadman's Dike	B4
Stonebows Bridge	B4
Barrow Downs	C4
Bombadil's House	C4
Buckland	C4
Woodhall	C4
Green Hills	C4
Grey Havens	C3
White Towers	B4
Belegost	B3
Forlond	C2
Michel Delvins	B4
Tuckborough	C4
Waymeet	B4
Hobbiton	B4
Annuminas	B4

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Club 96 --> Presents....	Windwalker 2e Tales of Moebius!	<-- Club 96 Presents....
Cracked By: The Necromancer		
Special Thanks To/Documents By: The Mechanic		

THE MYSTIC RUNES OF WINDWALKER

The Making of Windwalker...

As Windwalker's development cycle was winding down, ORIGIN's art director asked the game's author, Greg Malone, to provide samples of his research materials to use in documentation and packaging. What the art director received was astounding, and provides great insight into the author's attention to detail and commitment to authenticity during the making of Windwalker.

Realistic, player-controlled martial arts maneuvers provide the focus for the fast-action sequences in Windwalker. Texts such as "Ninja: Warrior Ways of Enlightenment" and "Zen in the Martial Arts" were the primary sources used to identify the weapons and tactics employed by the fighting men of the ancient Orient. Books could not, however, provide the detailed imagery needed to accurately depict the intricate movements in the varied disciplines of the martial arts. Greg went the extra mile, tracking down experts, and shooting hours of video tapes and hundreds of still photographs of the live models in action. These images were then digitized and incorporated into the real-time, combat graphics.

As you explore the lands of Windwalker, you will be taken by the Oriental flavor of the visuals - the character icons, the architecture, the flora and the fauna - in this unique world. Only Greg's painstaking research and the knowledge he acquired through books like "The Archaeology of Ancient China," "Oriental Art: A Handbook of Styles and Forms," and "The Japanese Garden: Islands of Serenity" could bring such vivid imagery to the computer screen.

While Windwalker does not represent a specific historical or geographic perspective, you will discover an adventure that embraces the philosophy and culture of the Orient. The influence of works including "Chinese Mythology," "I Ching, The Book of Changes," and "Chinese Herbal Medicine" become evident as you interact with the diverse characters, and pursue the intriguing rewards of the game.

Windwalker may have been designed primarily as entertainment, but the experience of playing the game encompasses much more.

WINDWALKER

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THE SUMMONS FROM MOEBIUS

(Hexagram 35: Earth below, Fire above.)

Progress. The sun rises above the earth. So does the enlightened person reveal virtue. Conditions favorable for progress. Help others through cleverness and virtue. - I Ching

Greetings to you, my disciple. I am Moebius, called the Windwalker. I walk the boundaries of Time, Space, and Thought as an observer of the ways of humanity.

You seek training and enlightenment. To this end I send you into the world of turmoil to bring forth justice.

Good must always give way to evil, evil to good; that is the Way. In my travels I have found a new evil in the realm of Khantun. Not since the rebellion of

Kaimen have i witnessed such a blight. Enter that realm, dispel darkness, and, if you can, achieve enlightenment.

The goal is distant, the test arduous. At times it may prove more practical to avoid a threat than to face it.

So long as you use your wits and cleave to the Way, your karma will sustain you in this world. Should you fail in correct persistence, dark spirits will carry your spirit away to face the Mirror of Truth, and you failure will come back to mock you forever.

Now heed my teachings, that you may gain enlightenment.

THE WORLD BELOW

(Hexagram 23: Mountain above, Earth below.)

Deterioration. The weak earth cannot support the mountain. The realm deteriorates. Enlightened people stabilize their lives through generosity towards less fortunate. - I Ching

How revered is Choa Ti, the Harmonious Emperor! His wise policies brought peace for all his subjects. He opened the way for trade with the distant land of Nubia. In Choa Ti's reign of three score years no foreigner has dared to invade Khantun. Achieving venerable age, Chao Ti governed with the mandate of Heaven.

Yet evil always lurks; it is the Way. One of the Emperor's Warlords, Zhurong, recently returned from a mission to Nubia. Though he was ordered only to explore, the ambitious Zhurong turned to conquest. He pillaged Nubia's principal city and kidnapped the Ivory Princess, daughter of the Kind of Nubia.

The princess, once heiress to a continent, now inherits only sorrow as Zhurong's slave.

Zhurong returned to Khantun filled with ambition and dark purpose. He has conspired with the court alchemist, Shen Jang, to overthrow Emperor Chao Ti. Together the two usurpers have imprisoned the Emperor and his wife as hostages. Zhurong now sits upon the ornate Nightingale Throne.

Since the tyrant Zhurong rules without the mandate of Heaven, thousands have resisted his rule; before many witnesses, his troops massacred the protesters. Zhurong bands discussion of the vent and outs forth lies that the massacre never happened. Even more than his blood thirst, this contempt for truth shows he is unfit to rule. To cut off further resistance, Zhurong has conscripted most able-bodied men to work the faraway jade mines.

Meanwhile, the crazed alchemist has brought forth evil spirits to take possession of Khantun's holy shrines. At each new moon, evil spreads across the land line a rising river.

The priests and monks are sworn to non-violence; the cowed peasants make no resistance; some protesters have fled to the hills and caves, but they cannot organize. You alone, my disciple, must overthrow Zhurong, defeat Shen Jang and his evil spirits, and restore the Harmonious Emperor to his Nightingale Throne.

Learn now the nature of this realm, that you may move freely in it.

The Realm of Khantun

The island of Khantun rise from the Boundless Ocean like the shells of sea turtles. Some islands, large as continents, hold villages and even the Imperial palace. Smaller islands stretch from them like the beads of a jade necklace.

The climate is fair through most of the realm. Storms may arise at times. The enlightened person seeks shelter indoors, to avoid the peril of lightning strikes.

As you visit these lands, mark the passage of time. As night succeeds day, so do the phases of the moon mark the passage of the months.

I place you in this realm upon a full moon night. As the moon wanes toward new, beware. Of late, the nights of the new moon, when the sky is at its darkest, have brought terrors upon the populace.

In the body of a humble fisherman, you begin your test in the small fishing village of Xiang Loh. Only a few people survive here. Speak with them to learn your first tasks. You may procure supplies at the merchant's store. Search for medicine man to meet the needs of health, and pray at the holy shrine to restore your spirit.

Travellers' Tales of the Realm

As part of the test, I give you no more information about the world than the residents of Khantun know themselves. In this isolated village citizens know of the further reaches of Khantun's geography only as mysterious places mentioned by passing sailors.

To the northeast, across the inner reaches of the Boundless Ocean, lies the Emperor's Celestial Palace. Here Zhurong sits upon his usurper's throne, and the made alchemist pursues his unholy researches. Here the Emperor and his wife lie imprisoned.

None may enter the Palace, save for harmless monks. Even Zhurong dares not anger the heavenly realm by refusing them admittance. The guards arrest and imprison all other entrants.

Beyond the Palace lies the Monastery of the Sanctified Order of the Enlightenment Khisa. In this peaceful place monks take vows to silence and practice the regimen that leads to enlightenment.

Beyond the land of the monastery no traveller goes -- partly because legend claims that across the ocean lies the Isle of the Dead. This mysterious realm is an island shrouded in perpetual storm. Here monsters dwell and demons roam freely. A mortal traveller cannot hope to survive for long without magical protection.

Past the lands of Khantun lies areas you cannot hope to visit during your test. Beyond the reach of maps lies the continent of Nubia. Far across the ocean in an unknown direction are the Imperial Jade mines. Your test will not take you to these distant lands.

Personages of the Realm

Here I share with your descriptions of persons and creatures relevant to your task.

The Imperial Court

The Harmonious Emperor, Choa Ti

Choa Ti ascended to the throne after decades of chaos under the Fifteen Mad Emperors. In the "Thousand Beautiful Days" that followed he restored authority, expunged corruption, regulated the currency, created schools, established the civil bureaucracy, and resurrected the Imperial state ceremonies.

The duration of peace is his reign has never been equalled in the long history of Khantun. The Emperor remains handsome in his venerated old age. His rich garments depict dragons and mystic symbols.

The third and fourth fingernails on each of his hand have grown to no less than nine inches long!

Overthrown in he 62nd year of his glorious reign, the Emperor now lies in a cell in the prison tower of the Celestial Palace.

The Empress, Cheng Sing

Once a mere concubine, Cheng Sing so rose in the Emperor's esteem that, many decades ago, he officially recognized their marriage. The people call her "Beloved Nightingale" for her melodious voice, and the Nightingale Throne is named for her. She is famous for her collection of jade, gifts from the people and from foreign potentates.

Cheng Sing blessed the Imperial dynasty with many heirs, but Zhurong has murdered them or exiled them to the jade mines. Cheng Sing herself is believed to be held captive with her husband.

The Warlord Zhurong

There is no more awesome warrior in Khantun than the Warlord. He has mastered the supremely difficult Two Swords Art and moves with such speed that he can pluck flies from the air. He was a promising leader in Khantun's defending army. Yet his mastery brought with it ambition and arrogance; he revels in his swordsmanship.

As you would heed the Warlords's twin swords, disciple, heed the twin perils of pride and cruelty, or you can be no more than Zhurong himself.

The Imperial Alchemist, Shen Jang

When the Emperor designated him as court alchemist, the inquisitive Shen Jang, was still lucid. Later experiments with unholy chemicals wrought delusions in his mind. He went mad. But his insanity, a cunning variety, let him simulate correct action. So, against Emperor Choa Ti's strict instructions, he pursued secret researches into the forbidden subject of astral demonology.

When Zhurong returned from Nubia, the Warlord found a willing ally in the alchemist. Shen Jang evidently cares nothing for the occupant of the Nightingale Throne. He only wishes to unleash the results of his demented researches. Zhurong cards just as little for spiritual matters, and so he allows Shen Jang his insanity.

Kuafu, the Jailer

All too many an unfortunate soul has been placed under the custody of Kuafu, the pitiless jailer of the Imperial Prison. However, though quick to brag on how escape-proof his prison is, Kuafu's vigilance is often in question considering his penchant for long naps punctuated by shrill snoring.

Imperial Guards

Chao Ti's esteemed Palace Stewards, heirs to the traditions of hundred generations, now work the jade mines along with other protesters. In their stead Zhurong hired dozens of ragtags, scoundrels, vagrants, and failed farmers as his thugs. This rabble now guards the Celestial Palace.

Concubines

Though these lovely ladies remain loyal to the Emperor, Zhurong has made them his love-slaves. They are trained in the gentle arts of song, formal dance, and conversation. The concubines serve, unofficially, as central coordinators for gossip and rumor in the court.

The Nubian Princess

Formerly the Ivory Princess of the kind of the distant land of Nubia, she now leads the life of a captive, kidnapped by the deceitful Zhurong during his recent mission of conquest to her homeland. Few can learn from her since she only speaks her native tongue and refuses to learn the language of Khantun.

People of Devout Ways

Priests

These monks have devoted their lives to maintaining a holy shrine. Skilled in ritual and serene in outlook, they can bless the incense you use to send your prayers skyward. But beware of priests possessed by Shen Jang's evil spirits. You must exorcise these spirits to heal the priests and restore harmony.

Monks

In the Monastery of the Enlightened Khisa, monks devote much effort to copying the scrolls of past ages. Their monastery library holds the lore of ancient scholars.

Shamans

These animist magicians seek truth through contact with nature. By protracted study of the laws of the wilderness these wizened man and women deduce ways to influence natural law -- in other words, they learn the ways of magic.

Medicine Men

Practitioners of the arcane rites of alchemy, these respected tradesmen prepare elixirs, healing balms, and potions that fortify the spirit of cleanse the digestive system. With proper study they can prepare antidotes to many poisons and drugs. The rarity of their ingredients forces them to charge high prices for their services.

Fortunetellers

For a nominal fee these seers interpret the mystic I Ching, or Book of Changes, to predict your fate. Cast three coins six times and the fortuneteller will divine the timeless wisdom of the ancients.

People of Humble Ways

Farmers

These peaceful folk pray in the shrines each morning, farm their rice fields all day, and sleep on straw mats at night. Their lives, though strenuous, were happy until Zhurong took the throne. They gladly offer their dwellings as safe shelters for an honorable disciple who seeks rest.

Fishermen

Simple folk like farmers, the fisherman trawl for shrimp in small boats. They take long trips over the Boundless Ocean to many different parts of Khantun. Travellers, impressed with the fisherman's profound knowledge of the waters, often follow his boat to interesting places.

Merchants

In these trying times goods are short, quantities small, and prices high. Merchants try as best they can to maintain sticks of useful items. Merchants in Khantun maintain high integrity and refuse to sell their goods to those of imperfect honor.

Beggars

By the Harmonious Emperor's decree, blind people received the charity of the state. Under Zhurong's rule, the blind have been driven to beggary. In their humiliating circumstances they deserve respect and compassion from those more fortunate. Though deprived of sight, beggars retain keen hearing. They often hear information others might miss.

People of Dishonorable Ways

Thieves

Cowardly skulkers, these vagabonds prey upon the unwary. They seldom present much threat to the disciple of clear mind and purpose. But beware of the thief's dagger, often thrust toward the midriff in a rapid assault. If you fall to a thief, take consolation that they often steal belongings but leave you alive -- so that the thieves may steal from you again, another day.

Assassins

Among his many other atrocities, Zhurong has recruited the deadly ninja, the cult of assassins, to carry out his ruthless deeds. These black-clad fanatics attack with shuriken - throwing stars - and deadly fists. Much legend surrounds these people of the night, making it difficult for me to advise you.

Beasts and Monsters

Khantun's varied wildlife includes white herons, sea turtles, and other harmless creatures. Enjoy their beauty. The Life Force shapes itself in many forms, and the enlightened person takes joy in them.

More dangerous to your mission are the giant water beetles that rend travellers in their jaws. (Fishermen sometimes use the jaws of dead beetles as scaling knives.) Beware also of the sea dragons, monstrous lizards of titanic power. Do not venture too close to these creatures of the deep, lest they strike at your by surprise.

Last and deadliest come the monsters from beyond this realm, the dark beings summoned by the mad alchemist:

The oni, a giant horned demon of poisonous claws and equally poisonous cruelty.

The fire elemental, a spectral form whose touch imparts burning pain.

And the astral demon, a malign demigod of profound cunning and limitless contempt for truth. These demons are possessing and desecrating the shrines of Khantun. You must exorcise them from those who they possess. I will explain how momentarily.

Objects of the Realm

Do not neglect the details of correct living, for your mission tests your resourcefulness as well as your prowess. In the form of a fisherman, you will require money to purchase food and supplies. You may earn money by procuring goods a merchant desires, or as a reward for heroism. If fortune smiles upon your venture, you may also discover wooden chests of money and belongings. These may be washed ashore on beaches or hidden in the depths of caverns.

The currency of Khantun, a small brass coin, also purchases other important items:

- Health elixirs that can heal all bodily damage.
- Incense for prayers of restoration.
- Other potions of various natures.
- Parchment, ink, and heron-quill pens, useful for copying scrolls.
- Maps of Khantun and environs.

And the sextant, a navigational instrument that uses the position of the sun, stars, and landmarks to determine your position. The sextant serves no purpose indoors.

Boats and Ships

Khantun is a land set upon the water. The Boundless Ocean provides food, travel, commerce, and defense from invaders. Several kinds of ships ride its waters.

Fishing Boats

A fisherman will spend three quarters of his life on one of these humble vessels hewn from sturdy pine, with no more than a single mast and linen sail. As your test begins, you stand in Xiang Loh near your own boat.

You may encounter fishermen at sea. If you hail their boats, they can offer directions and even sell you supplies.

Pirate Skiffs

At sea as on land, scurrilous rogues wait to plunder the innocent. These skiffs, no larger or sturdier than the fishing boats they rob, travel outside normal fishing lanes.

Aboard pirate skiffs ride merciless thieves and assassins. They assault their victims first with a barrage of shuriken, the dishonorable throwing star of the ninja. Assassins even leap overboard and swim over to attack you.

If you can defeat a pirate crew, you may take control of their vessel and use it as your own. But no disciple on the path of honor may use their lethal shuriken.

Imperial Warships

Large craft with hulls of weathered oak and mighty sails, these noble ships now serve the tyrant Zhurong. Their iron cannons fire metal spheres whose impact can break bones and send the passengers of the target vessel flying into the cold waters upon which they sail.

Zhurong's guards serve as crew. Setting forth from the Celestial Palace, they search the Boundless Sea for resisters. Try to elude these warships if you wish to avoid struggle.

THE WORLD ABOVE

(Hexagram 20: Wind above, Earth below.)

Contemplation. As the wind moves over the earth, so the ancient rulers travelled the world. They visited its regions and contemplated its many cultures. Observe and explore new ideas. - I Ching

I have found that in all people of good intent dwells the need for enlightenment. That pursue it in many ways, some ordinary, some curious. Through

the very act of searching, each finds some part of the truth behind all material things.

Yet recall the tale of the six blind men who found an elephant. One, feeling its side, said the elephant was like a wall; another, feeling the tail, argued that it was like a rope; a third, feeling the ear, retorted that the elephant seemed much like a sail; and so on.

In the same way seekers of truth cannot grasp its infinite diversity. They treasure their small parts of it, and they elaborate it with ritual and doctrine. Each true in its way, none captures the whole Truth.

Do not hold them in contempt, disciple. Rather, delight in their humanity as I do, and contemplate the many aspects of truth they reveal. All can help you in your quest for enlightenment.

Khisanism

Those of this faith follow the path of their enlightened founder, who passed from this existence centuries ago. Followers achieve enlightenment through contemplation, study, prayer, and fasting in moderation.

The devout monks of the Sanctified Order guard the knowledge of times past. Study this lore as they do, with clear mind and pure desire for enlightenment. You can copy their scrolls freely, so long as you have parchment, ink, and a quill pen.

You may even take the vow of silence and attempt to join the Sanctified Order. By joining the monks in their daily devotions, you show commitment to their principles. If you are able to prove your mastery of self, you may earn the marks of their Order, the silk robe and the oaken staff.

The founder's serene form adorns many shrines around Khantun. In these shrines you may read the Order's Holy Script and learn useful prayers for renewed energy. Devotions to the founder's memory take the form of incense, burned in a censer. The benevolent priests of the Order can bless this incense for you. Thereafter, when you burn it, your prayers will ascend Heavenward and be answered, whether or not you are in a shrine.

Certain prayers are known by all who practice the Khisan way. Though the specific words to the prayers are inscribed in the Holy Script, their purposes are thus...

- Physical healing
- Spiritual restoration
- Forgiveness and renewed honor

In these troubled times, the mad alchemist Shen Jang has summoned evil spirits on new moon nights to possess the priests of the shrines. A special prayer of exorcism allows you to cast a fiery trace of demonic influence from the possessed.

Shamanism

Shamans seek truth through nature. They study the ways of animals and the physical realm. Attuned to the rhythms of the world, these solitary teachers have discerned magical spells that work on the physical form.

The enchantments rely on talismans and on mantras, chants that improve concentration and activate the realm's magic. All such enchantments drain the spirit in casting, so that only an adept can maintain them for long.

Having discovered their spells, shamans typically retreat to caves and meditate on them. Since this retreat often lasts all their lives, many spells are lost when they pass from this realm. Only a few enchantments are currently known, and their mantras are closely guarded. You must seek the mantras in the lore of ages past.

Shamans create talismans that embody their enchantments. But to use a talisman, you must have the shaman bind it to your spirit. This requires a ritual of divination, wherein the shaman examines marks on the shell of a sea turtle. Reasonably enough, shamans refuse to carry these shells with them, so you must provide one. Special care must be taken by the practitioner of talismanic magic that he not let his Spirit become drained to depletion. A depleted Spirit will surely result in death.

Levitation sends the caster high in the air to gain a brief overview of his surroundings. The caster cannot move laterally while levitating, so the spell's use is limited. However, it can be useful to know who -- or what -- awaits you around the next turn.

Invisibility renders other insensible to the caster's presence. Water-walking allows the caster to travel across the sea as though walking on dry land.

Invulnerability, most powerful of enchantments, renders the caster immune to bodily harm.

Idolatry

Scholars exert much ingenuity to deduce the ways of the ancient people called the Nahai. Many generations ago these primitive people built colossal granite idols on some of the islands of Khantun. Little other evidence of the Nahai remains; they vanished from history before the scholars could learn how they erected the idols.

The idols depict pagan deities that gaze into eternity. The Nahai evidently worshipped the idols as symbols of their tribal spirit. Through rituals of music, feasting, and their mysterious "tantric dance," the Nahai supposedly secured the blessing of their deities.

Alchemy

In truth lies immortality. Alchemists of Khantun believe that in immortality lies truth, and so they seek elixirs that preserve and prolong life.

Alchemy combines the rarest herbs and metallic elements in potions that benefit the body and spirit -- at least so the alchemists claim. Some of their ingredients seem unlikely at best and dangerous at worst, such as cinnabar, powdered gold, and rat bladders. And yet infinite are the paths of Truth.

The alchemist's patient quests have produced several elixirs that may help you in your test. Consult with medicine men to learn of these. No alchemist has yet distilled the Elixir of Everlasting Life. All seek a missing ingredient, the legendary Peach Seed of Immortality. They believe this to belong to the God of Luck; but thus far no one has been lucky enough to find him.

MAKING YOUR WAY IN THE WORLD

(Hexagram 56: Fire above, Mountain below.)

Travel. Illumination upon the tranquil mountain makes conditions favorable for travel. The enlightened person is clear-minded and not detained by disputes. Progress and good fortune through correct persistence. - I Ching

In the course of your test you may travel the whole realm of Khantun. You will face many obstacles and adversaries. Through correct behavior you will not only restore the Emperor of his throne, but you will also achieve enlightenment.

As my disciple, you serve the Way of Truth and Understanding. Serve, in this case, by example; let no one who witnesses your action doubt that you follow the Way. Here I summarize the cardinal virtues of my disciples.

The Way of the Disciple

A clear and Receptive mind -- Most curious are the ways that people think and act at times. And yet all, in their way, seek peace and enlightenment. Since every disciple captures some aspect of the Truth, respect and learn from the practices of others.

Unstained honor -- Live honorably among the people. Steal nothing. Show generosity toward the unfortunate. Never flee from a just battle. Revere your elders, and respect the common people. Live cleanly to achieve enlightenment, as the tree must root in clean soil to grow straight and tall.

Never aggressive, yet ready to defend -- Maintain your physical health as much as your spiritual health, for the enlightened person often meets those who mock enlightenment and would gladly extinguish it. However, note well the vice of aggression. The aggressive disciple poisons his spirit through pride and reliance on force; study Zhurong for an object lesson in these dangers. You must not attack without provocation.

Always seeking understanding -- Be tolerant of the ignorant, but show no mercy toward ignorance. The darkness of ignorance waits always to overwhelm the world; the light of understanding flickers without constant care. Peruse the lore of past times, copy scrolls as you will, and examine their messages for clues to enlightenment.

Resolute until the deed is done -- The test is complex and requires many days. You will often face obstacles that appear indomitable. Do not despair. As the seed is carried far and then falls at last to fertile ground, you may not yet have found all the tools you require to overcome the obstacle.

Search widely throughout Khantun. Do not delay for long at any one obstacle, but seek its solution elsewhere.

Your MISSION requires cleverness and rewards adroit solutions.

Know Yourself

Seek enlightenment first through self-knowledge. Learn your capacities by ranking them in the four traditional attributes, or qualities, of the disciple.

As your teacher, I help you visualize your attributes by presenting them as rows on the abacus, the traditional calculating device.

Each row of bead on its wire represents one of your attributes. Your current status is each attribute is shown by the position of the beads. The more beads that slide along the row away from their symbol, the weaker that attributes becomes.

As you rise in my Order, you grow stronger in your attributes. The beads grow weightier and slide less quickly, giving you greater stamina in each attribute. Your attributes and their symbols:

Body, symbolized by the mighty ox, represents your health and vigor. Your body attribute is reduced by wounds in combat, by lack of food or sleep, and by the many other perils of life. When the beads of the body wire all slide away from the ox symbol, your physical form has expired. The Spectre of Death will try to claim you.

Spirit, is represented by the lightning bolt, for this is the life force, the ch'i. This universal force animates your form as the lightning enlivens the night sky. Your strength of spirit governs the casting of magic. When you cast a spell, you expend a certain amount of your life force, and a bead slides down the wire. When all the spirit beads slide to the right, your enchantment fails. You can regain spiritual energy through prayer of through certain rare elixirs. But, be forewarned, my disciple... to let one's spirit become depleted is to surrender one's life force to the Spectre of Death. Caution is urged in the use of magical efforts.

Honor, is represented by the smouldering incense urn. The honor from your actions goes forth and drifts among men as the smoke from this urn.

You lose honor by improper social conduct or by fleeing from a battle in fear. If too many honor beads slide away from the urn symbol, the common people will be less friendly, and your task will grow more difficult. The successful disciple strives to maintain perfect honor.

Karma, the spiritual consequence of your actions, is represented by the symbol of yin and yang. The ancient glyph shows that good and evil, the positive and the negative, are inextricably related.

In this test karma shows how many times I allow you to fact the Spectre of Death. Each time your body or spirit perishes, I shall steal you away from the Spectre and restore your life -- but a karma bead slides down the wire.

If all of your karma beads come to rest away from the yin-yang symbol, you have failed this test. The Spectre of Death passes you on the taunting demons of Mirror of Truth. I dare not reveal the fate they plan for you.

Journeying

You will travel by land, where you may either walk or run; and on the sea, where you may swim or sail. Do not attempt to board another's boat, unless it be a dishonorable pirate ship whose pilot has fled.

Not that by exertion you can speed your normal passage over land or water. But be moderate in this, for it saps your strength.

Remember to eat at least once a day. A simple handful of rice and fish cakes can sustain you. Sleep, too, is vital to your health. Further, you can retreat into sleep when you want time to pass quickly.

But be careful where you sleep, for dishonorable persons seek to plunder helpless sleepers. And other menaces lurk within your own spirit. Dreams may awaken you before your achieve full rest. Worse, should you fall short of perfect honor, dangerous nightmares may plague your tainted spirit.

Your leather pouch, which holds most of your possessions, is always at your side. You can carry bulky possessions at your belt, strapped across your back, or in hand. You may examine these possessions at any time except during battle, when your attention is obviously elsewhere.

At every turn seek to converse with those you meet. They may know something that can help you. In general, anyone you approach (save for thieves and the life) will strike up a conversation. Even those who have spoken to your before can share further information as news travels the realm.

Though the enlightened person respects privacy, a healthy curiosity about one's surroundings is correct. Enter buildings that offer open doorways. Examine the scrolls, cabinets, and shelves that you find. You cannot know whether one may hold something that aids you in your mission.

DEFENDING YOURSELF

The enlightened disciple never attacks. However, you will certainly need to defend your life and honor in combat. Herewith, my advice.

Training

Before you being your test, I offer you the chance to train your defensive skills. First unarmed, then with a staff, you will face some of the opponents you will encounter in the world: thieves, assassins, guards, and yet more dangerous foes. Be aware, though, that those whom you will train against may be far less aggressive than those whom you will defend against in the world.

If you achieve honorable victories in a full cycle of training before you being your test, I shall grant you early advancement in my Order.

The enlightened person takes every opportunity to gain self-knowledge. Learn well your defensive maneuvers and your opponents' patterns of aggression before you venture forth.

Unarmed Defense

Master the four blows: punch, high kick, front kick and roundhouse kick. The punch and front kick are quickest to land, but the other kicks are deadly and can stagger your opponent. Some masters follow a high kick with a punch for doubled effectiveness.

Blows aimed at the opponent's head yield best results, but these are the hardest to land. Strikes to the midriff prove more practical in close quarters.

Step lightly toward of away from the opponent. For very rapid closing, use handsprings; for rapid distancing, use cartwheels.

The opponent seldom expects these adroit maneuvers. You can escape a deadly thrust, or close within the foe's guard to deliver a thrust of your own. The handspring itself is an attack, as well.

At all times strive to time your attacks with suddenness of the falcon. Strike after opponent has completed his attack, and before he can prepare another.

Defending with a Staff

The staff, symbol of spiritual transcendence, served also as protection for your physical form. With its long reach you may strike from a safe distance.

Master the three staff blows: the high swing, the low jab, and the front thrust. You can also fruitfully employ all the kicks described above.

Front thrusts and low jabs, quick and easy to use, form the foundation of staff technique. High swings take longer, but their effect when landing is most rewarding. Use these with finesse, especially while the opponent is stunned.

Concentration; Intuition

The disciplined mind can shut out distractions. Employing concentration, you may speed your perceptions so that each exchange of blows seems to proceed at your chosen pace.

In this state of concentration you may gauge the situation and choose your next maneuver when you are ready. The opponent has not time to make more than a single move in response. By careful consideration you may suit each maneuver precisely to the requirements of combat.

But the trained fighter also knows that value of surrendering to the moment. Replying on your intuition, you let your ch'i, you inner spirit, guide your blows. This method is practical when your confidence is your defensive skill is high and provides great internal satisfaction to the intuitive one.

Reflecting on your Experience

In the flurry of combat one seldom musters the perspective needed for learning. I grant you the ability to review each combat after it is completed. If you reflect on your experience, you may learn your strengths and avoid repeating your

mistakes. The enlightened person reflects on his experience, you may learn your strengths and avoid repeating your mistakes. The enlightened person reflects on his experience in combat. Try to discern the techniques each enemy employs, and develop your own maneuvers to counter them.

Your Opponents' Fighting Styles

You will discover during your training, or soon after you being your test, that your opponents fight with different techniques and patterns. For example, the clever thief often feigns a high, swinging stab, then suddenly turns it into a short thrust.

Note also the different time and effect their maneuvers require. A rabbit punch or jab falls as quickly as the lightning. But a long sword stroke takes much longer.

Use this information about your opponent to your advantage.

Fleeing Combat

In desperate straits you may flee combat. Flight from a fair battle brings dishonor upon you. You will suffer a blot upon your honor, and a bead will slide to the right on the abacus of your abilities.

THE ORDERS OF ENLIGHTENMENT

(Hexagram 19: Lake below, Earth above.)

Promotion. The receptive earth about reflects in the lake beneath. So it is the enlightened person willing to teach and learn from others. Exceptional progress through persistence. - I Ching

I mark my disciple's degrees of enlightenment by these ranks, called orders. You will achieve greater enlightenment through persistent effort, generosity toward others, defeat of injustice, and achievement of your goals.

I shall reward you spiritual growth with greater prowess in the world below. Recall the abacus of your abilities. As the enlightened life grows rich, so each bead upon the abacus gains in value according to your Order. Thus, when you are hurt or cast magic, the beads slide away less often than before.

Take pride in your increases only as they let you pursue your path with more certainly. The Way is not pride, but humble regard for one's fellows and harmony with all.

Remember, there are many things I have not told you. They are there for you to learn, as part of your test. Now Process! The path of the disciple lies before you.

The Order of the Windwalker

The Orders of Earth The Orders of Water

- | | |
|-------------|--------------|
| 1. Mongoose | 1. Barracuda |
| 2. Badger | 2. Manta |
| 3. Boar | 3. Octopus |
| 4. Wolf | 4. Shark |
| 5. Lion | 5. Dolphin |
| 6. Bear | 6. Whale |

The Orders of Air The Orders of Fire

- | | |
|------------|--------------|
| 1. Raven | 1. Viper |
| 2. Owl | 2. Cobra |
| 3. Heron | 3. Crocodile |
| 4. Falcon | 4. Python |
| 5. Condor | 5. Hydra |
| 6. Phoenix | 6. Dragon |

AUTHOR'S AFTERWORD

Since the release of MOEBIUS, the predecessor to WINDWALKER, I've given much thought as to the direction of scope the WINDWALKER should take. Always foremost in

my mind has been the desire to provide the player with both pleasurable and intellectually stimulating experience. In such a way, I have sought to share, in part, the personal joy that I take in the quest for knowledge and understanding about the world around us and the inhabitants therein.

A common theme woven into WINDWALKER's story involves the interaction of the player character with persons of differing viewpoints and experiences from his own. Perhaps lessons about living in our own real world may be drawn from these game experiences, though just having fun and high adventure are worthy rewards alone to the imaginative mind. If 'story morals' are transparent to the player, so too might be the other hidden lesson to be found in WINDWALKER, i.e. that expanding one's awareness of the world around us should be a source of great personal pleasure and a challenging end goal within itself.

Finally, though the player character in WINDWALKER is given 10 karma beads, or game lives, within which to accomplish the story objectives, we can only be sure of one opportunity to fulfill our own personal dreams in this world. So, whether you are 13 or 30, just starting your life quest, or already well along the path, seek to increase your awareness of the intricate beauty and diversity that this life and the people you meet in it have to offer. There is no greater treasure to be found, no any greater source of both amusement and entertainment!

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DOCUMENT windwalker.ref
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Club 96 -->	Windwalker 2e	<-- Club 96
Presents....	Tales of Moebius!	Presents....
Kracked By: The Necromancer		
Special Thanks To/Documents By: The Mechanic		

APPLE II QUICK REFERENCE

WINDWALKER and YOUR COMPUTER

Introduction

Refer to the Mystic Runes Manual for details of game play not covered in Quick Reference

System Requirements

An Apple IIGS, IIc, or IIe with 128K of memory is required. NOTE: To Apple IIGS owners: It is recommended that the system speed be set to "FAST" when playing Windwalker.

Diskettes

Windwalker diskettes are labelled to indicate Side 1,2,3, and 4. They are referred to as "Magnetic Scrolls" within the game.

Sound/Volume Control

You may turn off the Windwalker sound effects volume by pressing "S" immediately after turning on your computer or from the option list during travel (See Special Options). NOTE: To Apple IIGS owners: The system sound volume can be adjusted from the Control Panel before booting Windwalker.

Selecting Options From Lists

Whenever you are presented with a list of options during play, press the UP or DOWN arrows or the SPACE BAR to select an option. When your desired selections is highlighted, press RETURN to accept it. If you wish to exit the list without selecting an option, press the ESCAPE key.

In Case of Difficulty

Refer to the section on Troubleshooting should the game not perform in accordance with these instructions.

TO BEGIN PLAY

Start Play

- 1) Put Magnetic Scroll 1 into your disk drive, label side up, and turn on your computer.
- 2) After a short wait, the Windwalker title page and opening sequence will appear. When ready to process, press any key to bypass the title sequence and enter the presence of Moebius.
- 3) Once in his presence, press any key to rouse him from his meditation. After Moebius greets you, he will ask you your name. Type your name and press RETURN. Should you make a mistake, press the ESCAPE key to clear your name and reenter it.
- 4) Moebius will welcome you and offer you the choice of Training or Venturing Forth. You may also press the ESCAPE key to go back and enter a different name.

Training

Select TRAIN if you want to practice you combat skills. Refer to the sections on Combat for more details instructions. Should you wish to stop training during combat, press the RETURN key. This will return you to the presence of Moebius.

Venturing Forth

Select VENTURE FORTH when you wish to begin an adventure in the world of Khantun. If there is an adventure in progress previously saved under a different player's name, you will be given the option to abandon it and begin a new adventure using your name. Otherwise, you will continue the adventure in progress. Any previously saved adventures must be abandoned before a new adventure can be started. Refer to Special Options for assistance.

PLAYING THE GAME

The Adventure Display

When adventuring, the following display is shown:

Its Mech, interrupting because of a picture...

Boot the game

When in an adventure there is the background that is called the Travel Window. That face is you, which is known as the Player Character (PC) Icon. Where your name is displayed is known as PC's Name. That Blank Black Bar on the bottom of the Travel Window is for System Messages. The first set of beads on the top right is the PC's Body attribute. The second set of beads on the top right is the PC's Spirit attribute. The third set of beads on the top right is the PC's Honor attribute. The fourth set of beads on the top right is the PC's Karma attribute. Right below the fourth set of beads is the PC's Current Order of Enlightenment.

Moving About in the World

To move over land or water, press one of the direction keys listed below. Note that there are two indential sets of directions keys for either right or left-handed play.

Left Handed Play	Right Handed Play
ESC - Special Options	DEL - Special Options
TAB - Interact	RTN - Interact
Q - Northwest	I - Northwest
W - North	O - North
E - Northeast	P - Northeast
A - West	K - West
S - PASS	L - PASS
D - East	; - East
Z - Southwest	, - Southwest
X - South	. - South
C - Southeast	/ - Southeast
OA - Fast move	OA - Fast move

The arrow keys may be used in place of the North, South, East and West keys. To rest in place for one turn, press the PASS key.

Press and hold the Open-Apple key along with the desired direction key to move the PC at a quicker, though fatiguing pace.

The Combat Display

When in combat, the following display is shown:

Its me again Mech, another picture.

Boot the game and get into a fight. The background at the fight is the Combat Window. The dude on the left side is the Player Character (PC). At the top Right Corner of the screen, the beads, are the PC's Body Attribute. The d00d on the right side is the Combat Opponent.

Defending in Combat

Using the space bar to toggle between Concentration and Intuition modes. The PC's maneuvers in combat are controlled using the following keys.

Bare handed	With staff
I - High Kick	I - High Kick
O - Punch	O - High Swing
K - Back Kick	K - Back Kick
L - Front Kick	L - Front Kick
, - Cartwheel	, - Thrust
. - Handspring	. - Low Jab

Commands for Both Bare handed and With staff

TAB - Break and run	RTN - Break and run
A - Step forward	S - Step Backward
Z - Scoot Forward	X - Scoot Backward
SB - Switch between Concentration and Intuition Modes.	

INTERACTING WITH THE WORLD

Your Possessions

Whenever you wish to examine or use one of your possessions, press RETURN, following by the PASS key (S or L). You will be presented with a list of the items that you currently possess. Select the item you wish to examine or use. For example, when you wish to sleep, you should select the Straw may from your possessions, When you are hungry, you may eat by selecting Food.

Inhabitants of Khantun

When you wish to interact with an inhabitant of Khantun, press the RETURN key followed by the direction to the person or creature you wish to interact with. When speaking to people, you may discuss different topics. Listed under these topics are the keys words you know. When you ask someone about a key word and you hear a chiming sound, you have had another key word added to one of your topic lists. It is advisable to occasionally converse with persons you have spoken with before, using the new words you learn -- they may have new things to tell you.

Inanimate Objects

To interact with or examine an object in the world, move up to the object and "bump" against it. If the object is something that can be examined, a message will appear telling you what you have found. For example, bumping into a scroll on a table will result in the scroll being opened and its contents reveals. Bumping into a doorway will cause you to pass through the door into or out of the building. When you wish to board a sailing vessel that you own or have taken in battle, bump into the front end of the craft. When you wish to disembark from the craft, you can drop anchor by selecting that from your inventory.

SPECIAL OPTIONS

Special Options List

While travelling in Khantun, press the ESC or TAB key to display the Special Options list. The options are:

Save - This will save the adventure in progress for later recall.

Recall - This will recall the adventure from the previous save.

Save and Quit - This command will automatically save the game and prepare the computer to be turned off. This command must be issued to end your game session. Failure to use this command will cost the PC one karma bead on the next recall/restart.

Abandon - This will abandon the adventure in progress and erase it permanently, allowing a new adventure to be started.

Sound on/off - This will switch the game sound on or off.

TROUBLESHOOTING

Failure to Start Properly

If the game fails to start properly, perform the following sequence:

- 1) Turn the computer off.
- 2) Make sure the computer and its parts are properly installed.
- 3) Reinsert the WINDWALKER disk, side 1, label-side up, into the drive.
- 4) Turn the Computer on.

If this sequence fails to start the game, you probably have either a hardware or software problem. If possible, try starting the game on another computer to verify the problem, or, consult your software dealer for assistance, or try d/l'ing it again, may be a bad download.

"Check the Magnetic Disk" message

If during play you get a "Check the Magnetic Disk" message on your screen, make sure that you have the correct disk properly inserted in the disk drive when the drive door is closed. All characters information is saved to Magnetic Disk 4, which can be copied to permit the play of more than one simultaneous games.

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End of Documentation Another Fine C96 Presentation	

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DOCUMENT wings.read
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Salvation-Wings Late News & User's Guide Update (1 Dec 90)
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Please make a point of reading through the Salvation-Wings User's Guide at least once before you go 'exploring'. Salvation-Wings is a very large and capable program, and you may miss--or even misuse--some of its many features if you don't know all the details.

We recommend most strongly that you use the Installer program on the Supreme.B disk to install Salvation-Wings, MiniWings, and/or MicroWings. There are some Wings-specific files that must be in the correct folders in order for things to work correctly. The Installer scripts on theSupreme.B disk will assure that everything is copied to where it should be.

Also, please be aware that Salvation-Wings and MiniWings make extensive use of 'resources', which are special parts of certain files. You must use a GS/OS- based copy utility in order to be sure that files with resources ar copied correctly. Salvation-Wings does this perfectly, and so does the Finder. Please, do not use any ProDOS 8-based copy utility to handle any Salvation- Wings files!

[End of update.]

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\*\*\*\* WIZ #3 MONSTER DESCRIPTIONS \*\*\*\*

THE FOLLOWING IS A SHORT DESCRIPTION OF CERTAIN MONSTERS.

LEVEL 1
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- CRAWLING KELP - GIVE LOUSY EXPERIENCE.
GUARIAN MAGES - CAST 1ST LEVEL MAGE SPELLS.
GUARIAN PRIESTS - CAST 1ST LEVEL PRIEST SPELLS.
POLTERGEISTS - YOU CAN DISSOLVE THEM.
DUSTERS - YOU CAN DISSOLVE THEM.
GIANT SLUG - MANY HIT POINTS. DOES CONSIDERABLE AMOUNT OF DAMAGE TO CHARS WITH LOW ARMOR CLASS.

LEVEL 2
-----

- KOMODO DRAGONS - BREATH DAMAGE TONS OF GOLD FOR TREASURE
DWARF FIGHTERS - MANY HIT POINTS
RONIN - CAST LIGHT SPELLS
WITCHES - CAST LIGHT SPELLS
PIXIES - CAST LIGHT SPELLS
LEPRECHUANS - CAST LIGHT SPELLS
WERE VULTURES - POISON YOU
CENTAURS - HIT FOR MUCH DAMAGE
ASTERS - PARALYZE YOU. DISSOLVE THEM.
DUSTERS - DISSOLVE THEM.
FRIARS - CAST LIGHT PRIEST SPELLS
MUMMIES - DRAIN ONE LEVEL FROM WHOEVER IT HITS IN COMBAT.
UNICORN - HAS MANY HIT POINTS
GIANT LEECH - THIS MONSTER HAS THE MOST HIT POINTS OUT OF ALL MONSTERS ON LEVEL 3. IT ALSO DOES GREAT DAMAGE COMPARED TO OTHER MONSTERS. THEY ALSO POISON YOU.
STRANGLER VINES - DO MUCH DAMAGE. SOME ARE RESISTANT TO SPELLS
2-HEADED SNAKES - HAVE MANY HIT POINTS. THEY ALSO POISON YOU.
BANSHEES - DISSOLVE THEM. WILL DRAIN ONE LEVEL FROM CHARACTER IT HITS. WILL HIT MORE FREQUENTLY THAN MUMMIES.
CRUSADERS - CAST LIGHT PRIEST SPELLS
GIANT ANTS - PARALYZE YOU. HAVE LOTS OF GOLD

'WIZPLUS' TO EDIT YOUR CHARACTERS TO HAVE THIS EQUIPMENT....

WERE TIGERS - POISON YOU.

\*\*\* WIZARDRY 3 ITEM LISTING \*\*\*

THIS FILE LISTS ALL THE UNUSUAL ITEMS IN WIZARDRY III. MOST OF THEM YOU CAN NOT BUY FROM BOLTAC'S TRADING POST...

LISTED NEXT TO EACH ENTRY, IS THE ITEM REGESTER NUMBER THAT YOU CAN CHANGE WITH A SECTOR EDITOR:

|                      |                      |
|----------------------|----------------------|
| E903 ORB OF EARITHIN | EA03 NEUTRAL CRYSTAL |
| EB03 CRYSTAL OF EVIL | EC03 CRYSTAL OF GOOD |
| ED03 SHIP IN BOTTLE  | EE03 STAFF OF EARTH  |
| EF03 AMULET OF AIR   | F003 HOLY WATER      |
| F103 ROD OF FIRE     | F203 GOLD MEDALLION  |

F303 ORB OF MHUUFES (AND NO, I DID SPELL IT CORRECTLY)

|                          |                             |
|--------------------------|-----------------------------|
| F403 BUTTERFLY KNIFE     | F503 SHORT SWORD            |
| F603 BROAD SWORD         | F703 MACE                   |
| F803 STAFF               | F903 HAND AXE               |
| FA03 BATTLE AXE          | FB03 DAGGER                 |
| FC03 FLAIL               | FD03 ROUND SHIELD           |
| FE03 HEATER SHIELD       | FF03 MAGE'S ROBES           |
| 0004 CUIRASS             | 0104 HAUBERK                |
| 0204 BREAST PLATE        | 0304 PLATE ARMOR            |
| 0404 SALLET              | 0504 POTION OF DIOS         |
| 0604 LATUMOFIS POTION    | 0704 SHORT SWORD            |
| 0804 BROAD SWORD +1      | 0904 MACE +1                |
| 0A04 BATTLE AXE +1       | 0B04 NUNCHAKAS              |
| 0C04 DAGGER +1           | 0D04 KATINO SCROLL          |
| 0E04 CUIRASS +1          | 0F04 HAUBERK +1             |
| 1004 BREAST PLATE +1     | 1104 PLATE ARMOR +1         |
| 1204 HEATER +1           | 1304 BASCINET               |
| 1404 IRON GLOVES         | 1504 BADIOS POTION          |
| 1604 HALITO POTION       | 1704 SHORT SWORD -1         |
| 1804 BROAD SWORD -1      | 1904 MACE -1                |
| 1A04 DAGGER -1           | 1B04 BATTLE AXE -1          |
| 1C04 MARGAUZ'S FLAIL     | 1D04 BAG OF JEMS            |
| 1E04 WIZARD'S STAFF      | 1F04 FLAMETOUNGE            |
| 2004 ROUND SHIELD -1     | 2104 CUIRASS -1             |
| 2204 HAUBERK -1          | 2304 BREST PLATE -1         |
| 2404 PLATE ARMOR -1      | 2504 SALLET -1              |
| 2604 SOPIC PHILTRE       | 2704 GOLD RING              |
| 2804 SALAMANDER RING     | 2904 SERPENT'S TOOTH        |
| 2A04 SHORT SWORD +2      | 2B04 BROAD SWORD +2         |
| 2C04 BATTLE AXE +2       | 2D04 IVORY DAGGER (GOOD)    |
| 2E04 EBONY DAGGER (EVIL) | 2F04 AMBER DAGGER (NEUTRAL) |
| 3004 MACE +2             | 3104 MITHRIL GLOVES         |
| 3204 DIALDO AMULET       | 3304 CUIRASS +2             |
| 3404 HEATER +2           | 3504 DISPLACER ROBES        |
| 3604 HAWBERK +2          | 3704 BREST PLATE +2         |
| 3804 PLATE ARMOR +2      | 3904 ARMET                  |
| 3A04 WARGAN ROBES        | 3B04 GIANT'S CLUB           |
| 3C04 BLADE OF CUISINART  | 3D04 SHEPHERD CROOK         |
| 3E04 UNHOLY AXE          | 3F04 ROD OF DEATH           |
| 4004 GEM OF EXORCISM     | 4104 BAG OF EMERALDS        |
| 4204 BAG OF GARNETS      | 4304 BLUE PEARL             |
| 4404 RUBY SLIPPERS       | 4504 NECROLOGY ROD          |
| 4604 BOOK OF LIFE        | 4704 BOOK OF DEATH          |
| 4804 DRAGON'S TOOTH      | 4904 TROLLKIN RING          |
| 4A04 RABBIT'S FOOT       | 4B04 THIEF'S PICK           |
| 4C04 BOOK OF DEAMONS     | 4D04 BUTTERFLY KNIFE        |
| 4E04 GOLD TIARA          | 4F04 MANTIS GLOVES          |

THAT IS ALL OF 'EM...YOU CAN USE THE PROGRAM BY 'DATAMOST' CALLED

=====
   
DOCUMENT wiz.3.monst.2
   
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\*\*\*\*\* WIZARDRY #3 MONSTERS \*\*\*\*\*

THE FOLLOWING IS A LIST OF MONSTERS. THE WORDS IN PARENTHESIS SHOW THE STATE OF THE MONSTER WHEN IT IS NOT CLEARLY SEEN.

THE LIST GOES IN THE ORDER OF HARDNESS. (LARGER NUMBER = HARDER MONSTER)

LEVEL 1

- |                                 |                                   |
|---------------------------------|-----------------------------------|
| =1= GUARIAN RAIDER (CORSAIR)    | =2= GUARIAN GUARD (CORSAIR)       |
| =3= POLTERGEIST (UNSEEN ENTITY) | =4= CRAWLING KELP (STRANGE PLANT) |
| =5= GUARIAN PRIEST (CORSAIR)    | =6= GUARIAN MAGE (CORSAIR)        |
| =7= DUSTER (SHADOWY FIGURE)     | =8= LARGE SNAKE (ANACONDA)        |
| =9= GUARIAN CAPTAIN (CORSAIR)   | =10= MOAT MONSTER (GIANT SERPENT) |
| =11= GIANT SLUG (SLIMY THING)   | =12= HIGH CORSAIR (CORSAIR)       |

LEVEL 2

- |                          |                |
|--------------------------|----------------|
| =1= HOBGOBLINS           | =2= GOBLINS    |
| =3= NINJA (MAN IN BLACK) | =4= DARK STEED |

NOTE : 95% OF LEVEL 3 MONSTERS EXIST ON LEVEL 2 THEREFORE, THOSE MONSTERS HAVE NOT BEEN LISTED IN THE LEVEL 2 CATEGORY.

LEVEL 3

- |                                    |                                |
|------------------------------------|--------------------------------|
| =1= DUSTER                         | =2= MAN IN LEATHER             |
| =3= VULTURE (STRANGE BIRD)         | =4= LOOTER                     |
| =5= RONIN                          | =6= WITCH (WOMAN IN ROBES)     |
| =7= FRIAR                          | =8= CRUSADER                   |
| =9= PIXIE (TINY FIGURE)            | =10= LEPRECHUAN (TINY FIGURES) |
| =11= BENGAL TIGER (STRANGE ANIMAL) | =12= MAN AT ARMS               |
| =13= DWARF FIGHTER (MAN AT ARMS)   | =14= CENTAUR                   |
| =15= UNICORN (STRANGE ANIMAL)      | =16= WERE VULTURE              |
| =17= WERE TIGER                    | =18= 2-HEADED SNAKE            |
| =19= STRANGLER VINES               | =20= GIANT LEECH               |
| =21= ASTER                         | =22= GIANT ANT                 |
| =23= KOMODO DRAGON                 | =24= MUMMY                     |
| =25= BANSHEE                       |                                |

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DOCUMENT wizardry.editor
   
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WIZARDY SCENERIO EDITOR
   
INSTUCTION ERRATA
   
DATED: 4.12.81
   
THANKS TO THE BIG M
   
-----

| SEGMENT: | NRECS | STREC | BLKNG | LENGTH |
|----------|-------|-------|-------|--------|
| HEADER   | 1     | 0     | 6     | 06     |
| MAZE     | 7     | 6     | 1     | 14     |
| MONSTERS | 100   | 20    | 60    | 34     |
| TR-TYPES | 75    | 54    | 6     | 26     |
| ITEMS    | 130   | 80    | 13    | 20     |
| PLAYERS  | 20    | 100   | 4     | 10     |
| PICTURES | 41    | 110   | 2     | 42     |
| EXPTABLE | 1     | 152   | 1     | 2      |

-----

MONSTER PICTURES TABLE (WITH DESCRIPTIONS)

|    | DESCRIPTION                      |
|----|----------------------------------|
| 0  | SMELLY SLIME                     |
| 1  | OLD MAN WITH LANTERN(DINK)       |
| 2  | GHOST (SHEET,RAISED ARMS)        |
| 3  | THEIF (RUNNING WITH LONGSWORD)   |
| 4  | KNIGHT (UNMOUNTED W/SWORD)       |
| 5  | UNSEEN ENTITY                    |
| 6  | ASSASSINATOR OF THE GODS(X)      |
| 7  | MAGE (ROBED)                     |
| 8  | PRIEST                           |
| 9  | NINJA (TWO SWORDS)               |
| 10 | SCORPION                         |
| 11 | ATTACK DOG                       |
| 12 | BLEEB                            |
| 13 | INSECT SWARM                     |
| 14 | BORING BEETLE                    |
| 15 | DRAGON (HEAD)                    |
| 16 | GIANT                            |
| 17 | GREATER DEVIL(PROTRUDING TUSKS)  |
| 18 | TREASURE CHEST (MIMIC)           |
| 19 | TREASURE (IN PILE) <MIMIC>       |
| 20 | AMEOBAE                          |
| 21 | SWORD (KOD'S SWORD)              |
| 22 | HELMET(KOD'S HELMET)             |
| 23 | SHIELD(KOD'S SHIELD)             |
| 24 | GLOVES(KOD'S GLOVES)             |
| 25 | ARMOR (KOD'S ARMOR)              |
| 26 | SKULL (FLOATING)                 |
| 27 | FUZZBALL                         |
| 28 | SNAKE (BOA COILED AROUND SCREEN) |
| 29 | BAT (VAMPIRE)                    |
| 30 | FLACK                            |
| 31 | SMALL HUMANIOD                   |
| 32 | ANIMATED SKELETON                |
| 33 | POSSESSED HUMANIOD (GLOWING)     |
| 34 | FLOATING ROBOT (SAYS "DIE!")     |
| 35 | BEAR                             |
| 36 | RABBIT                           |
| 37 | WASP (GIANT MOSQUITO)            |
| 38 | HUGE SPIDER                      |
| 39 | GIANT                            |
| 40 | DEMON                            |
| 41 | -----SAFE SPACE-----             |

-----\*

---EXPERIENCE TABLES---

NOTE: FORMAT IS FROM LEVEL #/TO LEVEL #

|     | FIGHTER | MAGE  | PRIEST | THEIF |
|-----|---------|-------|--------|-------|
| 1/2 | 1000    | 1000  | 1050   | 900   |
| 2/3 | 1724    | 1896  | 1810   | 1551  |
| 3/4 | 2972    | 3268  | 3120   | 2674  |
| 4/5 | 5124    | 5634  | 5379   | 4610  |
| 5/6 | 8834    | 9713  | 9274   | 7948  |
| 6/7 | 15231   | 16746 | 15989  | 13703 |
| 7/8 | 26260   | 28872 | 27567  | 23625 |
| 8/9 | 45275   | 49779 | 47529  | 40732 |

9/10 78060 85825 81946 70227  
 10/11 134586 147974 141286 121081  
 11/12 232044 255127 234596 208760  
 12/13 400075 439874 419993 359931  
 MORE: 289709 320000 304132 260639

|       | BISHOP | RANGER | LORD   | NINJA  |
|-------|--------|--------|--------|--------|
| 1/2   | 1200   | 1250   | 1300   | 1450   |
| 2/3   | 2107   | 2192   | 2280   | 2543   |
| 3/4   | 3692   | 3845   | 4000   | 4461   |
| 4/5   | 6477   | 6745   | 7017   | 7826   |
| 5/6   | 11363  | 11833  | 12310  | 13729  |
| 6/7   | 19935  | 20759  | 21596  | 24085  |
| 7/8   | 34973  | 36419  | 37887  | 42254  |
| 8/9   | 61356  | 63892  | 66468  | 74129  |
| 9/10  | 107642 | 112091 | 116610 | 130050 |
| 10/11 | 188845 | 196650 | 204578 | 228157 |
| 11/12 | 331307 | 345000 | 358908 | 400275 |
| 12/13 | 581240 | 605263 | 629663 | 702236 |
| MORE: | 438479 | 456601 | 475008 | 529756 |

END EXPERIENCE.  
 -----

-- MAZE EDITOR --

MOVEMENT KEYS: Q W E  
 A S D  
 Z X C

SET FEATURE KEYS: "S" SECRET DOOR  
 "W" WALL  
 "D" DOOR  
 Q,E,Z,C ERASE

DIRECTION SET KEYS: "I" UP  
 "J" LEFT  
 "K" RIGHT  
 "M" DOWN

NOTAE:TO CREATE A FEATURE:

- <1> POSITION CURSOR WITH MOVEMENT KEYS
- <2> SELECT POSITION OF FEATURE WITH DIRECTION KEYS
- <3> SELECT FEATURE WITH FEATURE KEYS

EGO GESSE:TO INSERT A DOOR FACING "SOUTH", POSITION CURSOR, PRESS "M" AND THEN PRESS "D"

-----END SET FILE-----

"1" INITIALIZATION OF SCENERIO

ROOM FOR 500 RECS ON STANDARD FORMAT

- 1> ENTER VALUES
- 2> <C>HANGE SCENERIO NAME
- 3> INSERT BLANK DISK INTO DRIVE 2, FORMAT SCENERIO

NOTAE:  
 INITIALIZED SCENERIO CONTAINS ONLY BASIC SET-UP,AND NO ACTUAL "DATA"(EG. PLAYERS,MONSTERS,ITEMS) IS WRITTEN TO DISK,IT MUST BE WRITTEN OR COPIED FROM ANOTHER SCENERIO.

"2" SCENERIO COPY ROUTINES

- 1> ENTER COPY OBJECT FROM MAIN MENU
- 2> SOURCE START REC = (START COPYING AT RECORD #? ON SOURCE)
- 3> DESTINATION START REC = (START COPYING AT RECORD #? ONTO DESTINATION SCENERIO)

"3" ZERO CHARACTER PASSWORDS

NOTAE:  
 ERASES ALL CHARACTERS' PASSWORDS

"4" RECOVER FROM USER BACK-UP

NOTAE:  
 SETS ALL CHARACTERS ON BACKUP C REATED FROM OPTION MENU DURING BOOT PHASE TO "IN" POSITION IN THE "INN"

"\*" END

NOTAE BENE:  
 ENTERS USER INTO COMPILING A ND LINKING ROUTINES TO ACCESS SCENERIOS WITH "OTHER" FORMATS

---- END FILE 1 OF 5 ----

WIZARDRY SCENERIO EDITOR EDITOR ERRATA FILE 2 OF 5  
 DATED: 4.13.81 THANKS TO THE BIG M

EDITORS:

- A> PLAYERS
- B> MONSTERS
- C> ITEMS
- D> TREASURE TABLES
- E> EXPERIENCE
- F> MAZES
- G> MONSTER IMAGES
- H> ENCRYPT MESSAGES

A>PLAYERS

-----  
 THIS EDITOR IS USED TO RE-CREATE CHARACTERS IN THEIR TRUE IMAGE.THESE IMAGES ARE STORED IN THE "MAGE.GEN" FILE ON TRACKS A-E WHICH IS WHERE THE COPY PROTECTION IS IN FULL FORCE.

CHARACTERS CREATED FROM SCENERIO ARE STORED ON AN EASY ACCESS FILE,AND BACKED UP ON ANOTHER FILE WHICH IS PROTECTED AGAINST ACCIDENTAL MODIFICATION. IT IS FROM THIS FILE THAT THIS EDITOR READS, SO BE CAREFUL!

SPELLS:  
 A SPELL CREATION ROUTINE IS INCLUDED IN THIS EDITOR, BUT DUE TO COPYRIGHT PROCEEDURES, YOU THE USER WILL NOT HAVE ACCESS TO THIS INFORMATION UNTIL THE TIME COMES WHEN MR. WOODHEAD WISHES TO MODIFY THE SPELLS IN A LATER SCENERIO NOT FORE SEEN AT THE PRESENT DATE.

NOTAE:  
 FILE 5 INCLUDES ALL OF THE CLAUSES AND BY CLAUSES WHICH APPLY TO THE USERS GROUP IN RESPECT TO THE EDITOR AND MARKETING OF SCENERIOS CREATED BY THE EDITOR. (SEE FILE 5 CLAUSE 2A)

B-MONSTERS

-----  
 PERTINANT INFORMATION:

"QMAGIC":  
 # OF MAGICAL SPELLS A MOSTER CAN CAST IN A CERTAIN ENCOUNTER :  
 (MONSTERS CAN CAST ALL SPELLSTO BE DEFINED ONLY BY DICE ROLL)

"HCLER" :

# OF CLERICAL,'PRIEST' \$SPELLS A MONSTER CAN CAST IN AN ENCOUNTER :  
"IBID"

"M-RES" :  
MAGIC RESISTANCE (RESISTANC E TO PLAYER-CAST SPELLS"

"CHUMNUM":  
NUMBER OF COMPANIONS IN MONSTER PARTY

"CHUM-PROB":  
PERCENTAGE CHANCE OF A SIN SINGLE MONSTER(OR A GROUP WHERE APPLICABLE)  
OF NOT ATTACKING (GOOD ONLY!)

"PIC #":  
PICTURE TO BE DISPLAYED WHEN MONSTER APPEARS(SEE CHART FILE 1)

"ENCS " :  
NOT USED (RESERVED FOR LATER SCENERIOS WITH DIFFERENT DATABASE  
MANAGEMENT)

NOTAE:  
IT IS REASONED THAT ALL OTHER IN FORMATION IS SELF-EXPLANITORY WITH  
RELATION TO THE MONSTER EDITOR.

WIZARDRY SCENERIO EDITOR ERRATA SHEET # 3 DATED: 4.14.81  
THANKS TO THE BIG M

C-ITEMS  
-----

EXPLANATION OF INPUT PROMPTS:

"SPECIAL #":  
SET SPECIAL TO BE FOUND IN MAZE. (USING MAZE EDITOR, SET ITS POSITION  
IN THE MAZE).

"DECAY %":  
THE NUMBER OF TIMES THAT THE SET SPECIAL POWER OF ITEM CAN BE  
USED(100%=ONCE, 1%=100 TIMES ETC.)

"DECAY #":  
NUMBER OF TIMES OBJECT CAN BE EQUIPPED TO A CHARACTER BEFORE  
"BREAKING"

"SPELL":  
SPELL ITEM CAN CAST (PART OF SPECIAL POWERS)

SPECIAL POWER= HEALING, INCREASED DAMAGE, SPELL, OR PROTECTION

NOTAE: OPTION 'N' FROM THE PROTECTIONS EDITOR(PROTECT AGAINST  
ENCHANTED) IS NOT USED IN ANY CURRENT SCENERIO.WHEN IT IS ,THAT OPTION  
WILL BECOME OPERATIONAL.

ALL OTHER INFORMATION ON THIS SUBJECT IS FELT TO BE SELF  
EXPLANATORY, AND THEREFORE NOT EXPLAINED HERE.

D-TREASURE TABLES  
-----

EXPLANATION OF INPUT PROMPTS:

"INBOX":  
DETERMINES IF TREASURE IS TO BE FOUND IN A CHEST

"TRAPS":  
EDIT POSSIBLE TRAPS IN THE CH CHEST(IF MORE THAN 1 SELECTED TRAP  
CHOSEN AT RANDOM, IF ALL SELECTED, CHEST WILL BECOME A MIMIC (SEE BELOW  
& LIST IN FILE 1)

"ITEM#":  
COMPARES INPUT TO ITEMS LIST, AND SELECTS TREASURE (0=RANDOM), (IF A  
MARKED SPECIAL IS SPECIFIED, BE SURE TO INCLUDE LISTING IN MAZE  
EDITOR!)

ITEMS(1-9):  
DETERMINES HOW MANY ITEMS CAN BE FOUND IN CHEST, AND WHAT ITEMS ARE IN  
CHEST)

MIMIC:  
A MONSTER TYPE (ENCHANTED) FORMATTED TO DATA BASE. A MYMIC WILL APPEAR  
ONLY IF SPECIFIED IN: MAZE EDITOR, TREASURE EDITOR MONSTER EDITOR(SET  
ACTUAL MONSTER

TO APPEAR TO "ENCS 10"(MIMIC CAN NOT BE MODIFIED BY THIS EDITOR, BUT  
CAN BE LINKED IN TO MONSTER TABLES BY PRESSING "\*" FROM MAIN MENU AND  
USING LINK AND COMPILING ROUTINES).

E-EXPERIENCE  
-----

(SEE FILE 1 BLOCK 3 FOR EXAMPLE)

NUMBER OF EXPERIENCE POINTS NEEDED TO MOVE FROM ONE SPECIFIED LEVEL TO  
ANOTHER SPECIFIED LEVEL.

"MORE":  
FOR LEVELS OVER 13, A CONSTANT NUMBER OF POINTS IS NEEDED TO MOVE TO  
EACH

NEXT LEVEL. THIS NUMBER IS SPECIFIED AFTER THE PROMPT, AND (TURN TO FILE  
1 HARD COPY) 1 LEVEL WILL BE GAINED WITH THE ACCUMULATION OF THAT  
AMOUNT OF POINTS).

F-MAZE EDITOR  
-----

(EXPLAINED IN FILE 1)

IT IS NESCESSARY TO SET CORRIDORS AND ROOMS. GO INTO OPTION 1 AND SET  
WHICH MONSTER GROUPS MAY APPEAR ON A SPECIFIED LEVEL. OPTION 5 IS USED  
TO QUICK DRAW A MAZE (BASIC OUTLINE) AFTER WHICH PRESSING "B" WILL  
BUILD WHAT YOU HAVE DRAWN. (PRESSING #S 1-9 HAS NO EFFECT UNLESS LINKED  
IN FROM THE PASCAL DATABASE EDITOR ("\*" OPTION FROM MAIN MENU). MESSAGE  
EDIT (-2 FROM SPECIALS EDITOR) IS SELF EXPLANATORY AND THEREFORE NOT  
EXPLAINED HEREIN; (30 BLOCKS PER LEVEL)

G-MONSTER IMAGES  
-----

EXPLANATION OF INPUT PROMPTS:

? > SEE COLOR BLOCK CURRENTLY IN USE  
N > SKIP TO NEXT COLOR BLOCK  
P > SKIP TO PREVIOUS COLOR BLOCK  
! > SAVE PICTURE  
/ > " UNFINISHED FEATURE "  
- > DELETES ANY PATTERN (PICTURE BLOCK) THAT DATAM CURSOR PASSES OVER  
+ > CURSOR MOVE MODE (DATAM CURSOR CAN MOVE WITHOUT EFFECT USING  
Q, W, E, A, S, D, Z, X , C KEYS  
S > DRAW MODE (WHEN DATAM CURSOR IS MOVED, IT WILL DRAW IN THE  
SPECIFIED COLOR BLOCK.

: MUST LOAD IN PICTURE BY TYPING IN NUMBER FROM SECONDARY SOURCE MENU.

H-ENCRYPT MESGS  
-----



:WARNING:

THIS EDITOR IS NOT TO BE USED FROM THE MAIN MENU! USE IT INSTEAD FROM THE MAZE EDITOR AS EXPLAINED ABOVE.

=====
DOCUMENT wizardry.i.rule
=====

Wizardry

This is part 1 of 2. Spells are in part 2

Written

by
Andrew Greenberg & Robert Woodhead

Published

by
Sir-tech Software

Documentation

Some Other Guy

Thanks

Beowulf and the Strata Crackers gang

Scenario #1

Proving Grounds of the Mad Overlord is the first Wizardry scenario and is designed to introduce you to Wizardry, give you practice playing, and allow you to "build" characters up to 7th level or so.

The evil wizard Werdna has stolen a valuable item from the treasure rooms of the mad overlord Trebor. He has placed it somewhere deep in the dungeons of Trebor's castle, and left fearsome monsters there to guard it. Your mission is to develop characters powerful enough to explore the deeper levels of the dungeon and recover the item.

It is rumored that a "control center" exists somewhere in the dungeon, and that this control center allows explorers easy access to the deeper levels of the dungeon where the item may be found. Thus a logical first step would be to find this facility.

Good Luck, and may your Gods be with you!

Welcome to the
World of Wizardry

Wizardry is unlike any other game you have played on your Apple II computer. Using all the power and sophistication of the Pascal language, we have been able to create the most challenging fantasy war game available for any personal computer.

Wizardry is a huge program - in fact, at 14,000 lines of code, it may be the largest single micro-computer game ever created. The entire Wizardry game system, including the programs used to create the extensive Wizardry databases, comprises almost 25,000 lines of code, and is the result of over one man year of intensive effort.

The result is a game that simply could not have been written in BASIC. Wizardry lets you create and control a number of adventurers, who go off on expeditions in search of loot and glory. The more successful a character or group is, the more powerful they become. Each character is specialized. Some are good fighters, some can cast magical spells of many types, and some are good at defeating the many traps that guard the goodies. As a character becomes more powerful, he may gain some general abilities, but in all cases, cooperation is the key to success.

From one to six players can adventure at a time, with each one controlling one or more characters. Over the course of many, many adventures, the characters may be able to fully map out the maze and wrest from it the arcane items that are carefully guarded in the more inaccessible depths. However, this can take quite a lot of playing. Fortunately, additional SCENARIOS with greater perils and rewards are available, you may explore caverns, crumbling ruins, or even chart out the unmapped and unknown mysteries of the huge world of Wizardry.

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NOTES

A FEW WIZARDRY FEATURES

Multi-Player:

Wizardry allows up to six characters to adventure at a time, and many more can be stored on diskette.

Complete Castle:

All adventures start and end in the Castle. Features provided include Tavern, Hotel, Temple, and Trading Post.

Specialized Characters:

All Wizardry characters are unique individuals. They can be of five races and eight "classes", have differing abilities, cast spells, fight, etc.

50 Spells:

Spells are used to invoke supernatural aid. There are 50 that can be cast, and they vary in power and effects. Certain characters can learn certain spells, and certain magic items can also cast spells.

Hundreds of Magic Items:

Magic items and mundane items can be bought, sold, or found in the maze. Many cast spells, or give the user special abilities. Magic items can have over 100 different attributes, such as who can use them, who they can be used against, who they protect the user from, and so on.

Hundreds of Monsters:

Monsters travel in groups, like characters do, and in many cases have similar abilities, like spell casting. Monsters also guard treasures, and may be found with other, compatible monsters. For example, a lair might contain a Frost Dragon, 4 evil Bishops and 9 Bushwackers.

3D Maze:

The maze is displayed in 3D perspective, just as you would see it if you actually were in a maze looking in a particular direction. Many tricks and traps are to be found in the maze, such as Stairs, Pits, Chutes, Dark areas, Rotating Rooms, Elevators, Teleportors, and even areas where Magic does not work.

### Special Goodies:

In certain places in the maze unusual events and objects, unique in themselves, may be found. The adaptable nature of the database allows us to program "Specials" which may only happen once! What they are, we aren't saying.

This manual is designed to teach you how to play Wizardry. Only rarely, however, will we reveal information about the internal workings of the Wizardry game system. This is in direct contrast to other game systems where all the rules are visible. Part of the fun of Wizardry is experimenting to find out the best methods for handling various situations.

The best way to learn how to play Wizardry is to go through the manual in order and actually try out the options described. With this idea in mind, get out your Wizardry diskette and we will start the game.

You will notice there are labels on both sides of the diskette. This is because Wizardry is such a large program that we have to use both sides of the diskette. However, you only have to flip the diskette once each time you turn on the computer.

Place the diskette with the label marked "BOOT THIS SIDE" facing up into the disk drive. Turn on your computer. If you have one of the older Apples without the autostart ROM you will have to boot by entering a 6 CTRL-P or PR#6 command. Otherwise, the disk will start and in a few seconds the Logo Page will appear.

Press RETURN to continue. You will then be presented with three options:  
S)tart the Game.  
U)tility Options.  
T)itle Page.

To select an option, press the letter of the desired option. Option T will just replot the title page. Option S starts the game proper. Option U is used to access two special facilities described below.

Assuming you pressed S, the disk will hunt around for a few seconds and then you will be presented with a message that says:

PUT SCENARIO IN DRIVE 1, PRESS RETURN

This is when you flip the diskette. Open the drive door, take out the disk, flip it so the label that says "SCENARIO" is up, carefully place it back in the disk drive, close the drive door, and press RETURN.

If this is done correctly, the disk will whirr for a few seconds and then the "CASTLE" will appear. You are now in the game proper. If something goes wrong, the INSERT message will be repeated.

Congratulations, you have just completed the first step towards hours, days, months, even a lifetime of challenge and adventure!

### SPECIAL UTILITY OPTIONS

First of all, we suggest that you read the rest of the manual before you read this description of the utility options.

Pressing U for Utility Options presents you with a page containing five more options:

R)ecover accidentally lost characters.  
T)ransfer characters to a new scenario.  
B)ackup characters.  
C)hange character names.  
L)eave utility options.

If something awful happens while playing a game that causes the Apple to crash, such as a power failure, it is possible that the current party of adventure's might be lost in the maze. Option R lets you recover these characters. Pressing R will prompt you to flip the diskette and will then search for lost characters and restore them. However, since it is possible to cheat by turning off the Apple if the party is in trouble, using this option adds 10 years to the age of any character restored by it.

After you have conquered the initial scenario you will probably want to move on to another. Option T lets you move characters from one scenario to another. You will be asked to flip the diskette and a list of all the characters on the diskette will be displayed. Choose a character by pressing its letter. If it has a password you will have to enter it. It will then be removed from that scenario.

Next, you will be asked to put in the scenario side of another Wizardry diskette. This done, that character will be placed on that scenario if there is room for him and if there is not already a character of that name on that scenario disk. If he cannot be placed then you will be asked to put the original scenario back so that he can be restored.

Note that some powerful magic items will only work on one scenario. When you try to move a character with these items, you will be told what they are, and you will not be able to transfer the character. If this happens, either sell or give away the items and then try the move again.

B)ackup characters lets you make a record of your characters status by transferring them to any scratch disk you may have. The scratch disk must be either a DOS 3.3 or Pascal formatted disk, and any data on it is destroyed. If your Wizardry disk ever becomes unreadable, you can return it and the backup for regeneration. See the inside back cover of the manual for details.

C)hange character names lets you rename your character. The main use for this option is to prevent name conflicts when transferring characters between scenarios.

GET...READY

Once you have started the game, you will be placed in the Castle, which will be discussed later. However, if this is your first time in the game you will have to create some characters to play with. To do this, you will need to get to the training grounds.

One of the options in the Castle is the E)DGE OF TOWN. Press E and you will see a list of further options, among them T)RAINING GROUNDS. Press T and you will be taken there.

The Training Grounds allow you to create a new character and prepare him for use. Before we go into the various options available, it is a good idea to learn exactly what a character is.

A character is your alter-ego in the world of Wizardry. Like anyone, he has skills, abilities, and possessions. You control him by telling the computer what you want him or her to do. All the parameters and information about your character is kept on the Scenario Disk until you wish to use him, and after you finish a game, it is returned and updated. Thus, you can continue to play with him over many sessions, and the more you play, the more capabilities he gets, and the more challenging and interesting the game becomes.

There are six basic characteristics a character has. They are:

STRENGTH  
I.Q.  
PIETY  
VITALITY  
AGILITY  
LUCK

Based on the 6 characteristics, your character may become one of eight classes. Each class has certain prime requisites, or minimum scores in certain of the characteristics for qualification. Each class also has many abilities, advantages, and disadvantages which other classes may not have. When you are first starting out, you will probably only be able to qualify for one of the first four classes. Later, as you become more powerful, you may qualify for entry into a better class. The classes are:

#### Fighter:

A basic man at arms. Fighters need a minimum strength of 11. Fighters have high hit points. They can use any armor and weapons, and are very good at combat.

#### Mage:

The sorcerers. Mages need a minimum IQ of 11. Mages have poor hit points. They can use only a dagger or staff as a weapon, and cannot use any armor except for a robe! However, they can use magical spells and may be of any alignment.

#### Priests:

The holy men. Priests need a minimum piety of 11. Priests have hit points almost as good as fighters, and may use any armor or shield. Priests may not wear helmets, and must use specifically consecrated weapons such as staffs and cudgels. Priests do not fight as well as fighters but they can throw priestly spells. Additionally, Priests have the ability to Dispell! Some monsters in the maze, collectively termed the "Undead" are animate only through the power of great Evil. These monsters can sometimes be forced from the normal planes of existence back to the abyss where they were summoned from. Priests may not be of Neutral alignment.

#### Thieves:

Thieves require an agility of 11. Thieves get better hit points than mages, can use daggers or short swords as weapons, can wear leather armor and use a shield. Thieves are very good at circumventing the noxious traps that may be between a party of players and some loot. Thieves may not be of Good alignment.

#### Bishops:

Bishops are a combination of priest and mage, and have advantages and disadvantages of both. Bishops have hit points intermediate to both, can wear leather armor and use priests' weapons. They use both magical and priestly spells, although they do not learn them as fast as the other classes. While they start learning mage spells immediately, they must reach the fourth level of ability before priest spells and the ability to dispell becomes theirs, Bishops also have the ability to identify the nature of magical items, thus not requiring them to pay the hefty charge levied for that service in the castle. However, there are some disadvantages to having a bishop inspect an item. If the bishop is not very careful, he may touch the item by accident. This will cause an E)QUIP to be done, and if the item is cursed, the bishop will be forced to use it. Like priests, bishops may not be Neutral.

#### Samurai:

Samurai are fantastic fighters, and can use all fighter weapons and armor. Their hit points start out better than a fighter, but in the long run a fighter will have better hit points. At the fourth level of ability they slowly begin to acquire magical spells. Samurai cannot be of Evil alignment.

#### Lords:

Lords are a combination of fighter and priest. They have the hit points and abilities of fighters but at the fourth level of ability they gain priestly spells, and the ability to dispell. Lords must be of Good alignment.

#### Ninja:

Ninja are inhuman fighting machines, They can use any weapons or armor, but work best without any! When fighting without protection with their bare hands, they can cause havoc and destruction, and may even kill the strongest opponent with a single blow. Their great training gives them a lower and lower Armor Class as they reach higher and higher levels of ability. However, they get hit points as does a Thief and gain no spells. Finally, they must be Evil.

There are many other statistics and abilities you must be aware of. These are:

#### ALIGNMENT:

Alignment describes your character's outlook towards the world, and his general ethical status. The possibilities are GOOD, NEUTRAL, or EVIL. Note that some classes have alignment restrictions and be aware that GOOD characters will not be allowed to adventure with EVIL characters. Thus Lords and Ninjas will never adventure together, but a NEUTRAL Samurai could go with either. Alignment must be chosen when a character is created and cannot be changed through any normal process. Thus, you should be careful in choosing it.

#### EXPERIENCE POINTS and LEVEL OF ABILITY:

Experience points are awarded for killing monsters, each survivor gets some experience points. When the total reaches a certain value, you attain the next level of ability when you rest up in the next inn. The higher level you are, the more you need to earn to get to the next level, up to level 13 when it

becomes a constant amount. The amount needed varies depending on your class. Each time you make the next higher level, you gain more hit points, you may gain new abilities or better old ones (like fighting ability) and you six characteristics may change. Usually they will go up, but sometimes they will decline. The older you are, the more chance of a decline! If you are able to throw spells, you may learn new ones and you will probably gain the ability to cast more of them. Since your characteristics are generally rising, you will probably get them high enough to qualify for a better class.

### AGE:

Age is simply how old you are! After 50 you start getting more and more feeble.

### Gold:

The amount of gold you have to spend.

### Equipment:

The items you have. These may be mundane armor and weapons, or magical items of some sort. You can buy or sell them, trade them to others, use them, or find them in the maze.

### Armor Class:

It is a measure of how well protected you are. This measure includes armor and other things like hinderance and AGILITY. Bare skin is AC 10. A Sherman tank is about AC -10. The abbreviation AC is often used to denote Armor Class.

### Hit Points:

The amount of damage you can sustain before death. Each time you are hurt, a certain number of hit points are deducted. You can recover lost hit points, up to your maximum, by resting in the castle, or by the means of magical spell, potion or device. The abbreviation HP will often be used in place of hit points.

### Spell Books:

These are a set of small books each player has in which he records the spells he knows.

### Spells Left:

These tell you how many spells of each LEVEL OF POWER and class (magical or priestly) you can throw. There are seven LEVELS OF POWER, and the higher the LEVEL, the more devastatingly effective the spell is. Resting up in the Inn will restore a player so that he can cast all the spells he is entitled to. Thus, the smart spell caster rests up after each expedition.

### Status:

This records what the player's status is. Most often he will be OK. However, he could be ASLEEP, AFRAID, PARALYZED, POISONED, STONED, DEAD, ASHES, or LOST FOREVER, to name a few. When a character is not ok, he can be cured either by application of a spell or by hauling him back to the castle and paying for the service at the temple.

There are many more characteristics which are stored but you never see. Now that you know what a character is all about, you can start creating one. The main page of the TRAINING GROUNDS has three options:

### First Training Ground Option

You can type in the name of a character you know does not exist. The computer will search for it, and when it does not find it, it will ask you if you want to create it. Press Y to do so.

A new page will plot with various information. You will be asked for a password for your character. Type in a short, easily remembered, word or words. As you do, a line of X's will appear in the password area. After you press RETURN to signal that you have entered the password, the X's will disappear and you will be asked to type in your password again, just to make sure you did not make any spelling errors! If you do not want to use a password, just press RETURN. Please see inside of back cover for password deletion notice.

Next, you will be asked what race and alignment you wish to be. For each, a list of possibilities, with a letter but each will be plotted. Press the letter of your choice. For example, when you have the options of:

- A) GOOD
- B) NEUTRAL
- C) EVIL

You can press A, B, or C.

Now, in the rows marked STRENGTH, etc., a series of numbers will appear. Each row corresponds to one of your basic characteristics. STR=STRENGTH, and so on. These numbers are the base numbers for your race in each of the statistics. You will also see that you have some BONUS points. You can use these in any of your characteristics to raise them. Generally, you will want to add to one of the first four to allow you to qualify for one of the four basic classes, and use the rest in VITALITY. You will note that an arrow "<---" is pointing to the STR number. At this point you can:

-Press RETURN to move the arrow down to the next number. If you go off the bottom, the arrow will move back to STR.

-Press + to add a point to the current number

-Press - to subtract a point that you had added from the current number

As you press + and -, your scores qualify you for a class, and the name of that class will appear on the right. When you have allocated all your points, and you qualify for one or more classes, press ESC (the key above CTRL) to choose one. You must then enter the letter of the class you want.

Finally, you will not be asked if you really want to keep this character. If you do, press Y. If not N. After that, your character will be placed on diskette, and you will be returned to the main options page of the Training Grounds.

### Second Training Ground Option

Now, by typing in the name of your character, or that of any other character you have created, and pressing RETURN, you will be able to inspect that character. If the character has a PASSWORD, you will have to type it in to gain access. When you type in a password, a number of X's are displayed to disguise your typing. If you type in the name of a character who is not already stored

on diskette, you will have the option of creating him (which really means you are back at the first option, silly goose).

Once you have gained access to a character, you may do any of the following:

D)ELETE:  
eradicates your character.

R)EROLL:  
is equivalent to deleting and then creating character again.

C)HANGE CLASS:  
lets you change your character into a character of another class. You will be told which classes you qualify for, and you may press a letter to switch to that class. If you do so, the character becomes a first level character of the new class with zero experience points, but he gets the following advantages:

- he keeps his maximum hit points
- he keeps the knowledge of the spells he may have learned in the previous class, and may cast one spell for each spell he knows. Additionally, he may learn new spells of levels in which he already knows one or more spells, but not any spells of other levels. The net effect is to give him some of the abilities of his previous class(es).

S)ET NEW PASSWORD:  
lets you alter the password of the character. You'll be asked to enter the new password twice to make sure it is correct.

I)NSPECT:  
lets you see all of your character's statistics and abilities. You will be shown the character's class, level, alignment, characteristics, hit points, gold, experience, spells left and items, and you will have the option to look at his spell books. This page of information can be reached from many places and will let you do different things when displayed from different places. The only option available from the Training Grounds is the ability to R)EAD SPELL BOOKS. Pressing R lets you choose if you want to read M)AGE or P)RIEST spell books. Pressing either will then display the names of the spells of that class that your character knows. Programs to print these spells will be available in the future.

Options available in other areas include:

T)RADING:  
lets you trade items and gold to members of the party your character is adventuring with. Pressing T will display a list of the characters in the party, and prompt for the number of the character you want to trade with. Then you will be asked how much gold you want to give. You can enter an amount or press RETURN to skip giving gold. Then you will be asked which item you want to give. Again, you can press RETURN or enter the number of one of your items. The process of giving items will repeat until you press RETURN.

E)QUIPPING:  
lets you decide what of your characters possessions he will wear. A list of your weapons, armor, shields, and so on, will be displayed, and you may choose

which, if any, you want to wear. Note however, that if you have found a cursed item you will be forced to wear it if you equip. That's why it is a good idea to have items I)dentified.

CASTING S)PELLS  
lets you cast various spells useful to the party. Some, like curative spells that restore hit points, ask what party member is to receive the spell.

U)SE AN ITEM:  
lets you use items to cast spells.

I)DENTIFYING is done only by Bishops and lets them attempt to divine the true nature of an item.

L)EAVE  
returns to wherever you were before you inspected.

### Third Training Ground Option

There is one last option in the Training Grounds. Type in \*ROSTER and press RETURN. You will display a list of all the existing characters. Displayed are name, class, alignment, hit points and status (dead, alive, etc.). You must press L to L)EAVE this page.

Lastly, by just pressing RETURN on the main page, you can move to the castle. (This is really an option so they lied; there are four options.)

### GET...SET

The castle is the starting and ending point of all expeditions. There you can rest, create parties, get help from the gods, buy and sell equipment, or go to any other part of the game.

There are five main options in the castle. These are:

THE A)DVENTURERS INN  
G)IGAMESH'S TAVERN  
THE TEMPLE OF C)ANT  
B)OLTAC'S TRADING POST  
THE E)DGE OF TOWN

To enter any of these, just press the first letter of the name of the place you want to go.

Normally, the first stop at the beginning of a session is always G)igamesh's Tavern, where you can create a party. At the top of the screen there is a display of the current party, with space for six players. Displayed are position number, name, Alignment, and Class, Armor class (AC), Current Hit Points, and Status of each character. Alignment and class are displayed in the form A-CCC where A is the first letter of the character's alignment (G, N, or E) and CCC are the first three letters of the character's class. If the character is OK, then the status area will display his maximum hit points.

In the tavern you may:

A)DD A MEMBER TO THE PARTY  
R)EMOVE A MEMBER FROM THE PARTY  
#)TO INSPECT A MEMBER  
or PRESS RETURN TO EXIT

A)DD :  
will ask you to enter a character's name and password and will add him or her to the party. Characters cannot be added if they are marked on expedition (see below) or if they are of incompatible alignment. Characters who are not OK can be added so that they can be taken to the maze where spells can be cast on them.

R)EMOVE:  
asks you for the number of the person and removes him from the party.

#):  
means you can press any valid player # to inspect that player. A page full of information about that character will be displayed, and you will be able to R)ead his spell books, E)quip him with armor and weapons, T)rade items and gold to other characters, or L)eave and return to the Tavern.

Finally, just pressing RETURN takes you back to the marketplace of the castle where you can go anywhere else.

#### Important Note:

When your character joins a party, his record on diskette is marked as "On Expedition." Normally, when you leave an expedition, are lost forever, or just leave the game, the mark is changed back to "Available." However, if you turn off the computer, or RESET it, all knowledge of things that have happened to your character since you joined the party will be lost, and the computer will think he is still out on an expedition. The only way to recover a character like this is to use the Utility functions recovery program previously mentioned. The reasons for marking characters is that it:

1. Prevents cheating by Reset when you run into some monsters you don't think that you can handle
2. Provides compatibility with versions of Wizardry for multi-Apple networks, such as that provided by the Corvus Constellation.

An accidental power failure or RESET press will happen once in a blue moon, and you should never have to worry about this at all.

#### A)DVENTURER'S INN:

is a place where any weary adventurer can get a place to rest and recover from his exertions, and all for a modest charge. When you enter, you will be asked for the number of the character who wishes to enter the Inn, or you may press RETURN to leave the Inn.

Once inside, a character may rest in the stables overnight, or use one of several types of rooms. Overnight resting allows the character to regain his spells, but does nothing to restore hit points. The other rooms let you regain hit points at a certain rate per week, and the more expensive the room, the faster the rate of healing. Remember, AGE is important in this game, so you do not want to spend too much time in a bed! As you rest you will see a week by

week plot of your hit points going up and your gold supply going down. It will end when you are fully healed or when your gold runs out, or if you press any key.

After using the Inn, a check is made to see if you have attained the next level of ability. If you do, then your Maximum hit points will increase, your characteristics may change, and you may learn new spells and gain the ability to cast more of the older spells. If you have not made the next level, you will be told how many points you need to get there.

Whenever a party brings back characters who are dead, paralyzed, or otherwise unfit, they are removed from the party by the castle guards and taken to the TEMPLE OF C)ANT. The sole exceptions are POISONED characters who will get well on their own, and characters that are LOST forever, who will be buried. Upon entering the temple (press "C") you will be asked who you want to help, and if the priests of the temple can help him, they will tell you what donation is required, and ask who will pay. If a party member can afford the fee, then the sycophants will go to work. If the character is anything but dead or blown to ashes, success is assured, but otherwise there is a chance that the temple's best efforts will be to no avail! A good VITALITY usually means that they will be able to succeed, but old, infirm, characters may be in big trouble. Dead characters who fail to be raised from the dead are reduced to ASHES! There is still hope because for a larger fee, it is sometimes possible to resurrect a person from ashes, but if this attempt fails, the character is dead forever and can never be restored by any means!

The commercial center of the castle is owned by a friendly dwarf named Boltac. However, like all dwarfs, Boltac likes gold and will sell you your own armor if he can. Also, since he is a monopoly, he tends to do pretty well. Press B to enter his trading post. After you have indicated who is to enter (by pressing a number), you will be able to:

B)BUY AN ITEM  
S)ELL AN ITEM  
have an item U)NCURSED or I)DENTIFIED, or  
L)EAVE.

B)UYING an item lets you see a list of items for sale and their prices.

You can scroll F)ORWARD or B)ACKWARD through the inventory.

P)URCHASE an item by entering a number after pressing P

return to the S)TART of the list -- or --

L)EAVE the shelves.

If you attempt to buy something that the character cannot use (for example, a mage buying plate mail) you will be asked to confirm the purchase.

S)ELLING an item will display the items you have, along with the price that will be paid for it, which is generally half the buying price. Unidentified items are only worth one gold piece.

### U)NCURSING and I)DENTIFYING:

also list your items and ask which you want uncursed or identified. Items which are cursed are both detrimental and sticky! If you have a cursed sword, for example, not only will it refuse to fight well, but it won't let you put it down! However, the curse does not take effect until you change your equipment, so before you do that, it's a good idea to get it identified.

Identification is the same as the BISHOP ability. When you find an item in the maze, you know what it looks like but not what it is! By getting it identified you can sell it, get rid of it if it is detrimental, or trade it to someone who could use it. Both of these services cost a variable amount, depending on the power of the particular item.

### Note:

Boltac's is a true store and keeps an inventory of items for sale. While mundane items are available in unlimited supply, magical items are not. It is possible for Boltac to run out of stock! If this happens, the only way for him to replenish his stock is by selling him items you have found in the maze!

To go anywhere else you have to go to the E)DGE OF TOWN. There you can go to the T)RAINING GROUNDS, back to the C)ASTLE, into the M)AZE, or L)EAVE the game. If you go to the training grounds, your party is disbanded.

GO...

The most important part of the game of Wizardry is adventuring. After you have gathered together in a party, purchased or traded for the best equipment you can afford, and rested up to restore hit points and spells, it is time to leave the safe, but expensive, confines of the castle and enter the unsafe, but possibly lucrative, corridors of the maze.

As soon as you enter the maze from the castle, you will be placed in the camp. Being in camp means that you have stopped somewhere and set up a strong guard against monsters, so that members of the party can trade, equip new items, reorder, and so on. You will see a display of the characters in the party much like that seen in the castle, and a list of options.

You can inspect any character by pressing his number, just like in the Tavern. In addition to the options available in the Castle, you will be able to: CAST S)PELLS and U)SE ITEMS.

When inspecting a character, if you press S, you will be asked what spell you want to cast. You must enter the name of the spell that can be cast in camp (see Spells and Items) and that you know how to cast, and that you have a spell point left to use to cast it. Remember that for each level of power of spells for both magical and priestly spells, you are given a number of spells you can cast. Say you have five first-level, three second-level and one third-level priestly spells. If you know (have in your spell books) three first-, one second- and one third-level spell, that means that you can cast any of your three first-level spells five times, or two once and one three times, or any combination. You have the ability to cast any of your first-level spells five times. Since you know only one second-level spell you can throw only it, but you can do it three times, and you can cast your third-level spell one time.

Note that it is possible to be able to throw spells of the second or higher level, but not know any spells of that level!

For many of the camp spells, especially curative spells, you will be asked who is to be the object of the spell. The characters and their numbers will be displayed and you press the number of the character who is to receive the spell.

Some magic items, such as scrolls or wands, can cast magic or priestly spells as well. By U)SING those items you can cast the spell at no cost to you. Again, you may be asked who is to receive the spell. Also, there is a chance that the item will lose its magic powers. Scrolls are only good for one application, but a wand may last for 20 or 30!

The other options in the camp are: E)QUIP THE ENTIRE PARTY, R)ORDER THE PARTY, and L)EAVE THE CAMP.

### E)QUIP

does the same as the equip that you can do in the inspect page, but it does it for everyone in the party. It is very handy the first time you go into the maze.

### R)ORDER

lets you select the order in which the players will march through the maze. When fighting monsters, only the first three characters can attack with weapons, and in turn be physically attacked by monsters. Thus, it is a good idea to have the weaker and less armored characters in the rear. You will be asked for the number of the character who is to go into first position, the number of the character who is to go in the second position, etc.

D)isbanding the party is useful if your party is totally lost or so weakened that your chances of getting to the castle are remote. Disbanding your party essentially leaves your characters in the maze waiting until a new party can rescue the disbanded members. The status of disbanded characters is similar to characters who have been slaughtered in the maze. The difference is that disbanded characters are still alive and retain all of their possessions. Additionally, there is no chance the monster will snack on them. Disbanded party members can be located using the KANDI spell and rescued when found by I)nspection. The I)nspect area option is described later on in the manual. Your disbanded characters will age 1/2 year as they have to wait around for someone to come and get them.

### L)EAVE

lets you break camp and go into the maze. This is where the real adventure begins.

Once in the maze, a Hi-Resolution graphics display is used. The information about your characters is at the bottom of the screen. In the top left corner is a 3D Hidden Surface display of where you are in the maze. To the right of it is information about which spells are active at the time, such as protection or light.

Above that is a short list of your option keys, and between the maze display and the status information is a blank area where messages may appear. At some



locations you will find special objects such as messages, pits, stairs, etc. When you move onto one of those squares a message to that effect will appear. When you enter the maze from the city, you are at the bottom of a set of stairs.

Wizardry uses a 3D perspective plot of the maze as you would see it if you were actually there. You will see the walls of the maze extending into the distance. By using a spell such as MILWA you can light up the maze so that you can see further, and also see secret doors.

Try to get a good idea of the relationship between a top view (a map) and the 3D perspective view. Mapping is an essential part of Wizardry, and the use of the 3D display makes it more challenging and interesting.

While moving around, your options are:

- F - moves you forward a step in the direction you are facing
- L - turns you left
- R - turns you right
- K - lets you kick through a door if it is right in front of you
- S - updates the status area
- C - enters the camp
- T - lets you change the display delay time. This is the time the game waits to let you see some message in combat. A delay of 1 lets messages flash with no delay. A delay of 5000 will leave messages on the screen for about five seconds.
- Q - lets you toggle quick plotting of the maze. See the LOMILWA spell description for more information.
- I - lets you inspect the current area you are in for dead bodies. See below for more details.

As an aid to quick movement, the W-A-D cluster of keys can be used in place of the F-L-R arrangement. If you place your left hand above the S key you will see that your middle three fingers fall onto the W-A-D cluster. To move in any direction, press with the finger that points to that direction. To turn left, press the leftmost finger (A). To turn right, press the rightmost finger (D). And to go forward, press the center (W). With a little practice you will find this arrangement to be very handy and natural, as you can keep the fingers of your left hand on the keys at all times, and use the leftmost two fingers of the right hand to press K.

As you move through the maze you may find many interesting things, and messages and questions may appear. You may also encounter monsters, in which case, combat may ensue.

It is a good idea to keep a map of the maze. This lets you get back to the exit. Also, be aware that there are secret doors which you rarely see, but you can get through by trying to Kick it. If there is a door where you Kick, you'll go through. Otherwise, you'll stub your toe!

As was mentioned above, the I)nspect option lets you search the maze for the bodies of slain adventurers. When an entire party is wiped out (no one makes it back to the castle and the cemetery is displayed) the bodies may or may not be eaten by the monsters. The most likely consequence is that a body will be

stripped of some gold and equipment and left where it fell. Less likely is that it may be dragged to another location in the maze, perhaps even lower down. Least likely, but an increasing chance the deeper you are in the maze, is that the body will be devoured. The KANDI spell may be used to locate dead adventurers.

When you I)nspect, a search is made for all dead bodies in the same area as the party. A body is in the same area if you can get to it without going through a door. So, it must be in the same room or corridor as you are. If bodies are found, they will be displayed with a number to the left. You can press "P" to pick up or "L" to leave. When you press "P", you will be asked for the number of the character to pick up. When a character is picked up he is added to the party, and so if the party is six strong, you cannot pick up any more party members.

Once back in the castle, the normal Temple donations can be used to obtain the correct spells for revival of the characters.

A direct consequence of this is that any character you don't want any more because he died and is lost somewhere in the maze, has to be deleted via the Training Grounds. If you do not delete him, space will be wasted on disk and may not be available to others. Also, since the dead characters are taken away from the party by the guards when the party returns to the castle, it is a good idea to strip them of items of gold before returning to the castle. If the character cannot be raised from the dead, and is dead forever, the Temple will sacrifice all he has to the gods, because he obviously did something to deserve not being restored!

COMBAT...

Without some sort of challenge, Wizardry would just be a game of mapping. And after all, who gathers all the money in the maze together so that characters can get it all in nice packages? That's right, it's the job of the hardworking, and hopefully luckless, monsters. Thus, every so often your party will encounter monsters. They may be wandering around like you, or they may be inhabitants of a room that you have just entered. In any case, since monsters do not generally like the habits, morals, and taste in armor and weaponry of characters, and because they really do like the smell and taste of a good "leg of adventurer", it is likely that a fight will take place.

When you have encountered monsters, a message to that effect will appear. In a few seconds that will be replaced with a display of the monsters that are opposing you, as well as a full color picture of the monsters.

For each group of monsters, and there can be four of them, you will be told the group number of the monsters, how many there are, what they appear to be, and, in parentheses, how many are able to attack the party.

It is interesting to note that you do not always know exactly what the monsters are! Most of the time you will be told what they look like, and later on in the melee you will find out what they really are. There is a small chance that if your party is of GOOD alignment (no evils and at least one good character), the monsters you meet may be friendly and will invite you to pass. If not, however, combat will ensue. Combat consists of a series of rounds, during which each

character and monster can do a single activity. First, the computer decides what the monsters are going to do. You may notice monsters moving forward in order to attack you. Monsters in group 1 are the closest to you, so they have the best chance of being able to physically attack you, and physical attacks by characters have a better chance of hitting them. Spells can be cast without penalty by any monster in any group which has the ability to cast spells, thus spell casting monsters will generally hang back, where it is harder for your fighters to attack them. Similarly, the first 3 characters in your party automatically defend the second three (if any). This means that the second three cannot be attacked physically. It also means that they cannot physically attack the monsters.

### COMBAT OPTIONS

After the monsters have made their decisions, it is time for you to select the activities your characters will engage in. In the area where the active spells were displayed, a list of options will be presented for each character. Just as in other areas of Wizardry, options can be selected by pressing a single key. The options are:

- F - Fight a monster, If more than one group of monsters oppose the party, you will have to press the number of the group you want to fight.
- P - Parry. You use your weapon as a tool of defense. Makes you harder to hit.
- S - Spell. You enter the spell you wish to cast and if you can cast it, you may be asked which group or person you wish to cast it on.
- U - Use an item. A list of items that can cast a spell are displayed and you can use an item by pressing the number of the desired item. Or, you can press RETURN to try another option. You may be asked the further questions needed to direct the spell to the proper recipient.
- R - Run! Using this option causes the entire party to try to run. There is a chance your party won't get away, which is dependent on depth in the maze, party size, etc. If you don't get away, the monsters may chase you through several rooms, so running can get you lost!
- D - Dispell. This option is only available to Priests, and high level Bishops and Lords. It works only against "Undead" (Zombies, Mummies, Skeletons, Wraiths, etc.), and causes some of them to disintegrate. The effectiveness of Dispell depends on how powerful the dispeller is and how resistant the dispellees are. Like Fight, you have to specify the group you are attempting to dispell.

If you make an error entering the activities you want your characters to perform, there are several ways you can make a correction. If the option requires more information, such as group number, you can press RETURN to cancel the selection and make another. If, however, the computer is now asking for options for the next character, you can press "B" to go B)ack to the beginning and re-enter activities for all the characters.

After you have selected activities for all the characters, you will be given one last chance to change your mind. At this point, you can press RETURN to commence fighting out the round, or press "B" to go back and re-enter the activities all over again.

When all this is done, the computer will mediate the combat. Actions as they occur will appear in the message area. It may be that your character will be killed or incapacitated before he has a chance to do what you wanted him to. At the end of the round the statuses are replotted. Dead or incapacitated characters are shifted to the back of the marching order. Monster groups totally destroyed will disappear and the other groups will shift up. (If you are fighting three groups and you kill off group 1, then the second and third group would shift up to become the first and second group.) Remember that the number after the monster name in parentheses is the number of live monsters that are active. For example:

7 BUSHWACKERS (4)

means there are seven live Bushwhackers of which only four are able to fight. Perhaps you cast a Katino spell and three fell into a coma?

This entire process repeats itself until either all of the party is dead (in which case it is off to the cemetery as you have made a tasty snack for the monsters), or all the monsters are dead, in which case all the survivors get the loot and experience.

#### Reminder:

Dead or Incapacitated characters are not left in the maze, but are automatically carried by surviving party members. Only when the entire party is slaughtered are characters strewn about the maze. It is these unfortunates who can be searched for via the I)nspect option and the Kandi spell.

The experience each character gets will be plotted where the monsters names were listed, and the gold and items found, if any, will plot in the message area.

However, there might be one slight problem! The treasure may be in a chest, which you will have to open. And there may be some sort of trap in the chest. However, chests can hold a lot more loot.

If a treasure chest is found, you will have to try to open it. A chest will be displayed, and you will have the following options. Each will ask you who is doing the action, and you will have to enter the number of that person.

- O - Open the chest. If you think the chest is not trapped, then just open it! But, if it is trapped, watch out!
- I - Inspect the chest. There is a chance that inspecting the chest will set off the trap (if there is one), but the chance is much lower for Thieves. If you inspect you will be told what you think the trap is. But it may not be that at all! Each person can inspect only once.
- C - CALFO spell. This spell is a priestly spell that determines the correct trap 95% of the time. Only a character that knows the CALFO spell, and has the spell points to cast it may use this spell.
- D - Disarm the trap. You will have to enter what trap you think it is, and had better not make any spelling mistakes. If you enter the wrong trap name, and the trap goes off, you may be in big trouble.

L - Leave the chest alone. You don't get the loot but you don't set off any traps either.

After the chest has been opened, the loot will be distributed evenly between surviving characters, and any items found will be distributed randomly. It is a good idea to leave one or two of your item slots open so that you get your fair share.

After the combat, it may be a good idea to C)AMP and cast a few restorative spells if anyone got hurt. Otherwise, it's onward, ever onward!

TIPS FOR BEGINNERS

- Balance your party. When first starting out, have a party of 2 fighters, a priest, a thief, and 2 mages. This is the strongest party you can make out of level 1 to 3 characters.
  - Remember that "Discretion is the better part of Valor." A good motto for beginning adventurers might be "He who lives to quits and runs away, lives to fight another day." It is inevitable that you will eventually meet a group of monsters tougher than you are. If party members start dropping right and left, run for it.
  - Use your spell casters wisely. When fighting monsters, have them use "KATINO" to knock out the opposition so you can slit their throats. Of course, this may not work against some monsters, and these you should run from until you are more powerful.
  - If anyone gets hurt, or if you use any spells, get out of the maze as fast as you can and recuperate. The best way to build up character is to dash into the maze, fight one encounter and run out again.
  - Make accurate maps, and check them constantly. Be wary of nasty tricks designed to create inaccurate maps. Maps are especially useful if you are running away from monsters a lot.
- END- 1 of 2

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MAGIC...

The acquisition and use of magic items is of paramount importance to the successful adventurer. A good magic item can be worth any price in certain situations.

Magic items range from one-use potions and scrolls to some of the most powerful artifacts known. Some are available in the Trading Post, but most of the really important ones can only be found in the depths of the maze, usually guarded by fearsome monsters.

Magic items may do many things, Generally they will do one or more of the following:

- Cast a spell
- Alter armor class
- Alter fighting ability
- Protect against certain monsters
- Work better against certain monsters
- Give the user special abilities
- Be useable only by certain characters

There are some magic items that will do other things. These capabilities will only come to light when they are used.

When magic items are first found in the maze, their true nature is not known. Only Bishops or the Trading Post can identify them. Even so, some items may have hidden attributes. Some items are Cursed. When you have a cursed item in your possession and you equip, you will be forced to use it! This usually has detrimental consequences, especially when your sword decides not to fight anymore!

When a Bishop inspects an item, he takes a chance that he will touch it. If this happens he is forced to equip, and if it is cursed, too bad.

While some items can cast spells, most spell casting is done by Mages, Priests and the like. There are 50 spells, divided into Mage and Priest categories Each category is further divided into seven levels of power. The higher the level of the spell, the more potent it is. Each spell has a "power word" required to cast it, and when asked what spell is to be cast, this word must be entered, Following is a complete description of all the spells. For each spell, the name, translation, level, type of spell and area of effect are given. The type of spell refers to when the spell can be cast (Combat, Camp, or anytime).

PRIEST SPELLS
   
LEVEL 1 PRIEST SPELLS

Spell Name : KALAKI
   
Translation : BLESSINGS
   
Spell Level : 1
   
Spell Type : COMBAT
   
Area of Effect : THE PARTY

KALAKI reduces the AC of all party members by one, and thus makes them harder to hit.

Spell Name : DIOS
   
Translation : HEAL
   
Spell Level : 1
   
Spell Type : ANY TIME
   
Area of Effect : 1 PERSON

DIOS restores from one to eight hit points of damage from a party member. It

will not bring dead back to life.

Spell Name : BADIOS  
 Translation : HARM  
 Spell Level : 1  
 Spell Type : COMBAT  
 Area of Effect : 1 MONSTER

BADIOS causes one to eight hit points of damage to a monster, and may kill it. It is the reverse of DIOS. Note the BA prefix which means "not".

Spell Name : MILWA  
 Translation : LIGHT  
 Spell Level : 1  
 Spell Type : ANY TIME  
 Area of Effect : ENTIRE PARTY

MILWA causes a softly glowing light to follow the party, allowing them to see further into the maze, and also revealing all secret doors. See also LOMILWA. This spell lasts only a short while.

Spell Name : PORFIC  
 Translation : SHIELD  
 Spell Level : 1  
 Spell Type : COMBAT  
 Area of Effect : CASTER

PORFIC lowers the AC of the caster considerably. The effects last for the duration of combat.

## LEVEL 2 PRIEST SPELLS

Spell Name : MATU  
 Translation : BLESSING & ZEAL (?translation uncertain)  
 Spell Level : 2  
 Spell Type : COMBAT  
 Area of Effect : ENTIRE PARTY

MATU has the same effects as KALKI but at double the strength.

Spell Name : CALFO  
 Translation : X-RAY VISION  
 Spell Level : 2  
 Spell Type : LOOTING  
 Area of Effect : CASTER

CALFO allows the caster to determine the exact nature of a trap on a chest 95% of the time.

Spell Name : MANIFO  
 Translation : STATUE  
 Spell Level : 2  
 Spell Type : COMBAT  
 Area of Effect : 1 GROUP OF MONSTERS

MANIFO causes some of the monsters in a group to become stiff as statues for one or more melee rounds. The chance of success, and the duration of the effects, depend on the power of the target monsters.

Spell Name : MONTINO  
 Translation : STILL AIR  
 Spell Level : 2  
 Spell Type : COMBAT  
 Area of Effect : 1 GROUP OF MONSTERS

MONTINO causes the air around a group of monsters to stop transmitting sound. Like MANIFO, only some of the monsters will be affected, and for varying

lengths of time. Monsters and Party members under the influence of this spell cannot cast spells, as they cannot utter the spell words!

## LEVEL 3 PRIEST SPELLS

Spell Name : LOMILWA  
 Translation : MORE LIGHT  
 Spell Level : 3  
 Spell Type : ANY TIME  
 Area of Effect : ENTIRE PARTY

LOMILWA is a MILWA spell with a much longer life span. Note that when this spell, or MILWA are active, the Q option while moving through the maze is active. If Q)UICK PLOTTING is on, only the square you are in, and the next two squares will plot. Normally, you might see five or six squares ahead with LOMILWA on. Quick Plotting lets you move fast through known areas. Note that it will be turned off when you enter camp or combat mode.

Spell Name : DIALKO  
 Translation : SOFTNESS/SUPPLE (? exact translation difficult)  
 Spell Level : 3  
 Spell Type : ANY TIME  
 Area of Effect : 1 PERSON

DIALKO cures paralysis, and removes the effects of MANIFO and KATINO from one member of the party.

Spell Name : LATUMAPIC  
 Translation : IDENTIFICATION  
 Spell Level : 3  
 Spell Type : COMBAT  
 Area of Effect : ENTIRE PARTY

LATUMAPIC makes it readily apparent exactly what the opposing monsters really are.

Spell Name : BAMATU  
 Translation : PRAYER  
 Spell Level : 3  
 Spell Type : COMBAT  
 Area of Effect : ENTIRE PARTY

BAMATU has the effect of MATU at twice the effectiveness.

## LEVEL 4 PRIEST SPELLS

Spell Name : DIAL  
 Translation : HEAL (MORE)  
 Spell Level : 4  
 Spell Type : ANY TIME  
 Area of Effect : 1 PERSON

DIAL restores 2 to 16 hit points of damage, and is similar to DIOS.

Spell Name : BADIAL  
 Translation : HURT (MORE)  
 Spell Level : 4  
 Spell Type : COMBAT  
 Area of Effect : 1 MONSTER

BADIAL causes 2 to 16 hit points of damage in the same way as BADIOS.

Spell Name : LATUMOFIS  
 Translation : CURE POISON  
 Spell Level : 4  
 Spell Type : ANY TIME  
 Area of Effect : 1 PERSON

LATUMOFIS makes a poisoned person whole and fit again. Note that poison causes a person to lose hit points steadily during movement and combat.

Spell Name : MAPORFIC  
 Translation : SHIELD (BIG)  
 Spell Level : 4  
 Spell Type : ANY TIME  
 Area of Effect : ENTIRE PARTY

MAPORFIC is an improved PORFIC, with effects that last for the entire expedition.

## LEVEL 5 PRIEST SPELLS

Spell Name : DIALMA  
 Translation : HEAL (GREATLY)  
 Spell Level : 5  
 Spell Type : ANY TIME  
 Area of Effect : 1 PERSON

DIALMA restores 3 to 24 hit points.

Spell Name : BADIALMA  
 Translation : HURT (GREATLY)  
 Spell Level : 5  
 Spell Type : COMBAT  
 Area of Effect : 1 MONSTER

BADIALMA causes 3 to 24 hit points of damage.

Spell Name : LITOKAN  
 Translation : FLAME TOWER  
 Spell Level : 5  
 Spell Type : COMBAT  
 Area of Effect : 1 GROUP

LITOKAN causes a pillar of flame to strike a group of monsters, doing 3 to 24 hit of damage to each. However, as with many spells that effect entire groups, there is a chance that individual monsters will be able to avoid or minimize its effects. And some monsters will be resistant to it.

Spell Name : KANDI  
 Translation : LOCATION  
 Spell Level : 5  
 Spell Type : CAMP  
 Area of Effect : 1 PERSON

KANDI allows the user to locate dead bodies of other characters. It tells on which level, and in which rough area the dead one can be found.

Spell Name : DI  
 Translation : LOCATION  
 Spell Level : 5  
 Spell Type : CAMP  
 Area of Effect : 1 PERSON

DI causes a dead person to be resurrected. However, the renewed character has but one hit point. Also, this spell is not as effective or as safe as using the Temple.

Spell Name : BADI  
 Translation : DEATH  
 Spell Level : 5  
 Spell Type : COMBAT  
 Area of Effect : 1 MONSTER

BADI gives the affected monster a coronary attack. It may or may not cause death to occur.

## LEVEL 6 PRIEST SPELLS

Spell Name : LORTO  
 Translation : BLADES  
 Spell Level : 6  
 Spell Type : COMBAT  
 Area of Effect : 1 GROUP

LORTO causes sharp blades to slice through a group, causing 6 to 36 points of damage.

Spell Name : MADI  
 Translation : HEALING  
 Spell Level : 6  
 Spell Type : ANY TIME  
 Area of Effect : 1 PERSON

MADI causes all hit points to be restored and cures any condition but death.

Spell Name : MABADI  
 Translation : HARM (INCREDIBLY)  
 Spell Level : 6  
 Spell Type : COMBAT  
 Area of Effect : ENTIRE PARTY

MABADI causes all but 1 to 8 hit points removed from the target

Spell Name : LOKTOFEIT  
 Translation : RECALL  
 Spell Level : 6  
 Spell Type : COMBAT  
 Area of Effect : ENTIRE PARTY

LOKTOFEIT causes all party members to be teleported back to the castle, minus all their equipment and most of their gold. There is also a good chance this spell will not function.

## LEVEL 7 PRIEST SPELLS

Spell Name : MALIKTO  
 Translation : THE WORD OF DEATH  
 Spell Level : 7  
 Spell Type : COMBAT  
 Area of Effect : ALL MONSTERS

MALIKTO causes 12 to 72 hit points of damage to all monsters. None can escape or minimize its effects.

Spell Name : KADORTO  
 Translation : RESURRECTION  
 Spell Level : 7  
 Spell Type : ANY TIME  
 Area of Effect : 1 PERSON

KADORTO restores the dead to life as does DI, but also restores all hit points. However, it has the same drawbacks as the DI spell. KADORTO can be used to resurrect people even if they are ashes!

## MAGE SPELLS LEVEL 1 MAGE SPELLS

Spell Name : HALITO  
 Translation : LITTLE FIRE  
 Spell Level : 1  
 Spell Type : COMBAT  
 Area of Effect : 1 MONSTER

HALITO causes a flame ball the size of a baseball to hit a monster doing from 1 to 8 hit points of damage.

Spell Name : MOGREF  
 Translation : BODY IRON  
 Spell Level : 1  
 Spell Type : COMBAT  
 Area of Effect : CASTER

MOGREF reduces the casters AC by two. The effect lasts the entire encounter.

Spell Name : KATINO  
 Translation : BAD AIR  
 Spell Level : 1  
 Spell Type : COMBAT  
 Area of Effect : 1 GROUP

KATINO causes most of the monsters in a group to fall asleep. KATINO only affects normal animal or humanoid monsters. The chance of the spell affecting an individual monster, and the duration of the affect is inversely proportional to the power of the monster. While asleep, monsters are easier to hit and successful strikes do double damage!

Spell Name : DUMAPIC  
 Translation : CLARITY (?difficult to translate)  
 Spell Level : 1  
 Spell Type : CAMP  
 Area of Effect : NOT APPLICABLE

DUMAPIC informs you of the party's exact displacement from the stairs to the castle, vertically, and North and East, and also tells you what direction you are facing.

## LEVEL 2 MAGE SPELLS

Spell Name : DILTO  
 Translation : DARKNESS  
 Spell Level : 2  
 Spell Type : COMBAT  
 Area of Effect : 1 MONSTER GROUP

DILTO causes one group of monsters to be enveloped in darkness, which reduces their ability to defend against your attacks.

Spell Name : SOPIC  
 Translation : GLASS  
 Spell Level : 2  
 Spell Type : COMBAT  
 Area of Effect : CASTER

SOPIC causes the caster to become transparent. This means that he is harder to see, and thus his AC is reduced by four.

## LEVEL 3 MAGE SPELLS

Spell Name : MAHALITO  
 Translation : BIG FIRE  
 Spell Level : 3  
 Spell Type : COMBAT  
 Area of Effect : 1 MONSTER GROUP

MAKALITO causes a firey explosion in a monster group, doing 4 to 24 hit points of damage. As with other similar spells, monsters may be able to minimize the damage done.

Spell Name : MOLITO  
 Translation : SPARK STORM  
 Spell Level : 3

Spell Type : COMBAT  
 Area of Effect : 1 MONSTER GROUP

MOLITO causes sparks to fly out and damage about half of the monsters in a group. Three to 18 hit points of damage are done with no chance of avoiding the sparks.

## LEVEL 4 MAGE SPELLS

Spell Name : MORLIS  
 Translation : FEAR  
 Spell Level : 4  
 Spell Type : COMBAT  
 Area of Effect : 1 MONSTER GROUP

MORLIS causes one group of monsters to fear the party greatly. The effects are the same as a double strength DILTO spell

Spell Name : DALTO  
 Translation : BLIZZARD BLAST  
 Spell Level : 4  
 Spell Type : COMBAT  
 Area of Effect : 1 MONSTER GROUP

DALTO is similar to MAHALITO except that cold replaces flames. Also, 6 to 36 hit points of damage are done.

Spell Name : LAHALITO  
 Translation : FLAME STORM  
 Spell Level : 4  
 Spell Type : COMBAT  
 Area of Effect : 1 MONSTER GROUP

LAHALITO is an improved MAHALITO, doing the same damage as DALTO.

## LEVEL 5 MAGE SPELLS

Spell Name : MAMORLIS  
 Translation : TERROR  
 Spell Level : 5  
 Spell Type : COMBAT  
 Area of Effect : ALL MONSTERS

MAMORLIS is similar to MORLIS, except that all monster groups are affected.

Spell Name : MAKANITO  
 Translation : DEADLY AIR  
 Spell Level : 5  
 Spell Type : COMBAT  
 Area of Effect : ALL MONSTERS

Any monsters of less than eighth level (i.e., about 35-40 hit points) are killed by this spell outright.

Spell Name : MADALTO  
 Translation : FROST  
 Spell Level : 5  
 Spell Type : COMBAT  
 Area of Effect : 1 MONSTER GROUP

An improved DALTO, causing 8 to 64 hit points of damage.

## LEVEL 6 MAGE SPELLS

Spell Name : LAKANITO  
 Translation : SUFFOCATION  
 Spell Level : 6  
 Spell Type : COMBAT

Area of Effect : 1 MONSTER GROUP

(for them) the monsters are not. This spell will do from 10 to 100 hit points of damage.

All monsters in the group affected by this spell die. Of course, there is a chance that some of the monsters will not be affected.

-END-

Spell Name : ZILWAN  
Translation : DISPELL  
Spell Level : 6  
Spell Type : COMBAT  
Area of Effect : 1 MONSTER

This spell will destroy any one monster that is of the Undead variety.

Spell Name : MASOPIC  
Translation : BIG GLASS  
Spell Level : 6  
Spell Type : COMBAT  
Area of Effect : ENTIRE PARTY

This spell duplicates the effects of SOPIC for the entire party.

Spell Name : HAMAN  
Translation : CHANGE  
Spell Level : 6  
Spell Type : COMBAT  
Area of Effect : VARIABLE

This spell is indeed terrible, and may backfire on the caster. First, to even cast it, you must be of the thirteenth level or higher, and casting it will cost you one level of experience. The effects of HAMAN are random, and usually help the party.

## LEVEL 7 MAGE SPELLS

Spell Name : MALOR  
Translation : APPORT  
Spell Level : 7  
Spell Type : COMBAT and CAMP  
Area of Effect : ENTIRE PARTY

This spell's effects depend on the situation the party is in when it is cast. Basically, MALOR will teleport the entire party from one location to another. When used in melee, the teleport is RANDOM, but when used in camp, where there is more chance for concentration, it can be used to move the party anywhere in the maze. Be warned, however, that if you teleport outside of the maze, or into an area that is solid rock, you will all be lost forever, so this spell is to be used with the greatest of care. Combat use of MALOR will never put you outside of the maze, but it may move you deeper in, so it should be used only in panic situations.

Spell Name : MAHAMAN  
Translation : GREAT CHANGE  
Spell Level : 7  
Spell Type : COMBAT  
Area of Effect : ENTIRE PARTY

The same restrictions and qualifications apply to this spell as do to HAMAN. However, the effects are even greater. Generally these spells are only used when there is no other hope for survival.

Spell Name : TILTOWAIT  
Translation : (untranslatable)  
Spell Level : 7  
Spell Type : COMBAT  
Area of Effect : ALL MONSTERS

The effect of this spell can be described as similar to that of a nuclear fusion explosion. Luckily the party is shielded from its effects. Unluckily

PROBLEMS. IN CASE IT ISN'T OBVIOUS TO YOU,THE PRINTER MUST BE SET UP FOR 80 COLUMNS.

D:  
 ALLOWS YOU TO CUSTOMIZE YOUR PRINTOUT BY INCLUDING YOUR NAME. THE PROGRAM ACCEPTS NAMES UP TO 40 CHARACTERS IN LENGTH.

E:  
 THIS FEATURE NOTES THE CURRENT DATE. USING THE DATE FEATURE IS A PRETTY GOOD IDEA IF YOUR TEAM IS ENTERING THE DUNGEON EVERYDAY AND CONSTANTLY CHANGING STATISTICS. THE PROGRAM ACCEPTS STRINGS UP TO 9 CHARACTERS IN LENGTH. FOR ONCE A DAY EXCURSIONS, IT MAY BE BEST TO USE THE DAY-MONTH- YEAR (09-APR-84) FORMAT. FOR VETERAN PLAYERS, IT MAY BE BEST TO USE THE DAY-MONTH- FORAY STRUCTURE.

AFTER THE PARAMETERS ARE CHANGED,THE PROGRAMS OFFERS THE OPTION OF SAVING THE FORMAT TO DISK AS NEW DEFAULT VALUES. IT IS RECOMMENDED THAT THIS BE DONE EACH TIME,AS IT HELPS KEEP TRACK OF THE FORAY NUMBER.

THE MAJOR OPERATIONS

ONCE YOU HAVE SELECTED ALL THE PARAMETERS,THE PROGRAM WILL ASK YOU TO INSERT ANY WIZARDRY SCENARIO DISK IN DRIVE 1. FIRST,REMOVE THE WIZIPRINT DISK AND PUT IT AWAY. INSERT THE WIZARDRY DISK WITH THE SCENARIO SIDE UP,INTO DRIVE 1 AND PRESS [RETURN]. WIZIPRINT WILL AUTOMATICALLY LOAD ALL THE CHARACTERS ON THAT DISK INTO MEMORY AND SORT THEM IN ORDER OF THEIR LEVELS. THE FULL ROSTER WILL BE LISTED ON THE SCREEN. BESIDES EACH CHARACTER NAME WILL APPEAR A LETTER FROM A TO T. FOUR OPTIONS MAY NOW BE SELECTED:

[\*]:  
 TO PRINT OUT THE ENTIRE ROSTER

[LETTER]:  
 TO PRINT OUT A SPECIFIC CHARACTER'S STATISTICS. AFTER THE CHARACTER IS SELECTED, IT'S NAME IS TOSSED INTO THE RIGHT COLUMN. A GOOD TECHNIQUE IS TO SELECT THE CHARACTERS IN THE SAME ORDER AS THEY NORMALLY APPEAR IN THE ADVENTURE PARTY. THIS MAKES FOR QUICK & EASY REFERENCING.

[RETURN]:  
 HITTING THIS KEY PRINTS OUT ALL THE STATISTICS OF THE CHARACTERS LISTED IN THE RIGHT HAND COLUMN, IN THE ORDER THEY WERE SELECTED.

[ESCAPE]:  
 ALLOWS YOU TO CHANGE SCENARIO DISKS, THEN LOAD A NEW ROSTER FOR PRINTOUT.

\*\*\* NOTE \*\*\*  
 WHILE WIZIPRINT IS RUNNING IT FREQUENTLY ACCESSES THE DISK TO RETRIEVE THE VITAL STATISTICS OF EACH CHARACTER. DO NOT REMOVE THE SCENARIO DISK FROM DRIVE 1 UNTIL, WIZIPRINT IS COMPLETELY FINISHED PRINTING.

-----  
 WATCH FOR MORE SOFTDOX FROM THE PENGUIN  
 -----  
 TO ALL SYSOPS:  
 FEEL FREE TO PUT THIS FILE ON YOUR BOARD AS LONG AS IT REMAINS UNEDITED!  
 -----  
 WIZIPRINT DESIGNED BY (NONE OTHER THAN) ANDREW GREENBERG & ROBERT WOODHEAD  
 -----

=====

DOCUMENT wiziprint

=====

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*****
*
*
*           WIZIPRINT SOFTDOCS
*
*           BY
*
*           THE PENGUIN
*
*           WRITTEN FOR
*
*   THE SOUTH POLE [312] 677-7140
*   THE OUTPOST   [312] 441-6957
*   THE SAFEHOUSE [612] 724-7066
*
*****
  
```

SYSTEM REQUIREMENTS:

- 1 APPLE COMPUTER
- 1 DISK DRIVE W/DOS 3.3 IN SLOT 6
- 1 APPLE COMPATIBLE PRINTER (IN ANY SLOT)

WIZIPRINT ESSENTIALLY,PRINTS OUT THE ENTIRE STATISTICS OF ANY WIZARDRY CHARACTER OR AN ENTIRE ROSTER OF ANY SCENARIO.

TO BEGIN USING WIZIPRINT,YOU MUST FIRST ADAPT IT TO YOUR COMPUTER. BOOT UP THE DISK AND A TITLE PAGE WILL APPEAR,PRESS [RETURN] TO CONTINUE.

AFTER HITTING [RETURN] THE NEXT SCREEN SHOWS THE CURRENT VALUES OF THE FIVE SYSTEM PARAMETERS. EACH PARAMETER MUST BE MODIFIED TO YOUR SYSTEM. THE DEFAULT VALUES MAY BE USED BY HITTING [RETURN].

THE FIVE PARAMETERS ARE AS FOLLOWS:

A:  
 SELECTS THE SLOT IN WHICH YOUR PRINTER INTERFACE RESIDES. SELECT THE SLOT IN WHICH YOUR PRINTER CARD IS IN. DO NOT WORRY ABOUT WHAT TYPE OF PRINTER CARD YOU HAVE,AS THE PROGRAM SUPPORTS MOST APPLE COMPATIBLE PRINTERS.

B:  
 ASKS WHETHER YOUR PRINTER REQUIRES LINEFEEDS (LF) AFTER EACH CARRIAGE RETURN (CR). FOR MOST PRINTERS,THE ANSWER IS NO. IF BY SOME CHANCE YOUR PRINTER PRINTS ALL OF THE OUTPUT ON THE SAME LINE, THEN YOU PROBABLY NEED LINEFEEDS. IF SO,THEN ANSWER [Y] (FOR YES).

C:  
 SOME PRINTER AND PRINTER CARDS NEED SPECIAL CODES TO PROPERLY OPERATE WITH YOUR COMPUTER. THESE CODES TELL THE PRINTER TO DO CERTAIN THINGS,SUCH AS 80 COLUMN PRINTING. THIS OPTION HAS A DEFAULT OF [CTRL-180N]. IT IS RECOMMENDED THAT THE FIRST TIME YOU USE WIZIPRINT,YOU LEAVE THE DEFAULT ALONE. IF YOUR PRINTER DOES NOT COOPERATE WITH THE PROGRAM THEN CHANGE THIS OPTION TO A BLANK FIELD. THIS IS DONE BY HITTING [SPACE BAR] THEN [RETURN]. IF THIS ALSO DOES NOT WORK THEN CHECK YOUR PRINTER AND PRINTER CARD MANUALS FOR THE NECESSARY CONTROL CODES AND REBOOT. MANY OF THESE CODES CANNOT BE DIRECTLY TYPED ON AN APPLE KEYBOARD,SO THEIR DECIMAL EQUIVALENTS (CHECK MANUALS) ARE USED. WIZIPRINT USES ^[SHIFT-N] ON THE APPLE II+ AND [SHIFT-6] ON THE IIE TO CONTAIN DECIMAL EQUIVALENTS. THIS IS ALL EXPLAINED IN THE PRINTER OR PRINTER CARD MANUAL. CONSULT THEM FOR ANY



===== DOCUMENT woggle =====

Docs for Woggle 0.9B --

Note that this program is Shareware. Those using and enjoying this program are required to send \$15 to

William Gulstad  
1704 Cliff Drive  
Columbia MO 65201.

Now, on with the fun stuff. This is a fractal display program. It handles both Mandelbrot and Julia sets, and can do magnifications/offsets to your heart's content. The math routines are based around the multiplication of 32 bit integers, and the graphics have absolutely nothing to do with SlowDraw, except for the pointer, which I was too lazy to do myself.

The program is text based (you use a modified version of my Conch Shell command line), with commands to switch to and from the graphics screen. The mouse is used only for specifying points on the set. Both 320 and 640 modes, and dithering are supported, though the latter format still needs work.

The following are commands specifically related to fractal generation. Note that the program begins in graphics mode, so if you need to see to type, you must use the GRAFOFF command to get the text screen.

|                     |                                     |
|---------------------|-------------------------------------|
| SSAVE filename      | save just the picture               |
| SLOAD filename      | load just the picture               |
| SAVE filename       | save picture and parameters         |
| LOAD filename       | load picture and parameters         |
| QUIT                | exit the program                    |
| FREAK               | does something weird                |
| WEIRD               | does something freaky               |
| BOZO                | starts drawing                      |
| CLS                 | clears the screen                   |
| GO                  | starts drawing for dweebs           |
| RESUME [x y]        | resumes, with optional coords       |
| MAXDWELL [num]      | sets or prints the maximum dwell    |
| ESCAPE [num]        | sets or prints the escape radius    |
| MOUSE               | makes the pointer visible and waits |
| MAG [num]           | magnifies around the last point     |
| JULIA               | switches to Julia mode              |
| MANDEL              | switches to Mandel mode             |
| TRIGGER [num]       | don't fiddle with this              |
| 320                 | sets 16-color mode                  |
| 640                 | sets 4-color mode                   |
| PAL num             | selects from 16 palettes            |
| DITHER [0 or non 0] | turns dithering on/off              |

Notes:

- "MAG 0" resets the default view; "MAG num" means magnify num times around the last point specified (with the mouse) or the last point drawn.
- Dwells are the number of iterations before the equation ( $Z \leftarrow Z+C$ ) grows beyond the escape radius. Defaults are: Escape = 4 (2 squared); Maxdwell = 100.
- Saving without parameters makes it so the program will not know where a picture came from (the coordinates, magnification, mode, etc.) when you load it again.
- Palette 5 is the dithering palette. It still needs work.
- Resume does not resume the first stage of a drawing if you interrupt it.
- You can stop drawing any time by pressing escape.

Explanation--

Type "GO" when the blank screen first appears. The program will first tile the screen (a time saver), filling in the parts which are all one dwell. Then it will fix what was not caught before. When it finishes (or you abort), type "mouse." The pointer will appear. Move the pointer to an interesting area and press the button. Now type "mag 2." That part will be magnified two times around the point you specified. You may want to do a "cls" first, so you can see better.

Now pick another point with "mouse," clear the screen, and type "julia." Typing "go" will start a drawing of the Julia set for that point.

If you escape from drawing at any point during the second stage of drawing, the coordinates of the last point plotted will appear on the text screen. This and all numeric output is in hexadecimal. You may specify values in either decimal or hexadecimal, however, using a "\$" before the number to specify the later.

Information on Fractals--

For more info on fractals, try the book, "The Beauty of Fractals," by Peitgen and Richter, or any of a number of books by Mandelbrot himself. These books will show you neat areas to look at and do Julia sets of, and will explain the theory in more detail than I can here. Please feel free to experiment as much as possible, and to e-mail me at

wogg0743@uxa.cso.uiuc.edu

with any and all comments and suggestions.

\* \* \*

Addendum--shell commands also supported

But wait, there's more! Woggle also gives you a MS-DOS/UNIX-like command line.

Commands --

|                              |                                         |
|------------------------------|-----------------------------------------|
| #                            | install extra ROM CDAs                  |
| CAT                          | does a directory of the current prefix  |
| CAT <FILENAME>               | does a directory of FILENAME            |
| CAT <FILENAME>               | does a unix-like CAT of FILENAME        |
| DIR                          | same as CAT                             |
| DIR <FILENAME>               | same as CAT <FILENAME> (first kind)     |
| FILES                        | same as CAT                             |
| FILES <FILENAME>             | same as CAT <FILENAME> (first kind)     |
| TYPE <FILENAME>              | does a unix-like CAT of FILEMAN         |
| RENAME <FILENAME> <FILENAME> | renames FILENAME                        |
| DELETE <FILENAME>            | deletes FILENAME                        |
| RM <FILENAME>                | deletes FILENAME                        |
| RMDIR <FILENAME>             | deletes FILENAME                        |
| KILL <FILENAME>              | deletes FILENAME                        |
| ERA <FILENAME>               | deletes FILENAME                        |
| ERASE <FILENAME>             | deletes FILENAME                        |
| DEL <FILENAME>               | deletes FILENAME                        |
| COPY <FILENAME> <FILENAME>   | copies FILENAME                         |
| CP <FILENAME> <FILENAME>     | copies FILENAME                         |
| FILETYPE <FILENAME> [FTYPE]  | changes the filetype of FILENAME        |
| AUXTYPE <FILENAME> [ATYPE]   | changes the auxtype of FILENAME         |
| CHANGE <FILENAME> [ATYPE]    | changes the auxtype of FILENAME         |
| SLOAD <FILENAME>             | loads SHR graphics screen FILENAME      |
| SSAVE <FILENAME>             | saves SHR graphics screen FILENAME      |
| GRAPHON                      | turn on SHR graphics                    |
| GRAPHOFF                     | turn off SHR graphics                   |
| CD                           | display the current prefix              |
| CD <FILENAME>                | change the current prefix to <FILENAME> |
| PREFIX                       | display the current prefix              |
| PREFIX <FILENAME>            | change the current prefix to <FILENAME> |
| CD..                         | back up one level of directories        |
| CDUP                         | same as CD..                            |



=====
   
DOCUMENT word.fair
   
=====

+++
   
  
Word Fair
   
By: Carl Steadman
   
  
The object of this brain teaser is to find all the smaller words in the title words.
   
Sounds easy, but for most of us it won't be. If you can't figure out all the words
   
in one sitting, don't worry. The program saves your progress each time you play.
   
  
Further documentation is available in the program.

Happy word hunting!
   
  
EDITOR'S NOTE: There is the possibility that you will get a DISK FULL error on this
   
program when it attempts to save data to disk. When UpTime is pieced together we put
   
as much information as possible on the disk. If you should get a DISK FULL error
   
copy the UpTime disk onto another disk and delete some of the files (not the ones
   
listed below).

Press [`] - [5] to run Word Fair.

Files needed:

WORD FAIR
   
MARGARINE.SAV
   
RECRUITMENT.SAV
   
~~~

=====

DOCUMENT world.games

=====

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World Games Docs

By:]\/[icro]\/[ack

Events:

Weightlifting- RUSSIA

Barrel Jumping- GERMANY

Cliff Diving- MEXICO

Slalom Skiing- FRANCE

Log rolling- CANADA

Bull riding- UNITED STATES(#1)

Caber toss- SCOTLAND

Sumo wrestling- JAPAN

Weightlifting:

The Snatch Method-

- [] To bend down and grasp the bar, pull the joystick BACK.
- [] To begin lifting the bar, push the joystick FORWARD.
- [] During the lift, pull the joystick BACK to drop underneath the bar and "snatch" it over your head.
- [] To stand up from the squatting position, push the joystick FORWARD.
- [] When two or more judges' lights in front of the platform turn WHITE, pull the joystick BACK to lower the weights back down to the floor.

The Clean Jerk-

- [] To grasp the bar, pull the joystick BACK.
- [] To begin lifting the bar, push the joystick FORWARD.
- [] During the lift, pull the joystick BACK to "clean" the bar and drop into a squat with the bar resting on your chest.
- [] To stand up from the squatting position, push the joystick FORWARD.
- [] To "jerk" the bar above your head, pull the joystick BACK again.

[] To straighten your legs and complete the lift, push the joystick FORWARD one more time.

[] When two or more judges' lights in front of the platform turn WHITE, pull the joystick BACK to lower the weights to the floor.

Scoring: The winner is the lifter who successfully lifts the greatest weight. At least two of the judges must give white success lights for a lift to be considered successful. The judges vote on the accuracy of your timing. Two "hesitant" white votes mean your timing was poor. Three quick white votes mean your timing was perfect.

Timing: As the weight increases, timing becomes more critical. The right moment to clean the bar to your chest is easy to judge at lower weights, but extremely difficult as the Clean and Jerk approaches 200kg. After you clean the bar, wait the right amount of time to gather your strength for the final lift. Too short and the lifter isn't ready, too long and his strength gives out. The key to learning the timing is practice.

Strategy: The key to strategy in weightlifting is knowing when to increase the weight-and how much to increase it. Know your limits and those of your opponents out of the competition-but make sure you can lift the weight before you take the gamble!

Barrel Jumping:

[] To choose the number of barrels to jump, move and hold the joystick LEFT or RIGHT. Press the FIREBUTTON to continue.

[] Your skater appears on the ice ready to start. Press the FIRE BUTTON to begin skating.

[] To move the skaters legs, move the joystick LEFT and RIGHT alternating in rhythm with the movement of his legs.

[] To skate faster, maintain your joystick movements in rhythm with his legs.

[] To jump, press the FIRE BUTTON. The green flag indicates a good take-off point for most jumps.

[] To prepare for landing, pull the joystick BACK.

[] Each player is allowed three attempts.

Scoring: The winner is the skater who clears the greatest number of barrels in one of their attempts with a successful landing.

Strategy: Build up as much speed as possible before jumping. The length of the jump depends on the speed at take-off. The timing of the jump is also important. If you jump too soon, you may not clear the last barrel-but if you jump too late, you may crash into the first barrel.

Cliff Diving:

[] To select the height of your dive, push the joystick FORWARD or pull BACK. Press the FIRE BUTTON to prepare for the dive.

[] Your diver will appear on the ledge you selected. Press the FIRE BUTTON to start the dive.

[] To arch your back during the dive, push the joystick FORWARD.

[] Before you enter the water, pull the joystick Back to straighten out and complete the swan dive.

[] To avoid hitting the bottom surface under the water, move the joystick LEFT

immediately after entering the water.

[] Each player is allowed three attempts..

Scoring:

Each diver is scored on the style and height of his dive. Smoothly executed swan dives score the highest style points. The highest scores are obtained with perfect swan dives from the highest ledge on "La Quebrada," while barely missing the rocks at the foot of the cliff.

Wind:

The wind velocity for each dive is indicated by the length of the arrow at the top of the screen. The stronger the wind, the longer you must keep your divers back arched to avoid the rocks.

Strategy:

The Depth of the water varies as waves go in and out. Try to time your dive in order to enter the water at its maximum depth. To achieve a better score, try to barely miss hitting the rocks near the foot of the cliff by arching your back as long as necessary during the dive. Also remember, that holding the joystick LEFT,RIGHT,FORWARD,or Back at the time of your leap adds extra velocity in that direction.

Slalom Skiing:

[] to start skiing down the course, press the FIRE BUTTON.

[] Control your skier's turns by moving the joystick LEFT or RIGHT to turn in that direction.

[] Press and hold the FIRE BUTTON as you move the joystick to increase your speed and turning sensitivity.

[] Complete the course by passing through each gate. A gate is two flags of the same color-you must pass between each pair of flags.

[] The gates alternate colors, so you must ski between blue flags, then red flags. Missing a gate adds a five second penalty.

Scoring: The winner is the skier who successfully completes the course with the fastest time. You will be disqualified if you fall. If you collide with a gate head on, you'll "wipe-out." Strategy: Sharp turns slow you down. Try to use moderate turns as often as you can, timing each turn to position yourself for the next gate. As you pass through one gate, you should be setting up your approach for the next gate down the hill.

Log Rolling:

[] You may compete against another person or the computer.

[] When "Press your Fire Button" appears on either half of the screen, the player whose name appears on that half must press the joystick FIRE BUTTON. The next player does the same. This begins the event.

[] To move the lumberjack's legs, move the joystick LEFT and RIGHT. Stay in rhythm with the log or you may lose your balance.

[] To slow the rolling of the log from forward or backward, and change its direction, press the FIRE BUTTON while running.

[] Each player gets three attempts.

Scoring: The winner is the last lumberjack to remain on the log. A scoring bonus is awarded to the winner based on the balance of the two contestants. A balance meter is displayed at the bottom of the screen. You score points whenever your balance is better than your opponent's. Scoring also depends on the length of

the event; if you take too long to finish off your opponent, you'll receive a lower score.

Balance:

Establish rhythm with your lumberjack's legs; if you don't build speed at the correct rate he may lose his balance. The computer keeps balance meter for both players. When a lumberjack is off-balance, his arms extend to help him recover.

Strategy:

Make your opponent lose his balance by stopping the log, then changing the direction of the log's rotation quickly back and forth. Finish off your opponent by rolling the log rapidly in the direction that will cause him to fall off.

Bull Riding:

[] To choose which bull you want to ride, move the joystick FORWARD or BACK. The bulls are named (from easiest to hardest) Ferdinand, Elmer, Bob, Tornado and earthquake.

[] Press the FIRE BUTTON to start the event.

[] To respond to the bull's movements, move the joystick as follows: BUCK: If the bull is bucking, move the joystick LEFT or RIGHT, in the direction that the bull is moving. SPIN: Pull the joystick BACK to stay on the bull when it is spinning. HALT: Move the joystick LEFT or RIGHT in the opposite direction that the bull is moving.

Scoring: Scoring is based on the style and length of the ride. The length of a ride is eight seconds. Riding harder bulls is worth more points. For the highest scores, ride Earthquake..if you dare.

Strategy:

Try to anticipate the bull's moves correctly. Quick response to each move is the key to finishing a ride. The practice mode allows another player to control the bull's actions. Use this to develop a fast response to all of the moves a bull can make.

Controlling the bull with the joystick in practice mode:

FORWARD: 360 Degree spin.
 FORWARD WITH FIRE BUTTON PRESSED: 540 degree spin.
 CENTER JOYSTICK: The bull bucks and runs.
 BACK: The bull halts suddenly. Guaranteed to throw the toughest hombre.

Caber Toss:

[] To run with the caber, move the joystick LEFT and RIGHT in rhythm with the athlete's feet. To gain speed, increase the temp of the rhythm smoothly.

[] To plant your feet and throw the caber, press and hold the FIRE BUTTON.

[] As the caber pivots in your hand, release the FIRE BUTTON to complete the throw. If you release too soon or too late, the caber may not flip correct.

Scoring: The caber must flip over completely for a legal toss. The toss that travels the farthest distance wins the event.

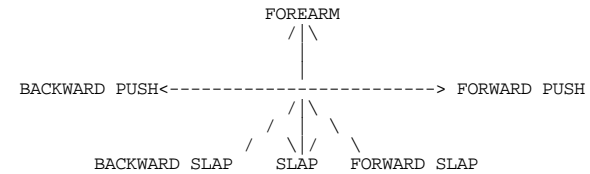
Strategy:

The secret to longest throws is building up your speed before the toss, while conserving as much energy as possible. The player who learns how to reach top speed the fastest will usually win the event. Be careful not to run any farther than necessary to build up your speed-long runs with the heavy caber will sap your strength.

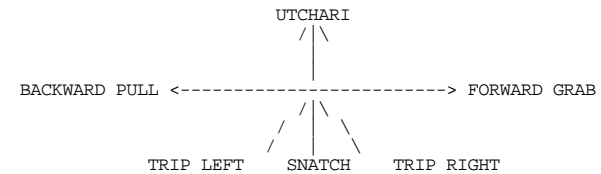
Sumo Wrestling:

[] Press the FIRE BUTTON to begin the event and go into the crouch.

[] Control your wrestler by repeatedly moving the joystick as indicated for the following wrestling moves:



[] Press and hold the FIRE BUTTON to attempt to grasp your opponents belt. Then perform one of the following moves by repeatedly moving the joystick in the direction indicated, while still holding the button down.



[] The computer maintains stamina and balance factors for each wrestler.

[] Release the FIRE BUTTON to let go of your opponent's belt.

[] The first wrestler to leave the ring or touch the ground with any part of his body but the feet loses the match.

Scoring: Scoring is based on reaction time-both yours and that of your opponent. The player who can execute moves the quickest will get the highest scores. If you throw your opponent to the ground or push him out of the ring, you'll receive enough points to win the match. The shorter the match, the higher the points.

Strategy:

Timing is important to success in the sumo ring. When you perform a move with the FIRE BUTTON pressed, be sure to release the button at the proper time to complete the move successfully. You can learn the timing through practice. Also keep in mind that the Utchari is a good strategic move. Try using it when you're about to be pushed out of the ring.

Medals:

[] Gold Medal =5 points
 [] Silver Medal =3 points
 [] Bronze Medal =1 point

-END-

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DOCUMENT world.gs

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\ /
World Games Documentaion (Apple GS)
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Typed By : High Voltage
 Presented by: Digital Gang
 [Note] : Apple GS docs differ from those of the //e.

OPTION 1: Compete in events
 Select yor name by typing it on the keyboard. To select your country move the joystick and hit the fire button or use the (I,J,L,M) keys to move up down, left right.

Keyboard Commands
 U=NW I=N O=NE L=E ,=SE M=S N=SW J=W K=W
 Same goes for the keyboard. with 8 being north and 2 being south.

WEIGHT LIFTING

In practice rounds , select the type of lift by moving the joystick foward or back (or pressing I,M) Press fire or return key to begin.

In compeition, you must complete the snatch before competing in the clean and jerk.

To select the weightm move joystick left or right and press fire button.(or use the j or k and return key)

A total of three attemptsat each type of lift are allowed for each player in thw eaightlifing competition.

The Snatch

Several Up and down joystick movements are necessary to complete a successful snatch, abd each must be made at the right moment.

To bend down and grasp the bar push joystick back or press (M)
 To begin lifting the bar, Push joystick foward (press I)
 During the lift, Pull the joystick back (pressM) to drop underneath the bar and snatch it over your head.
 To stand up from a sqatting position push the joystick forward (pressI)

Whan two or more judges' lights in front of the platform turn white, Pull joystick back,(M> to lower weights back down to the floor

The Clean and Jerk.

to grasp the bar pull joystick back (M)
 to begin lifing the bar, push joystick forward(pressI)
 Durning the lift, pull the joystick back (M) to clean the bar and drop into a squat with the bar resting on your chest.

To Stand up from the squatting position Push joystick forward(I)
 To jerk,the bard above your head , pull the joystick back again (M)
 Whan two or more judges' lights in fron of the platform turn white pull joystick back (M) to lower the wieghts to the floor.

Scoring: The winner is the lifter who successfully liftes the greatest wight. At least two of the judges must give white success lights for a lift to be considerd successful. The judgesvot on the accracyor your timing.Two hesitent white votesmean your timing is poor. Three whot quick votes mean your timing was perfect.

Timing: As wirght increases, timing becomes more critical.The right moment to clean the bar to clean the bat to your chest is easy to judgeat lower weights, but extremly difficult as the clean and jerk approaches 200kg. After you clean the bar,wait the right amount of timetp gather your stregh for a final lift. Too short and the lifter isnt ready,too long and his stregh gives out. The key to timing is practice.

Stratagey: The key to stategy in weightlifting is knowing when to increase the wieght- and how much to increase it. Know your limits and those of your opponents. A sudden 60kg increase my knock your opponents out of the competito n - but make sure you can lift it befor you gamble!

BARREL JUMPING

To choos the number of barrels to jump, move and hold the joysick left or righ t and press the fire button. (or press j - k then return key)

Your skater appears on the ice reasy to start.Press the fire button(return key) to begin skating.

To move the skaters legs nove the joystick left - right (or j-k) altering in rythum with the movement of the skaters legs.

To skate faster, maintain your joystick movemenets or keystrokes in rythum with his legs.

To jump, press the fire button (or Return) key. The Flag indicates a good take-off point for most jumps.

To pepair for a landing, pull the joystick back (M)
 Each player has 3 attempts

SCORING : The winner is the skater who clears the largest number of barrels in one of his attempts and lands successfully.

STRATEGY : Build up as much speed as possible before jumping. The length of the jump depends on the speed at take-off. The timing of the jsump is also important. If you jump too soon, you may not clear the barrel - but if you jump too late you may crash on the first barrel.

CLIFF DIVING

To select the height of your dive, push forward or pull back (I,M) Press the fire button (or return) to prepair to dive.

Youdiver will appear on the ledge you selected. Press the firebutton (return key)to start the dive.

Before you enter the water, pull the joystick back(M) to straighten out and complete the swan dive.

To avoid hitting the bottom surface under water, move the joystick left(J) immediately after entering the water.
 each player is allowed 3 attemptes

SCORING

Each diver is scored on the style and height of the dive.Smoothly executed swan divesscore the highest style in points. The highest scores are obtained with perfect swan dives from the heighest ledge on "LA QUEBRADA" while barely missing the rocks in front of the cliff.

WIND

The wind velocity for each dive is indicated by the length of the arrow at the top of the screen. The stronger the wind , the longer you have to must keep your divers back arched to avoid the rocks.

STRATEGY:

The depth of the water varies as waves go in and out. Try to time your dive in order to enter the water at maximum depth. To achieve a better score, try to barely miss the rocks near the cliff by arching your back as long as necessary during the dive. Also remember that holding the joystick forward, left, right, or back (I,J,K,M) at the time of your leap adds extra velocity in that direction.

Salom Skiing

To start skiing down the course, press the firebutton (or Option key).
115

Control your skier's turns by moving joystick (left or right) or K,J. Press and hold the firebutton(option key) before moving the joystick to increase your speed and tuning sensitivity(how sharp you turn) Release the firebutton(option key) to resume normal sensitivity.

Complete the course by passing through each gate. A gate is two flags of the same color - you must pass between each pair of flags.

The gates alternate colors,so you must ski between blu blags, then red. missing a gate is 5 pints penalty.

Scoring: The winner is the skier who suessfully copletes the course with the fastest time.You will be disqualified if you fall. If you collide with a gate head on you will wipe out.

Startagey Sharp truns slow you down. Try to use moderate turns as often as you can, timing each turn to positin yourself fot the next gate. As you pass through one gate, you should be setting up you approach fot the next one downhill

LogRolling

You may compete against another person or the computer. When you see "PRESS YOUR BUTTON"(appears on eaither half of the screen) the player whose name appears on that half must press the joystick fire button (option key) to begin the event. The next player does the same.

To move the lumberjacks legs, Continuously move the joystick left right (JK) Stay in rythum with the log or you may loose your balance.

To slow rolling of the log from forward or backward and change its direction, press the fire button (option key) while running.

Each player is allowed 3 attempts

Scoring:The winner is the lumberjack to remain on the log. A scoring bonus is awarded to the winner based on the balance of the two contestants. A balance meter is displayed at the bottom of the screen. Your scoring also depends on the lengthof the event;if you take too long to dinish off your opponent youll receive a lower score.

Balance : Establish a rythum with your lumberjacks legs;if you dont build speed at the correct rate he may lose his balance. The computer keeps balance meters(shown on bottom of the screen)for both players. Whan a lumberjack is off-balance, his arms extend to help him recover.

Strategy: Make your opponentlose his balance by stopping the log then changing the driection of the logs rotation quickly back and fourth.

Finish off your opponent by rolling the log rapidly in the direction that will cause him to fall off.

Bull Riding

To choose wich bull you want to ride,move the joystick forward or back(or press keys I-M) The bulls are named (from easiest to hardest) Ferdinand,Elmer, Bob,Tornado and Earthquake.

Press the fire button (return key) to start the event.

To stay on the bull respond to the his movements as follows:

BUCK : If the bull is kicking move joystick Left-right (J,K) in the driection the bull is moving.

SPIN : Pull the joystick back (M) to stay on the bull when its spinning around

HALT: Move joystick left or right (j,k)in the opposite dirction the bull is moving) (i.e., if the bull faces left move jotstick right(K))

Scoring: Scoring is based on the style and length of the ride. The legth of a ride is eight seconds. Riding harder bulls is woth more points.For the highest scores ride earthquake.(if you dare!)

Strategy: Try to anticipate the bulls moves correctly.Quick response to each move is the key to finishing each ride. The Preactice mode allow another player to control the bulls actions. Use this to develop a fast response to all moves a bull can make.

Move the joystick forward(I) for a 360 spin. The bull makes a full circle. When the joystick is returned to the center (or I is released) the bull bucks and runs.

Caber Toss

To run with the caber, move the joystick left and right (J,K) in rythum with the athletes feet. To agin speed,increase the tempo of the rythum smoothly. Avid running past the white line. If you do you drop the caber and are juged a fault.

tp plant your feet and throw the caber press and hold the firebutton (or option key)

As the caber pivots in your hand,release the firbutton (option key) to complet e the throw. If you release too soon or too late the caber may not filp correctly.

Scoring A toss is measured from the white line to the tip of the caber that touches the ground first,and the caber must completely flip over for a legal toss. The toss that travels the furthest distance wins the event.

Strategy: When you start out , the caber will be tilting forward. As it continues to rotate forward,walk towards the white line,keeping the caber tilted forward a bit. When you are close to the white line , start runnin maximum speed until the caber is almost in a vertical position. Before the white line,plant your feet and let the caber rotate forward a little again, then release the firebutton(or release the option key)

Sumo Wrestling

Press the firebutton (option key) to begin the event and go into the crouch.

Control you wrestler by repetedly moving or pressing the keys as indicated for the wrestling moves(indicated below).

The computer maintains stamina and balance factors for each wrestler.

Relase the fire button (option key) to let go of your opponents belt.

The frist wrestler to leave the ring or touch any part of his body with the ground loses the match.

CONROLS

[No fire Button]
Up(I)=forarm right(K) Forward push S.E.(,) Forward slap South(M) Slap S.W.(N)Backward slap West(J)Backward push.

[holding fire button/option key]

one more time.

- [] When two or more judges' lights in front of the platform turn WHITE, pull the joystick BACK to lower the weights to the floor.

Scoring: The winner is the lifter who successfully lifts the greatest weight. At least two of the judges must give white success lights for a lift to be considered successful. The judges vote on the accuracy of your timing. Two "hesitant" white votes mean your timing was poor. Three quick white votes mean your timing was perfect.

Timing: As the weight increases, timing becomes more critical. The right moment to clean the bar to your chest is easy to judge at lower weights, but extremely difficult as the Clean and Jerk approaches 200kg. After you clean the bar, wait the right amount of time to gather your strength for the final lift. Too short and the lifter isn't ready, too long and his strength gives out. The key to learning the timing is practice.

Strategy: The key to strategy in weightlifting is knowing when to increase the weight-and how much to increase it. Know your limits and those of your opponents out of the competition-but make sure you can lift the weight before you take the gamble!

Barrel Jumping:

- [] To choose the number of barrels to jump, move and hold the joystick LEFT or RIGHT. Press the FIREBUTTON to continue.
- [] Your skater appears on the ice ready to start. Press the FIRE BUTTON to begin skating.
- [] To move the skaters legs, move the joystick LEFT and RIGHT alternating in rythm with the movement of his legs.
- [] To skate faster, maintain your joystick movements in rythm with his legs.
- [] To jump, press the FIRE BUTTON. The green flag indicates a good take-off point for most jumps.
- [] To prepare for landing, pull the joystick BACK.
- [] Each player is allowed three attempts.

Scoring: The winner is the skater who clears the greatest number of barrels in one of their attempts with a successful landing.

Strategy: Build up as much speed as possible before jumping. The lenght of the jump depends on the speed at take-off. The timing of the jump is also important. if you jump too soo, you may not clear the last barrel-but if you jump to late, you may crash into the first barrel.

Cliff Diving:

- [] To select the height of your dive, push the joystick FORWARD or pull BACK. Press the FIRE BUTTON to prepare for the dive.
- [] Your diver will appear on the ledge you selected. Press the FIRE BUTTON to start the dive.
- [] To arch your back during the dive, push the joystick FORWARD.
- [] Before you enter the water, pull the joystick BACKto straighten out and complete the swan dive.
- [] To avoid hitting the bottom surface under the water, move the joystick LEFT immediately after entering the water.
- [] Each player is allowed three attempts..

Scoring: Each diver is scored on the style and height of his dive. Smoothly executed swan dives score the highest style points. The highest scores are obtained with perfect swan dives from the highest ledge on "La Quebrada," while barely missing the rocks at the foot of the cliff.

Wind: The wind velocity for each dive is indicated by the length of the arrow at the top of the screen. The stronger the wind, the longeryou must keep your divers back arched to avoid the rocks.

Strategy: The Depth of the water varies as waves go in and out. Try to time your dive in order to enter the water at its maximun depth. To acheive a better score, try to barley miss hitting the rocks near the foot of the cliff by arching your back as long as necessary during teh dive. Also remember,

that holding the joystick LEFT,RIGHT,FORWARD,or Back at teh time of your leap adds extra velocity in that direction.

Slalom Skiing:

- [] to start skiing down the course, press the FIRE BUTTON.
- [] Control your skier's turns by moving the joystick LEFT or RIGHT to turn in that direction.
- [] Press and hold the FIRE BUTTON as you move the joystick to increase your speed and turing sensitivity.
- [] Complete the course by passing through each gate. A gate is two flags of the same color-you must pass between each pair of flags.
- [] The gates alternate colors, so you must ski between blue flags, then red flags. Missing a gate adds a five second penalty.

Scoring: The winner is the skier who successfully completes the course with the fastest time. You will be disqualified if you fall. If you collide with a gate head on, you'll "wipe-out."

Strategy: Sharp turns slow you down. Try to use moderate turns as often as you can, timing each turn to position yourself for the next gate. As you pass through one gate, you should be setting up your approach for the next gate down the hill.

Log Rolling:

- [] You may compete against another person or the computer.
- [] When "Press your Fire Button" appears on either half of the screen, the player whose name appears on that half must press the joystick FIRE BUTTON. The next player does the same. This begins the event.
- [] To move the lumberjack's legs, move the joystick LEFT ond RIGHT. Stay in rythm with the log or you may lose your balance.
- [] To slow the rolling of the log from forward or backward, and change its direction, press the FIRE BUTTON while running.
- [] Each player gets three attempts.

Scoring: The winner is the last lumberjack to remain on thje log. A scoring bonus is awarded to the winner based on thje balance of the two contestants. A balance meter is displayed at the bottom of the screen. You score points whenever your balance is better than your opponent's. Scoring also depends on the length of the event; if you take too long to finish off your opponent, you'll receive a lower score.

Balance: Establisha rythm with your lumberjack's legs; if you don't build speed at the correct rate he may lose his balance. The computer keeps balance meter for both players. When a lumberjack is off-balance, his arms extend to help him recover.

Strategy: Make your opponent lose his balance by stopping the log, then changing the direction of the log's rotation quickly back and forth. Finish off your opponent by rolling the log rapidly n the direction that will cause him to fall off.

Bull Riding:

- [] To choose which bull you want to ride, move the joystick FORWARD or BACK. The bulls are named(from easiest to hardest) Ferdinand,Elmer,Bob,Tornado and earthquake.
- [] Press teh FIRE BUTTON to start the even.
- [] To respond to the bull's movements, move the joystick as follows:
 - BUCK: If the bull is bucking, move the joystick LEFT or RIGHT, in the direction that the bull is moving.
 - SPIN: Pull the joystick BACK to stay on the bull when it is spinning.
 - HALT: Move the joystick LEFT or RIGHT in the opposite direction that the bull is moving.


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I. Getting Started

World Tour Golf comes with a full set of clubs and tees, so you don't need any of these. What you DO need is your trusty computer and its keyboard. (You can also use a joystick. See your Command Summary Card for instructions on booting World Tour Golf. Look there also for any keystroke commands unique to your computer. On all machines, the keyboard equivalent of the joystick button is the return or enter key - we refer to these controls throughout the manual as simply the button. When the title screen appears, press any key to go to the activity menu.

II. Playing Golf

The activity menu is the nerve center of the program. Use it to get to the many selection screens that make World Tour Golf both realistic and challenging. But for now, how about a few holes at Pebble Beach?

The Quick Way to play

To get to the first tee, press the Button (joystick button or return key) five times. This moves you through various menus (described later), and sets up a one-player round. A message describing "playing conditions" appears, giving you a general idea of the prevailing wind and green speed. The next screen that appears is your scorecard. It lists each player's scores and player handicap (the number of strokes allotted to difficulty of equalize scores). In addition, for each hole the par (target score), yardage, and hole handicap (relative difficulty of each hole), are displayed. For now only one player, "J.S. nicklaus," is listed. You will be able to add more players later.

Play Golf!

Pressing any key puts you on the first tee. The left half of the screen shows a birds eye view of the hole. You will hit your first shot from the tee. Aim down the fairway to the green. The terrain which surrounds the fairway and green is the tough, where you'd rather not hit your ball, if you can possibly help it. The right half of the screen displays a golfer's eye-view of the hole and gives you important game information.

Club Selection

Before you hit the ball, be sure you are using the right club. You have fourteen to choose from:

- *Three Woods (A driver, a 3-wood, and a 4-wood)
- *Ten Irons (2 through 9-iron, wedge and sand wedge)
- *One Putter

Golf clubs are numbered according to their length and the distance they can hit the ball (A 4-iron will knock the ball farther than a 5-iron). Woods hit farther than irons. The table below lists the maximum range for each type of club:

| Club | Max Range | Club | Max Range |
|-------------|-----------|-------------|-----------|
| Driver..... | 240 yds | 6 Iron..... | 155 yds |
| 3Wood..... | 220 yds | 7 Iron..... | 145 yds |

| | | | |
|-------------|---------|--------------|---------|
| 4Wood..... | 210 yds | 8 Iron..... | 135 yds |
| 2 Iron..... | 195 yds | 9 Iron..... | 125 yds |
| 3 Iron..... | 185 yds | Wedge..... | 100 yds |
| 4 Iron..... | 175 yds | S.Wedge..... | 75 yds |
| 5 Iron..... | 165 yds | Putter..... | 45 yds |

Higher-numbered clubs have more loft-that is, they hit the ball higher in the air and therefore a shorter distance. if you want to hit a ball over a hill or tree, you will want to use a club with a high loft (a 9-iron or wedge, for example)

At the beginning of each hole you are automatically assigned your driver. In most cases, this is the club you will want to use for the tee shot. On shorter holes (par3 for example) or holes with obstacles near the tee, you may want to use a shorter club.

Select a club by pressing the up and down arrow keys, or by moving your joystick up or down. To determine a clubs range, press the spacebar and an arc appears. This shows the spot where a perfectly hit ball would come to rest on a windless day.

Aiming Your shot

On the left hand side of the screen, a crosshair indicates the direction your shot is currently aimed. World tour golf automatically positions the crosshair on a straight line between the ball and the hole. Sometimes however, you will not want to hit your ball straight towards the hole. To adjust your aim, press the left and right arrow keys (or move the joystick to the right or left). The crosshair will move and the point of view window adjusts accordingly. Always check the wind direction and speed shown in the point of view window, If the wind is blowing more than 2 or 3 miles per hour, you may need to aim into the wind to compensate.

Hitting the ball

And now its time to hammer that little white ball! Press the button once to bring up the Swing Meter, which appears in the lower right-hand corner of your screen. Press the button a second time to start your backswing. Press a third time to begin your downswing and strength of the shot.

To hit the ball full strength, press the key when the meter reaches the 100% position. To hit the ball a shorter distance, press the key before the 100% point. YOU can also overswing, which may hit the ball farther than the clubs maximum range, but may also result in an erratic shot.

Press a fourth time to actually hit the ball! Exactly when you hit the ball determines the accuracy of your shot. To hit the ball straight ahead, press the key when the swing meter is pointing down. If you hit the ball before the meter reaches this position causes your shot to slice (curve to the right). The farther away from the straight-down position your hit occurs, the more extreme the curve. A hook or a slice shortens the distance of a shot. If you're not in the mood to play dexterity games, use the number keys on the top of the keyboard to hit perfectly straight shots of varying strength as shown in the command summary card.

Hazards The following hazards are encountered in any game of golf:

Trees: When your ball hits a tree, it may be slowed down by foliage or it may bounce off in any direction. To hit out from the trees., use a club with a high loft (to hit over them), or use a club with a very low loft in the hope of hitting under them. You can also aim around trees, hitting your ball with a hook or slice so that it will curve back into the fairway.

Hills

If your ball hits a hill, it will bounce off. If there is a hill directly in

front of you, you can try to hit over or around it(see trees).

Water

A ball hit into a lake or stream is lost. A new ball is automatically placed immediately behind the hazard and you are penalized one stroke.

Bad lies

The lie of a ball is the environment in which it rolls to a halt. A good lie means there are no obstacles to interfere with your swing. If the ball is hidden in weeds, or stuck in the mud, you face an undesirable lie. Your shots generally won't go as far when you hit from poorer lies. The type of lie you have is shown in the upper right hand area of the screen. Your lie has a definite impact on your club selection. The following table shows the longest club you can use for each type of ball without a high probability of flubbing your shot:

| Lie | Maximum safe club |
|---------|-------------------|
| Perfect | 3 Wood |
| Fair | 2 Iron |
| Poor | 5 Iron |
| Rotten | 8 Iron |
| Sand | 9 Iron |
| Plugged | Sand Wedge |

Bunkers: Bunkers(also known as sand traps)typically surround the green, but may also appear on the fairway. A sand lie is the typical lie in a bunker. A plugged lie means your ball is buried deep in the sand.

Out of Bounds: A ball is out of bounds if it leaves the edge of the play area. The ball is placed in its original position and you are charged a penalty stroke.

Chipping When you get close to the green, hit the ball with less than full strength; this is called chipping. When chipping, you will generally use your Wedge. If you are very close to the green, you may want to use your Putter.

Putting When you are on the green, the left half of the screen becomes a bird's-eye-view of the green, showing your balls position relative to the hole. Don't worry about club selection; the game automatically puts the putter in your hands.

On a flat green, line up the crosshair to define a straight line between your ball and the hole. Watch out for a sloping green because the ball will curve in the direction of the slope. Thus, if the green slopes downward, compensate by positioning the crosshair above the hole.

A symbol on the green indicates the severity of the slope. A brace (}) indicates a slight slope; arrows of increasing sharpness indicate moderate and severe slopes. The direction in which the arrows point of the green is also shown in the point of view window.

The speed of the green also affects your putting. A wet green is slow, while a dry green is fast. On a slow green, expect your putts to go only 2/3 as far as they normally would. On a fast green, they normally would. On a fast green, they

will go 30% farther. In a single session on one course, all greens have the same speed. Wind has no effect of putting.

Putting is slightly different from other shots because you only press the button three times. The first press brings up the swing meter, the second starts your backswing, and the third determines the strength of the shot. The distance between the ball and the crosshair on the green is seven feet.

You can also use the number keys to putt the ball the following distances:

| Key | Distance |
|-----|----------|
| 0 | 4ft. |
| 1 | 15ft. |
| 2 | 30ft. |
| 3 | 45ft. |
| 4 | 60ft. |
| 5 | 75ft. |

If you have a very short putt(under 3 feet), and your partners agree that it's a gimme (a shot so easy, no one could miss), press G and the game automatically sinks your putt. You can also press T for Tap if you are within 4 feet of the hole. This controls the strength of the shot, but still requires you to aim.

Scoring

Once your ball is sunk, the result appears in the upper right-hand area of the screen.

*Par means you have completed the hole in the allotted number of shots

*Albatross is three under par.

*Eagle is two under par.

*Birdie is one under par

*Bogie is one over par

*Double Bogie is two over par

*Other indicates that you failed to achieve a double bogie

After you have completed a hole, you return to the scorecard screen. Press any button or key to go to the next hole.

Customizing your Game

Now that you have a feel for golf, its time to get acquainted with some of the ways you can customize the game.

Using the menus

All the menus work the same. Use the arrow keys (or the joystick) to move the highlight up and down or right and left. Press the button (return key or joystick) to select the highlighted item. The box at the bottom of the screen describes each item as it is highlighted. Use esc. (or its equivalent;see your reference card)to move from any menu to the next higher menu.

In some cases, you must type in a command from the keyboard. You are provided with a default selection in the box at the lower right of the screen. Accept the default by hitting the button, or type in an alternative. The backspace key removes the typing if you make an error. Press the button when you're finished. To back out gracefully, hit esc.

The activity Menu

From the activity menu, you can choose to play, practice, or construct a golf course.

The play Options Menu

Number of players allows you to play up to four people. Type of play includes stroke play, (any number may play) or match play (2 some or 4some only). In

stroke play, the player with the lowest score after golfing 18 holes is the winner. In match play, you win or lose on every hole. Robot players allows you to assign a computer opponent to 1 or more of the player positions. Accept options tells the program that you have set the play options and are ready to select a player.

The Show Players Menu

On the left side of the screen, you see the players present statistics. Either accept the players as they are, by selecting accept players, or change any of their statistics by selecting change players which brings up the edit players menu.

The Edit Players Menu

From this menu you can change the players names, handicaps or attributes. A players handicap is subtracted from his total strokes to arrive at his net score. Use this feature to balance players of different abilities. Players attributes are what distinguishes one golfer from another. If you want to change the default values, select attributes. This takes you to the player attributes menu.

The player Attribute Menu

You can change a robot players attribute as well as those of a human one (not all attributes are available on all machines). Adjust player attributes as follows:

*Drive distance gauges a players strength. The average distance a player hits a driver can be adjusted from 100 to 300 yards. This in turn affects the maximum distance all the other clubs are capable of hitting. The games default distance is 240 yards.

* Drive accuracy is the percentage (1% to 99%, with a default value of 90%). Accuracy affects your shot consistency as well as the likelihood of flubbing a shot.

*Drive tendency reflects each players tendency to hook or slice.

*recovery skill is a players ability to get out of bad lies . The better your recovery skill , the better your chance of getting out of a rotten lie without flubbing the shot.

When you have finished press accept player. You can select a course to play on.

Load a course and play

The left side of the screen lists the courses on the disk. To load a course from a different disk, use change disk or change drives and follow the on-screen prompts. Delete permanently erases a course from the disk. Once you've loaded a course , you know what to do-Play Golf!

IV. PRACTICE, PRACTICE, PRACTICE

To hone your skills, you can practice without actually playing. Select Practice from any course. Putting Green lets you practice putting on greens of varying slopes. Driving Range lets you hit shots from the tee with any club, and measures the distance of each shot.

V. GOLF COURSE CONSTRUCTION

To build the course of your dreams, select Construct from the ACTivity menu. This takes you immediately to the course edit menu.

The course edit menu

The left half of the screen shows miniature diagrams of the first nine holes on

the course. For now, all of these holes are blank, that is, totally rough with no fairway. The right half of the screen contains the course edit functions.

*Load lets you load an existing course of hole from disk. You can then alter it. (Note: first-time users may want to load a pre-existing course to practice on before tackling a blank course). This menu also lets you erase the current course.

*Save lets you save either an entire course or move holes around within an existing course.

*Hole edit is where you actually create new holes or make existing ones more to your liking.

When you press Hole Edit, a thick frame appears around the first hole on the left side of the screen (Press the spacebar to toggle back and forth from the right and left halves of the screen. This is also the case in most other construction screens.) Use the cursor keys or joystick to move the frame to the hole you want to create or modify . If you move the frame downward long enough, the back nine holes appear. When you have chosen a hole, press the button. On a blank hole, this takes you to the draw terrain menu . These are described below.

The draw Terrain menu

There are two steps to constructing a hole. Use the draw terrain (fairways, rough, and water). Later on, you will place the tee, green and various hazards.

When drawing the terrain, you work on the left hand side of the screen with a block representation of the hole. Don't worry about the angular look of the drawing; the program smooths and details the image for you later.

Selecting draw terrain places a thick cursor on the left half of the screen. Use the arrow keys to move the cursor, then press the button to drop a square "tile" of fairway on the hole. When you have placed as many tiles as you wish, press ESC or the spacebar to return to the menu.

Press the button repeatedly on change terrain to change the drawing terrain from grass (fairway) to rough to water, and back to grass again. Clear hole fills the entire hole with the terrain with which you are working. Preview hole allows you to see the hole as it appears once it has been smoothed and detailed. You can enter the draw terrain while previewing, but the first time you drop a tile, the blocky image will return.

Several keyboard shortcuts are available to make drawing the hole easier. See your Reference Card for details.

The finish Hole menu

After you have outlined the basic shape of the hole, complete it by placing objects and defining features such as green slope.

Selecting Finish Hole from the Draw Terrain menu takes you to the finish hole menu. The left half of the screen shows the hole you have just designed. The right half contains the functions you use to transform this hole into one which will rank among golfdoms finest.

Place Objects allows you to place objects (green, tee, bunkers, trees, etc.) on the hole. Clear objects removes all objects. Set features takes you to the menu you will use to finish the hole. Draw Terrain returns you to the draw terrain menu, in case you need to make adjustments. Course Edit takes you back to the course edit menu.

Placing Objects Selecting place objects from the finish hole menu takes you to the object type menu. Toggle to the type of object you wish to place on the hole and press the button. Press the left and right arrow keys to reveal the variations for that object type. Press F to flip the object horizontally. Press the up arrow key, to return to the object type menu.

When you have chosen an object to place on the hole, press the button and that object appears on the left side of the screen. Move the object around the hole with the cursor keys or joystick. Hit the button to drop the object. Once dropped, an arrow appears that you use to pick up and move any object on the hole. To pick up position the arrow over the object and hit the button. To remove an object, pick it up and press the spacebar.

You can place up to 50 objects on a single hole, but you cannot overlap them or place more than one tee or green on a hole. Once you have positioned the tee and the green the program calculates the distance of the hole and its par. If you have created a dialog hole, place a par maker (in the other category) at the bend of the dialog to obtain a more accurate distance calculation. Remember that a hole is not playable unless both a tee and a green have been placed. (Note: You may notice that the length of the hole varies from time to time as you play. This is because the program periodically adjusts the placement of the pin on the green just to make the game a little more challenging).

You can use several keyboard shortcuts when placing objects on a hole. Your command summary card has the details.

Setting Features

Choose set features from the finish hole menu to set the hole difficulty and green slope, and put in skyline features.

When you select Hole Difficulty, you must rate difficulty on a scale of 1 to 99 (with 99 being the most difficult). The program then automatically assigns handicaps to each hole based on the relative difficulty ratings you have designated. A hole's handicap is a measure of its difficulty relative to other holes on the course. The most difficult hole on the course receives a handicap rating of 1. The second most difficult is assigned a rating of 2, etc.. Since you won't know how difficult a hole is until you've played it, you may want to come back and do this later.

Green Slope lets you set the direction and severity of the greens slope. Skyline lets you drop hills, etc. into the background. Exit takes you back to the finish hole menu.

Saving a hole or course

First, you will need a formatted (initialized) disk. To save a completed hole or course, return to the course Edit menu and select save. Course edit returns you to the course edit menu.

Quick Save

Save a course under its current name from any of the main construction menus (draw terrain, finish hole, course edit) by pressing S. Use the save menu to save a course under a different name.

-END-

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DOCUMENT wrath.denether1
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=====
| WRATH of DENETHENOR <PRELUDE> |
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```

The fire in the great stone fireplace crackled warmly drawing flickering tongues of light across the faces of the men and women gathered in the Tavern. One dude that was cloaked and hooded, hunched over a picture of brew in the corner and seemed really stoned as the storyteller by the fire began to tell his story.

"In the beginning, the four major lands of Deledain were ruled independantly. Lord Solrain ruled over the town of Nisondel, Lord Mirrih over Cestonia, Lord Estrine over Arveduin and Lord Denethenor over Mysteror. Usually there was peace ya know, sure sometimes a few little friendly rivalries and an occasional skirmish with the dudes over at the Isles of Bregalad, but in general all was really cool and peaceful."

He poured some brew in a glass...

"Now even then, Lord Denethenor was pretty good at magic and shit, and he really got off into studying the DARK side of mysticism. He got really good man and then he started to get greedy. Like he wanted more than his 1/4th share of Deldain and all the wealth and power that went with it. That's when the shit hit the fan."

The storyteller took a deep sigh and drank a log swallow of his brew!

"The first that Lord Denethenor attacked was Lord Mirrih, ruler of Cestonia, who was like geographically right in the middle. Now he and Lord Estrine were tight and they joined together to fight Lord Denethenor. Lord Solrain was chicken-shit and stayed out of it all. Mirrih and Estrine destroyed the Castle Denethena, but didn't have any effect on the heavy duty stuff of that evil dude Denethenor. With his evil magic still growing and getting more powerful, he forced Mirrih and Estrine back to their own lands and put a shitload of spies and monsters of his own creation all over their property. Lord Estrine, whose castle is closest to Mysteror, was a prisnor in his own castle. The only land to escape the ravages of the war is here in Nisondel dudes and I can promise ya, knowing that evil asshole Denethenor, it's just a matter of time before he comes here to Nisondel starting his bullshit."

He took another long swallow of his brew and continued...

"Now it's been rumored for a long time now, that it dosen't matter how large or powerful it is, no army will ever defeat Lord Denethenor and his awesome magic. Instead, it's supposed to be one single dude all alone with magic and weapons more powerful than his. A lot of brave dewds have gone out to try to kick his ass and none of them ever came back here to Nisondel. It's really a bummer cuz every year Denethenor gets stronger and his stinky shit spreads even more. That chicken-shit dude Lord Solrain can't fight worth doodleysquat. If Denethenor comes here we're doomed!"

The men and women nodded and agreed with the story teller. As awful as it sounded, they knew he was telling the truth. Then there was a movement in the corner and the dewd with the cloak that seemed really stoned came to the fireplace. He threw back his hood and the other people stared at him. He was of medium height, skinny and had a real young baby looking face.

"Well," he said, "so this Denethenor dewd has loads of green huh? Maybe I'll go and check him out I need some extra cash," he said rubbing his hands over the heat of the fire."

The storyteller busted out in hearty laughter... "HAHAHAHA! You! Defeat Lord Denethenor? HAHAHA! You don't even look like a warrior or even a Magician... You look more like a whimp! Matter of fact, are you the thief that's been stealing shit from around here lately?"

Some of the other people looked at the guy with hostility while the rest checked to make sure they still had their wallets and stuff. The young dewd just smiled and said, "Maybe I'm young and maybe I'm even a thief. Maybe that's what it takes to kick this dudes ass." He laughed under his breath. "After all, how many old farts have tried it and never returned? In my profession (whatever that might be), I've gotten out of more dangerous situations than any three warriors or simple minded magic users with my ass still intact. See, it dosen't matter about how much danger is involved, it's the amount of dollars that I'm interested in. Anyway, if I take on challenge like this one maybe I'll pick up some more skills on the way or learn a few more tricks..." His eyes danced with anticipation as he looked at all the people in the room. Some had the look of hope in thier eyes. Others wariness but they all could sense the feeling of confidence that the youngster had.

With one quick movement he turned and walked jauntily out of the door.

=====
 = WRATH-GENERAL NOTES =
 =====

The objective of the game is to be the freewheeling traveler that defeats the Evil Lord Denethenor and loots his treasure house.

After the game loads, select "1" from the menu to create you character. You may only have one character at a time so after you create him take good care of him (or her). You don't have to specify a profession for your character because before you can succeed in your quest you will have to be different things at different times: Fighter, thief, magic user: Just give your character a name. As you play the game, your character's health is reflected in "HITS" (quantity of physical damage you can sustain), and stamina (your vitality, wich can only be replenished thru nourishment). These are both displayed during game play. The star between your hits and stamina represent your internal magical energy. The casting of any spell (AFTER YOU LEARN THEM), will drain some portion of this energy from you, preventing you from further use of magic for a period of time.

Other character attributes are visable when you press "P" to [P]rint status. These include Strength, which reflects the damage you can inflict on enemies; Intelligence, which reflects the power of your spells; and Gold, with which you can buy supplies and information. Also listed will be any of your possessions including weapons, armor, any adventure begins on the NE peninsula on the continent of Nisondel. There are no high order beasts or monsters on Nisondel and the ones you do meet will hit you with greatly reduced force. Therefore, use this as a training ground cuz fer sure you're gonna need training later. You can also get used to Maize travel and the differences between Day and Night and traveling thru dimension doors. The first thing you should do when getting started is to find a town and buy a weapon and maybe some food. You have enuf gold to buy the bare minimum when you 1st start out. If you pick up a little by robbing travelers and monsters before you find the 1st town then you can buy a little more.

Your game progress is saved to disk each time you enter a town, castle or maize, dimension door and etc. You can also save your game at any time by pressing "Q" for [Q]uit. If you die you will be prompted to resume your game where it was last saved on disk. (If ya wanna take a rest at this point you can reload the program and it will continue at the last save).....

Of course, if your game was last save while you were in a shitty condition ie: surrounded by monsters or close to death you may chose to reload the program and restore your character, which will send you back to the beginning of the game (POSSIBLY) with some of what you earned in the meantime... The first town you will probably find is Backwoods. There is a diner, a weapons shop and the only trading post in Nisondel. (Trading posts let you sell some of your items if you're hard up for cash.) You need some weapons and some food from the appropriate vendors. You will that the stores keep regular hours so don't wait til the end of the day to do your shopping. To buy something (or sell something) just go up to the counter and stand in front of the merchant, press [C] to [C]onverse and indicate the direction key so he'll know you're taking to him. The merchant will offer you choices--- Follow his prompts to make your selection. He will quote you a price and you can either agree by pressing [Y]es or [N]o... Don't forget you need both a weapon AND food to start with so don't spend so much in one store and not be able to afford what you need in another. Every time you buy a new weapon (or later on) don't forget to press [E] to [E]quip yourself. You will automatically ready your most powerful weapon and your most protective armor, if you have any.

When you're traveling around the countryside, ANYTHING GOES... But when you step into a town or Castle Boundry, you are expected to behave in a civilized manner. If you act different from the other people there (and sometimes you have to) be prepared to take the consequences. Most townies just mind their own business. But the REBEL UNDERGROUND NETWORK has heard that you were coming and in most towns there will be FREEDOM FIGHTERS that will help you along the way. [C]onverse with everyone to identify your allies and save valuable information. Make an attempt to be friendly because no one likes Lord Denethenor and you can have valuable allies that you can rely on later.

Keep a journal of the things people say to you and who says it even if it seems unimportant. Later, you may regret not remembering what it was. When you visit a castle, it's only polite to pay your respects to thje reigning Lord. If you don't you could miss out on something valuable that should have been given to you. In the towns, if you attack anyone or are caught breaking into a store or vault to rob it, the soldiers will come after you. If you commit the ultimate sin of murder, a warrant for your arrest will be posted (dead or alive) in that town... The greater the crime, the longer the warrant will be valid. Also, the merchants will not trade with a known criminal. Of course, even if the warrant expires and you are able to re-enter the town unmolested, the person you killed may have been the one that had some valuable information for you. Better hope ya can get along without it cuz it can't be retrieved.

=====
 = WRATH OF DENETHENOR-THE CAST =
 =====

Deledain is a civilization that, to say the least, is unmolested by the new order of life and wayfarers such as you and I. Rather it remains quaint in it's customs and habits. Where and how some of the names were contrived I dunno, but at any rate, here they are.

.....
 : TOWNSPEOPLE :

Includes merchants, soldiers, clerics, wizards, lords and various others. Most townspeople are friendly and are willing to share advice with law-abiding travelers.

.....
 : GHOULIES :

These little short dudes can only strike a few hits but are known more for being able to pass thru stone walls.

:::::::::::
: WORGRECS :
:::::::::::

These are the silly twits... They'll walk into a light barrier and whacko! No more Worgreecs... hehehe!

:::::::::::
: KLINKENS :
:::::::::::

They can give you a pretty good whack with a handaxe, but they LOOK more fierce than they really are.

:::::::::::
: WARRIORS :
:::::::::::

Warriors are some of the few humans that you'll meet outside of civilization. As a rule they aren't so tough but if they get going in the right direction they can be pretty fierce.

:::::::::::
: WIZARDS :
:::::::::::

Magic users can be either Good or Bad. (Mostly bad)... They can cast spells that will throw opponets for long distances... As a friendly tip, never get caught in a fight between two mad wizards.

:::::::::::
: SHARKS :
:::::::::::

As the name implies, the sea traveler will often be found running from a school of these. Yes! They can do to you here what they can do to you in real life...

:::::::::::
: CORSAIRS :
:::::::::::

The dudes are pirates. They pull shit unsuspecting merchant ships and wayfarers like yourself. (Not me, I'm too smart!) They can take some of your goodies if you let them.

:::::::::::
: BLOOD BATS :
:::::::::::

They hang out the maizes until dark and then they're everywhere. They're really pains in the ass!

:::::::::::
: FIELENAS :
:::::::::::

Dangerous mothers. They're almost never alone and ya have to really use your wits... Also, they are vicisous (sp) critters that'll rip ya up.

:::::::::::
: CYSESTONS :
:::::::::::

Shit! They have four arms and they can really confuse you when you fight them. It's better to just take a long range cannon and wipe 'em out.

:::::::::::
: OIREGES :
:::::::::::

They look like ostriches and they can be just as fierce... Best to avoid them if your hits are low.

:::::::::::
: TERRAHDYDRAS :
:::::::::::

These are the monsters that originate in the water, but they can also live on land. There's no way to get away from them other than finding a good strong door and hiding.

:::::::::::
: CRACHENS :
:::::::::::

Oherwise known as Turkey-dragons. They have wings but they cannot fly. Dosen't matter, they can still kick ass. They have the ability to temporarily blind you and put you in a world of trouble.

:::::::::::
: DEMONS :
:::::::::::

Devilish little dudes. The best tip I can give is that their most powerful weapon is similar to one of the spells that you will learn...

:::::::::::
: DREYX :
:::::::::::

One of the most fierce of the things that Lord Denethenor has conjured up. They can fly and they'll chase what they're after across either land or water... <BEWARE>

:::::::::::
: LORD DENETHENOR :
:::::::::::

The evil asshole himself! No ou how awesome this dude is cuz he dosen't (F) around... If he hears that you're coming to challenge him, he won't just sit and wait for ya he'll come after you and conjure up all sorts of shit to do you in... If you get close to this dudes realm, that's the time to be MOST CAUTIOUS! And that's my warning o ya!

-END-

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Hints for the Wrath of Denethenor by the Nudge

Don't get lost, go to the Gargoyle!

Pass through with Nretelon

Ask lord Mirrih, he might be able to help you

Speak to the Backwoods hermit of torches

The Bank of Deledain knows who they work for

Doors are so charming

FireTrench can take you a long way

Exit Nisondel on a western Island

Look for a different way out of the Dark

Silver reflects

Find a harbour & take to the seas

Solrain, Mirrih, & Estrine are the real conspirators

A mages intelligence echoes in the staying power of his spells

Use Wethrir wisely - master it befor learning higher powers

There is but one spell that will still the waters

Don't get caught in a field of light

One of Limbar's warriors will help you

The Wizards of CastleDrawn will help you

Demons can smell their pray

That's why he's the Lord

Limbar wi8ll get me out

Someday the truth wi8ll be revealed & they will praise him

You can't hide from a demon!

I've got a Specer's Atlas

Look in the stone

Don't move in the Dark

I say its just a myth

You can hide behind your spells

He who goes unseen & speaks unheard is the strongest

Our chef's cooking sucks

You are doomed

With aQ

All magic is released by the spoken word

The very words which cast the illusion will dispell the source

So it is written...

Look even beyond Cestiona

Lost? Find a scroll

Demon Glow can easily be cast or dispelled

But why? (ed. Good question!!)

I'm afraid our boss isn't too hospitable to strangers

Seek a Western exit

Don't bother with the Hotel Pescara; they don't take drifters

I know something you don't!

The Demon's glow is just a form of magic

Across the channel!

Have you heard the truth?

I've got friend's coming to get me out

Take me with you! I can show you the Western door!

Limbar's nothing more than a Lunatic

Many treasures lie in the hole

There's lots of gold to be had

The citizens of En Siev have dug in

Every spell drains energy from the wielder

Look beneath the ruins of En Siev

Isn't this a great condo?

Move in you own dimension with Monsrol

En Siev is a heathen city

I've seen the Graveyard at Shadowmere

Go in at Midnight, come out at Mysteror

Learn Hexerei in CastleDrawn

Things can change at midnight

I hate raw fish

Ask of Clien at Karibae

The seven towers of Castle Denethena have darkened

I know of CastleDrawn: sanctuary of magic

I crossed Death Meadow!

You'll find Janai in the isles of Bregalad

He used his ower only in defense - seek Bhui in the Dungeon

Seek our Lord Mirrih

Have you learned Specere

Seek help of those imprisoned unjustly

Open your eyes and the myth w8ill vanish

Death Meadow is impassable - but you must cross

If it won't open, pass through

One of Limbar's warriors knows something

You ski?

Castle Denethena was rebuilt

Clien is on the Lake

A more powerful spell is more tiring

Not so! I've seen the castle

His old castle in Mysteror is completely deserted

Estrine's men destroyed the castle

You won't find him there

It's on an isle surrounded by magic

He fled from his castle to build a remote fortress

2 false entrances, 1 trun: Look south & pass between the caves

Report all suspicious persons

You're not one of them, are you?

The Banshee is floded

Learn of his castle in Swain's

Enter the hole only with great wi8ll

I helped to capture Donovan

All will perish

Janai waits beyond the meadow

Mirrih and Solrain are the true evil: kill them!

Denethenor lives and you, you shall die

I am Bhui. I know the power of Resonim - speak the word to a wavy light

LaVince is also a disciple

Remove Mirrih from his throne and claim his rule

The name is engraved on a secluded pub

Don't be afraid to use your magic when needed

Ask of Donovan at the Penitentiary

The true exit from the mountain swims in a sea of light

I'm the wealthiest man here!

Stage tricks are but simple spells

You'll always find Aligre near a stage

Seek Shadowmere in Bregalad

You must visit Bregalad someday

There's more than one way to leave Mount Restorn

The crossover occurs at midnight

Search the isles for the ampitheatre

Look south of the mountain

Ever been to the mountain?

Take caution wi8th blanket spells; you may strike a friend

The blanket spell is most draining, but so deadly

Lethren concentrates all your power on a single foe

Remember, Denethor's evil grew from his abuse of the death spells

Like Wethrir, it will shatter upon striking an object

Our Lord has a thing for sharks

Our vault is protected by magic

You will die a fool

All but one passage to Mysteror is useless

You must pass the mountain

The trail is visible only under close inspection

Comb the northern ridge

Red Sands is the link between Shadowmere and Sorie Gulch

The most obvious is rarely the safest

The walls of Mysteror have no passage

Search the Northern ridge for the Mountain

The circular river refuses all but the most experienced
 Overcrowded? Never! Just keep death row moving
 Look for the door in the graveyard
 The cavern is only visible in still waters
 The fools shall perish
 Hemlock can't be found in the wild
 His last ditch is off the south coast
 Limbar shall rule all
 You must pass Mount Restorn
 Don't kill the benevolent one
 The gate to Restorn is locked by magic
 I didn't know the grenade was armed
 65 mph isn't that fast
 Forget the legend of Donovan - it's a fool's tale
 It's just glass on silver
 Find him before he finds you!
 Beware, silver dust hides, but doesn't protect
 Many tricks can be performed with mirrors
 When you want to pass unseen, turn off the stage lights
 Throw up a little silver dust
 Yes, I am Aligre and you seek the knowledge of Inslere
 Even Denethor can be fooled... sometimes.
 If he should discover you...well, you won't live long.
 Shadowmere hides more than shadows after dark
 You will never defeat him without Aligre's knowledge
 Ask at the Banshee of the most deadly
 Do not fear the thunder but rather the evil it represents
 Move wisely - you have much to learn
 Learn to choose your steps wisely
 You are closer than ever to mystenor!
 He who enters the stench of the cave will not return
 Sorry, no ceremony tonight
 I've volunteered for the next offering
 The lighting is a steady reminder of our proximity to the crossover
 To pass Red Sands, float the cavern river
 Step into his throne
 Sorie Gulch feeds the mystical circular river
 Janai looks for the one who will cross the meadow
 Go in at midnight and come out at mystenor
 His fortress lies beyond the meadow
 The blanket spell, Desapar, is most deadly - use it only in a desperate
 situation
 Limbar says I'm gonna be a gerat warrior
 Limbar says we're gonna take on mirrih
 You will cross twice
 I've returned from Death Meadow
 Sure, we get cots, Limbar gets a jacuzzi
 Don't even think about it
 Don't hurt me!
 Approach him as the sun does: from the east and like a whisper
 You must learn balance, Grasshopper
 What chu lookin' at?
 He stole my purse!
 He stepped on my toe!
 He owes me five
 He killed Scruffy!
 He wasted my family
 Approaching invisible will not be enough
 The Isles of Bregalad hold many secrets beyond your reach!
 To escape Red Sands, you must find that red sand
 There are many hidden places among these isles
 Attract his attention and you shall perish
 Welcome to Shadowmere! and have a severely unpleasant experience!
 Eat this, dirt bag!
 Wait till the witching hour.
 Welcome visitors! Feel free to walk about but don't talk to the patients
 and stay out of restricted areas
 How was your stroll through the graveyard?

I saw toto in the graveyard
 Wait for the thunder
 Ziped ee doo dah
 Stand back you gerbil
 Fools Beware, this is Mystenor
 This is the Crossing point: Red Sands
 These are the walls of Sorie Gulch - within which the mystical river is fed
 I guard the entrance to the mystical circular river...
 I will not allow your passage!
 Welcome to the seven towers of Castle Denethena: Enjoy!
 Have a nice stroll through the meadow?
 Someday the truth will be revealed and Mirrih dethroned
 The other Lords of Deledain are just jealous
 This is just an illusion
 All is not as it seems
 Step into his throne at all costs
 You haven't been listening to fearless leader, have you?
 You must step into the throne of the open court! now!
 Go to the open court!
 Mirrih is a senile fool - there is no hemlock
 Limbar belongs in LaVinces Asylum
 An engraving is now visible upon the throne!
 A single phrase is etched upon the stone: "UrenDuirEssex"
 The inscription fades just as the illusory castle does! Thus you realize that
 your quest is far from complete.
 I am Janai... this is the hemlock Lord Mirrih spoke of. Return it to him,
 take care though, its poisonous!
 Death awaits...
 Isaac knows
 Turn back now while you have the chance
 You are a fool!
 No, not herfe! Find Isaac's cell!
 I've built a passage to the outer wall!
 My Hemlock! You found some. You earned your reward!
 The sky is falling!

Spells:
 Tulicanre (use torch)
 Netrelon (use charm)
 Wethrir (use none - hit return)
 Specere (use scroll)
 Monsrol (use pendant)
 Inslere (use silver dust)
 Resonim (none)
 Lethren (none)
 Elresire (none)
 Desapar (none)

To cast spells, just speak one of the words above. After you've learned a
 spell, you only have to type in the first letter when you speak it.
 The pictures and maps are to be used with Blazing Paddles

-END-

=====

DOCUMENT x.jump

=====

=====

DOCUMENT x.mdmsend.doc

=====

| |
|---|
| <p>X.Jump</p> <p>Created by Mr. Mayhem
Alcatraz (714) 991-5756
2400/9600 Baud
PCPable through CASAN</p> |
|---|

This package should contain:

X.JUMP.DOX
X.JUMP
X.JUMP2

About X.Jump

These are two "use" files for ACOS which act similar to ON X GOTO.

The following set up MUST be followed when using X.JUMP

```
use "a:x.jump",x      <- set x to any variable, with a number from 1-64
goto qscan           <- jump to this label if x=1
goto subs            <- jump to this label is x=2
.
.
etc
```

The set up for X.JUMP2 is the same, except the number may be from 0-63.

Ending Comments:

Make sure you have the correct amount of labels after the use, so that you don't get a syntax error.

X.Jump is faster than the normal " if x=43 goto label". However you may not notice the difference if your running over 1 mhz, or if your jumping to low numbers. But overall it is faster.

If you have any questions or comments give my board a call.

X.MDMSEND

Written by Eugene Skonicki (Hermes)
Version 1.0

Purpose

At the request of the Phantom, this MacOS external was written. It's purpose was to provide a way for MacOS programmers to directly send a string to their modem without MacOS touching it. Then, to have the external place the appropriate result code in location \$0A.

Syntax

The routine can be called like this...

```
use "(drive specifier):XMDMSEND",[string]
```

where drive specifier is any legal drive spec. and string is any modem command of unlimited length. Please note that the use command for this routine MUST be on it's own line since the RETURN character is what the program uses to determine the end-of-string.

Compatibility

This routine was originally written to run under Apple's Super Serial Card; however, it should run fine on the GS modem port as well. If there is any problem with it on a GS, contact me; I can write it for the GS.

An Example

After struggling with many commands whose syntax was unclear even after an example, I feel obliged to place in this documentation an actual example...

Let's say that you wish to hook your board into a network, but you had no way of dialing the nearest site from within MacOS. I am assuming that the nearest net site is at (312) 555-4668, and I am assuming that the external has been installed in drive G.

```
use "g:X.MDMSEND",ATDT1-312-555-4668
```

That would do it. Please note that there are no quote marks around the command being passed to the modem.

In Case of Trouble

Just incase you have trouble, I can be reached at the following locations.

Voice Phone: (708) 759-5275 [3 - 10 p.m. please]

Usenet/Internet: hermes@infoplus.chi.il.us [not sure about this one. Right now they're taking about closing this board.]

Dark Image BBS: (708) 355-5412 [Hermes (#7)]

Silver Tongue BBS: (708) 759-1916 [Hermes (#6)]

Parrothead Supplies BBS: (708) 887-1209 [Hermes (#2), Co - Sysop]

TEAM Net: Hermes (on the Hemp Foundation)

Mindboggler BBS: (708) 526-9016 [Hermes]

Apple Tree Computer Club BBS: (708) 597-6942 [Eugene Skonicki]

Programming Stuff

The source code of this external was include and is fully documented. This code was written with Merlin Pro. Nothing particularly special, but, if you have a thought, please contact me at any of the previous addresses.

```

=====
DOCUMENT x.mdmsend.s
=====
*       X.Command       *
*       Version 1.0     *
*       Written by Hermes       *
*       Written on Merlin Pro *
*       Version 1.0: 12/23/92 *
*                               *

org $9e00           ;the freespace for use commands in MacOS

* ---Equates
Getnxt equ $380     ;get next byte from the program
Goblcomm equ $386  ;engulf the comma
Mdmslot equ $e00    ;where MacOS keeps the modem slot*16
  ASnd equ $c088    ;the base of the ACTA send byte
  ARcv equ ASnd     ;the base of the ACTA receive byte
  Stats equ $c089   ;the base of the SSC status byte
IntPage equ $bf80   ;the interrupt vectors in ProDOS
  MLI equ $bf00     ;the ProDOS Machine Language Interface

* ---SetInt
* Sets up the necessary interrupts to receive
* chars. from the modem. Because of this, the modem echo
* must be OFF, and the card must use interrupts.

SetInt ldx #$00     ;set-up offset into buffer and interrupt page
:loop lda IntPage,x ;get the byte from the ProDOS page
      sta buffr1,x  ;put it right into the buffer
      inx           ;up the pointer
      lda IntPage,x ;get the next 1
      sta buffr1,x  ;and store it
:done jsr MLI       ;call the ProDOS MLI and ask it to...
:Deal_Int hex 41    ;deallocate interrupt
      da :parms     ;the address of the parameters is ':parms'
      JMP Send      ;yes, we can start sending to the modem
:parms hex 0101     ;1 parameter, ref. number 1
buffr1 ds 8         ;8 bytes to store the old interrupt vecotrs

* ---Send
* This routine send the user's string to the modem.

Send jsr Goblcomm   ;who needs the comma?
     ldx Mdmslot    ;load with offset to slot number
     :loop jsr Getnxt ;get the next char. from the program
     sta ARcv,x     ;send the char. to the modem
     pha           ;store off the char. that was sent
     :subloop lda Stats,x ;get the status from the SSC
     and #%00010000 ;turn off all bits except bit 4 (value 8)
     bne :doneloop  ;if we're done, go on...
     beq :subloop   ;otherwise, keep checking
     :doneloop pla   ;get the character sent
     ora #%10000000 ;turn on bit 7
     cmp #$8d       ;is it return?
     beq checkrsp   ;it is, start waiting for response from modem
     bne :loop      ;it's not, well kepp looping the chars.

* ---checkrsp
* This routine sets up an infinite dummy loop
* The interrupt handler stores off each character in a buffer.
* Once done, ($8d found) it proceeds on to find a match.

checkrsp ldx #$0    ;set offset to zero
loop lda buffr2,x  ;get the last-known byte
      cmp #$8d     ;is it return?

```

```

beq search          ;yes, whoopy! start the search
bne loop           ;no, then keep checking always....
IntHndlr cld       ;yeah, we'll take the interrupt
sei               ;so we don't lose any interrupts
ldx Mdmslot        ;load modem slot offset
lda Stats,x        ;check to see if it was from the modem
and #%00001000    ;kill everything except the 'sent' bit
beq :not           ;if we don't have it, exit neatly...
lda ARcv,x         ;get the byte sent by the modem
ora #%10000000    ;turn the high-bit on...
sta buffr2,x       ;store the byte in the buffer....
inx
cli               ;it's been ushered off to the buffer
clc              ;there wasn't an error
rts             ;go into the middle of that loop.
:not sec         ;not our interrupt
cli            ;so interrupts are off
rts            ;and return
buffr2 ds 32    ;32 bytes of buffer space (more than adequate)

* ---Search
* Now to match the modem's response with the right code.
* This routine employs binary searching. Not that I
* think it matters. This routine isn't time-intensive;
* however, for a complete discussion see the docs.

search jsr Deall   ;clear interrupt,so Macos doesn't maiss anything
ldy #$00          ;set offset into the damn string
sty $03          ;store the initial id as zero
lda #>table       ;the high-byte of the start addr. of the table
sta $00          ;the high byte is there, forever
lda #<table       ;the low-byte of the start addr. of the table
sta $01          ;the low-byte is there, forever
loop2 lda ($00),y ;get the byte from the table
pha             ;put it on the stack
lda buffr2,x     ;get the char. to compare
sta $02         ;the place to compare
pla            ;get that last char. back
cmp $02         ;compare it....
bne doneloop    ;no, than take care o' it...
:incmnt lda ($00),y ;get the char. back
ora #$00        ;run a generic operation to set flags
bmi found       ;if it's MSB is 1, we got ourselves a winner...
inx            ;otherwise, we keep on checking
jmp loop2
doneloop ldx #$00 ;reset the comparison counter to 0
:loop lda ($00),y ;get the byte
ora #$00        ;dummy flag-setter
bmi setit      ;if it's negative, we found next adr.
jsr upzer      ;otherwise, keep looking
jmp :loop      ;go do the loop again
setit jsr upzer ;up one more byte
inc $03        ;up the id counter
lda $03        ;make sure we're not done....
cmp #$1c       ;is it done
beq error      ;yes, we have a problem
jmp loop2      ;otherwise, yall can continue looping
upzer inc $01   ;up the low-byte
pha           ;save the a-register
lda $01       ;get that low-byte
beq :uphi    ;if it's zero, go ahead and up the low-byte
rts          ;otherwise, go back young man..
:uphi inc $00 ;up the low-byte
rts          ;and return

error ldx #$08 ;Missing Data Error
jmp $392      ;that's it..I'm outa here

```

```

found lda $03    ;get the id
sta $0a         ;put in it's place
rts            ;I'm done
Deall lda buffr1 ;get the low-byte of the addr
sta All:Parms+1 ;move it back...
lda buffr1+1    ;get the high-byte
sta All:Parms+2 ;store it back
jsr $bf00       ;re-install the interrupt handler
dfb $40         ;allocate interrupt
da All:Parms    ;the address of All:Parms
rts            ;now, we're done
All:Parms dfb $01 ;1 paramter
ds 3           ;the addr. of Macos's routine, pluse 1 byte
rts           ;and I'm outa here
table dci 'OK'
DCI 'CONNECT 300'
DCI 'RING'
DCI 'NO CARRIER'
DCI 'ERROR'
DCI 'CONNECT 1200'
DCI 'NO DIALTONE'
DCI 'BUSY'
DCI 'NO ANSWER'
DCI 'UNKOWN'
DCI 'CONNECT 2400'
DCI 'VOICE'
DCI 'CONNECT 9600'
DCI 'CONNECT 9600/ARQ'
DCI 'CONNECT 1200/ARQ'
DCI 'CONNECT 2400/ARQ'
DCI 'CONNECT 9600/ARQ'
DCI 'CONNECT 4800'
DCI 'CONNECT 4800/ARQ'
DCI 'CONNECT 7200'
DCI 'CONNECT 12000'
DCI 'CONNECT 7200/ARQ'
DCI 'CONNECT 12000/ARQ'
DCI 'CONNECT 14400'
DCI 'CONNECT 14400/ARQ'
DCI 'CONNECT 16800'
DCI 'CONNECT 16800/ARQ'

sav /blank/x.call

```

```
=====
DOCUMENT xenocide
=====
```

USAlliance Presents:



x e n o c i d e G S

Cracked by Blue Adept
Documentation by HellRaiser
Doc Cosmetic by The Magnet

```
-----
US AE West.....714/592-8996
Magnetic Field.....312/966-0708
-----
```

When Xenocide is loaded, plug your mouse in for some heavy action. You will come to the startup menu. The top left corner of your menu is to calibrate your joystick. (Note: Joystick Optional). The right top corner is to view the high scores. It gives you the option of erasing the high scores. You can clear the high scores by pressing 'C'. The bottom left corner gives you the option of turning stereo ON or OFF. The bottom right corner is simply to start your mission.

-- Key Commands --

```
[Esc]      Pauses game play
[<] [>]    lowers and raises the system volume
[<--] [-->] lowers and raises only the background music
[Ctrl-J]   selects joystick control
[Ctrl-K]   selects keyboard control
[Ctrl-Q]   quits game and returns you to the startup menu
[S]        Toggles sound ON and OFF
[W]        Toggles warning sound ON and OFF
[Spacebar] Launch nuclear bomb (Hovercraft level only)
[Spacebar] Select and option (Cave & Bio-lab levels only)
```

-- Using The Keyboard ---

| | | | | | | |
|---|---|---|-----|-----------|--------|------------|
| 7 | 8 | 9 | <-> | up/left | up | up/right |
| 4 | 5 | 6 | <-> | left | center | right |
| 1 | 2 | 3 | <-> | down/left | down | down/right |

Note: It is not necessary to hold down keys. Once the key is pressed you will continue to move in that direction until another key is pressed. Holding down a key will disable the [Open-Apple] and [Option] keys and you will not be able to fire.

--- Fire Controls ---

Button 0 - [Open-Apple]
Button 1 - [Option]

Hovercraft level:
[Spacebar] Launch nuclear bomb
[Open-Apple] Fire fireball
[Option] Fire missile

Cave levels I & II:
[Spacebar] Select option
[Open-Apple] Fire lasers/auto blaster
[Option] Throw grenade/fire sonic wave
[Open-Apple] Refuel/fill oxygen tank(only when at a refueling bay)

Bio-lab level:
[Spacebar] Select option
[Open-Apple] Fire lasers/flame thrower
[Option] Throw grenades/drop land mines

Hints & Suggestions

1. Try shooting at rocks and walls in the cave levels-some have bombs and keys behind them
2. If you fly by a refueling bay, make sure that you land even if you don't need the fuel or ammunition-if you happen to die later then you will start back at the last bay that you landed. Now we wouldn't want that, now would we?
3. When advancing into the Bio-lab, be sure to get a full supply of ammunition and grab the options that will be most valuable to you in the Bio-lab (Regro Shield!)
4. Option boxes in the Bio-lab are not as plentiful as those in the caves, so use them more prudently.

--- Levels ---

The Hovercraft Level :

The object of the hovercraft level is to avoid hitting large rocks and aliens, pick up as many ammunition canisters as possible and get to the docking station which will take you to the next level before running out of fuel. At the start of the hovercraft level you will see a road before you. The ammunition canisters you are to collect will be found along side the road and the docking station will be found somewhere along the way. Since a hovercraft hovers above the ground using its anti-gravity pads, it is not necessary to stay on the road. However, if you wander too far off the road you may never find the docking station.

Along the way you will encounter strange alien life forms that you can avoid or shoot. If you happen to hit one at slow speed you will run it over but fast speed will damage your hovercraft. If you hit one of the rocks at low speed it will stop you but at higher speeds it will do massive damage to your hovercraft. Hitting to many objects will destroy your hovercraft!

The ammunition canisters are very important because they will determine the amount of ammunition you will be able to carry in the following levels. To get a canister simply run over it with your hovercraft. (hitting canisters will not harm your hovercraft). Once you hear the "alert" voice you will be near the docking station and a red dot will be shown on the radar screen showing the distance and direction to the station. To dock simply run into the docking station and you will be taken to the cave level.

Cave level I :

You have now left your hovercraft and put on a jetpack to travel through the treacherous cave level. The cave level has two basic objectives: to collect five bombs that will be required in the Bio-lab to destroy the moon and to find the docking pad that will take you to the next level. The bombs are placed secretly throughout the cave and there will always be five of them. You cannot continue to the next level until you have collected all five bombs.

As in the hovercraft level, you have a set amount of fuel and ammunition capacity. However, for each ammunition canister that you have collected your maximum ammunition capacity will be raised. You will start out with maximum fuel and ammunition, but as the game progresses you will run out of fuel and undoubtedly ammunition. Thus, it is important that you land at the refueling bays located throughout the cave whenever possible to replenish your fuel and ammunition. It is possible to travel back up the cave all the way to your starting position, but you may not go back to your previous level. This makes it easy to clear out a portion of the cave then fly back to the closest

refueling bay and refuel. Also, if you happen to die in a cave level then your next life will begin at the last refueling bay that you landed on.

Although there are many things that you must beware of in the cave level, there are also very rewarding things as well. For example, Option Pods (shown as pulsating blue spheres) provide you with the different options that are listed at the bottom right-hand corner of your screen. When you collect a blue option you will be able to activate the first item on the options list. To activate the option, simply press the spacebar and it will turn from light blue to yellow, indicating that the option is active. If you collect a second blue option pod and you have not yet used the first option, the indicator light will advance to the next option in the list. You may still collect options while one is activated, but you cannot have two or more options at the same time. If you have an active option, then collecting more options will move the light blue indicator down the list as before, but this time skipping over the activated option. For example, if the Auto Blaster option is in yellow, or active and the sonic wave option in light blue, collecting one or more option pod will now make Mega Shield a light blue option. Be careful, however, for if you have Regro Shield in light blue (waiting to use it when your shield runs low) and you run into an option pod, then Flesh Freeze will now be in light blue and you will have lost the ability to activate Regro Shield. This could make even a bad day seem enjoyable!

Once you are at the end of the cave and have collected all five bombs, land on the docking pad (marked with blinking arrows) and press button 0 on your joystick. This will advance you to the next level.

Cave level II :

There are a few differences between Cave level I and II. Most notable is the fact that your travel will take you through an underwater environment. The following is a list of the differences that you will experience.

1. You will sink if you are not swimming
2. The fuel indicator becomes an oxygen indicator, the refueling bays will now give oxygen supplies instead of fuel.
3. There are no more bombs to collect in Level II, but there are locked doors that must be opened with keys, which are hidden throughout the cave. To pick up a key simply run into it. To open the door just touch the keyhole in the door after picking up a key. Note, however, that a key may only be used once.
4. The bomb indicator becomes the key indicator and will keep track of how many keys you have.

Once you are at the end of Level II cave, land on the docking pad (marked with blinking arrows), press button 0 on the joystick and you will be taken down to the Bio-lab. When you get to the Bio-lab your shield will be repaired and you will have the same options and ammunition.

Bio-lab level :

The objective of the Bio-lab level is to destroy the moon you are on by dropping all of the five bombs that you collected in the cave level into nuclear storage ports that are located throughout the laboratory and teleport off to the moon.

The screen view is one in which you, the player, are looking down from above the floorplan of the laboratory. You will notice that there is no indicator or fuel, as you are now able to walk around the laboratory.

Once you have explored the Bio-lab and have placed all of the five bombs, then you should go to the central control room and activate the teleporter (by running into the computer terminal) and then moving to the teleporter pad. You will then be teleported to your ship where you will be outfitted for your next mission, or given the win sequence if you have destroyed the final moon.

--- Using The Joystick ---

To use the joystick simply point the joystick in the direction you wish to move. Press button 0 to fire Fireballs, Lasers and Flame Throwers and also to refuel. Press button 1 to fire Missiles, Grenades, Sonic Waves, and land Mines.

eof..

=====
DOCUMENT xyphus
=====

03 AUHUST 1984

XYPHUS

A >BLACK BAG< CRACK

CRACKED BY:

THE CHIEF SURGEON AND THE PENGUIN

THIS IS ONLY A PRELIMINARY DOCFILE. A COMPLETE DOCFILE FOR XYPHUS WILL BE AVAILABLE FROM THE SOUTH POLE (312-677-7140) IN A FEW DAYS. THE FRONT SIDE OF XYPHUS MAY BE COPIED WITH A FILE COPIER. THE SECOND SIDE SHOULD BE COPIED WHOLE (EVEN THOUGH IT IS IN FILES). TO START XYPHUS, BRUN XYPHUS. YOU MUST MAKE A GAME DISK FROM YOUR SCENARIO MASTER. THIS IS CHOICE <A>. FOLLOW THE PROMPTS CAREFULLY. PUTTING IN THE WRONG DISK COULD SCREW YOU UP ROYALLY. IT IS BEST TO WRITE-PROTECT YOIUR SCENARIO MASTER. AFTER YOU HAVE MADE A GAME DISK AND REBOOTED, YOU MAY PLAY THE GAME, CHOICE .

CONTROLS:

- Y - NORTHEAST
H - EAST
B - SOUTHEAST
V - SOUTHWEST
F - WEST
T - NORTHWEST
G - REMAIN FOR ONE TURN IN THE SAME SPOT

MOVE ENTIRE PARTY BY HOLDING DOWN CTRL KEY.

COMBAT:

KEYS FOR COMBAT ARE THE SAME AS MOVEMENT. COMBAT STARTS WHEN A PLAYER CHARACTER MOVES NEXT TO A MONSTER AND ATTEMPTS TO MOVE THROUGH IT. SHOULD YOU ATTEMPT TO FIGHT SOMETHING USING THE GROUP MOVEMENT CAPABILITY (HOLDING DOWN THE CTRL KEY IN CONJUNCTION WITH A DIRECTION KEY), YOUR PARTY MAY MOVE BUT REFUSE TO ENGAGE IN COMBAT.

OTHER IMPORTANT KEYS:

- O - REST & HEAL. PUTS PLAYER IN TRANCE

FOR 10 TURNS, DURING WHICH ENDURANCE LEVEL WILL RETURN TO FULL STRENGTH AND 4 POINTS OF DAMAGE WILL BE HEALED.

P - PURCHASE. CHECKS EXPERIENCE POINT LEVEL TO SEE IF A NEW LEVEL HAS BEEN REACHED. IF SO CHARACTER IS AWARDED MORE HIT POINTS. ALSO, PURCHASE GOODS.

IN TRADING POSTS THE FOLLOWING IS AVAILABLE:

- (A) ARMORY SHOP
(W) WEAPONS SHOP
(M) MAGIC SHOP
(/) CHARACTER STATUS
(SPC) EXIT

MISCELLANEOUS COMMANDS:

Q - QUIT AND SAVE. SAVES CURRENT GAME STATUS TO DISK.

W - WEAPON SELECTION. CHANGES WEAPON IN HAND

S - SPELL. ALLOW YOU TO CAST SPELLS.

Z - CHANGE TEXT AND MOVEMENT DELAYS.

TO CAST SPELLS:

TO CAST SPELLS, THE MAGIC USER MUST HAVE A XIPHOID AMULET IN THEIR POSSESSION.

REMEMBER THAT THESE ARE ONLY PRELIMINARY DOCS TO HELP YOU GET STARTED. THE COMPLETE DOCFILE WILL BE AVAILABLE FROM THE SOUTH POLE (312-677-7140) IN A FEW DAYS. IT WILL HAVE COMPLETE BACKGROUND INFO, SETUP INFO, ETC.

LATER,

THE CHIEF SURGEON

THE PENGUIN

=====

DOCUMENT xyphus.la

=====

```

    /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
    /\
    XYPHUS SOFT-DOX
    /\
    WRITTEN BY
    /\
    THE PENGUIN
    /\
    WRITTEN FOR
    /\
    THE SOUTH POLE.....[312] 677-7140
    THE OUTPOST.....[312] 441-6957
    TEMPLE OF DOOM.....[805] 682-5148
    /\
    /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
  
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The World of Arroya

Ten thousand southern suns have passed since the Archmage Szhaalin tore the very heart from the demon lord Xyphus and hid it in the Arroyan continent. His life's work done, the mighty Szhaalin vanished into the western wilderness, while the gravely wounded demon lord sunk into caverns beneath the Earth to languish in eternal pain. Legend has it that pieces of the demon's heart fell to the soil and formed small, sword-shaped amulets of violet crystal from whence all magic springs, and that somewhere in the very bowels of the Earth itself lies the actual heart—a gemstone the size of a human head.

'Tis said that when the demon lord bled, tribes of goblins sprang from the droplets of ichor—the Cotico, the Malakee, the Maripo, the Sedento, the Mazanti, and the dread Azulus with their companion Hellhounds. All of Arroya was forbidden to human kind by the beasts and monsters that still dwell there. poisonous serpents and oversized vermin roam the plains, while all manner of the dead-that-walk are to be found in the hills and forests. All the men that have ventured into the lost continent have vanished without a trace, save for occasional survivors sprouting half-mad ramblings that gave birth to legends surrounding Arroya.

Some thirty years ago a conqueror was born. Some men say that Das is the descendant of the great wizard Szhaalin, while others scoff at such talk, calling it the foolish tales of old women...I tell ye that there is much wisdom in the tongues of women, but heed ye what ye will. In his short lifetime Das has overrun most of the known world, aye, and has brought it to order and justice, albeit with the edge of the sword and the purification of the torch. It is said that men need a strong leader to follow, one who holds little in esteem save might and force. Das is such a one, a man to be reckoned with, a mover of continents and oceans. Perhaps such a ruler is needed before poets can sing and painters can render the beauty which abounds in this world...

The progress of Das has come to a halt at the borders of Arroya. While his legions were easily capable of subduing the civilized world, they came not prepared to face the tribes of goblins and the forces of demonic magic that hold sway in the lost continent. Only through the use of mercenary troops recruited from the nomadic bands of humans, elves, and dwarves that live on the costal plains of Arroya can victory come to Das. It is told in song that a small band of wizardlings and warriors, no more than four strong, can slay the long-suffering demon lord Xyphus and open the lost continent to subjugation. As long as Xyphus lives, no matter how sorely wounded,

his demon minions shall roam the land and Arroya shall never fall to mortal hands. Das has promised suzerainty over the Central Steppes of Arroya to the one that slays the demon lord. None have managed to claim the reward...

The kingdom waits.

The Geography of Arroya

The Lost Continent of Arroya is a subtropical wilderness consisting of vast plains and sweeping forests dotted with lakes and crisscrossed with swift-flowing rivers. The inland Sea of Mithral is populated with rather large serpents and krakens, rendering it impossible to cross unless one has wings. There are several major mountain ranges around the continent, as well as a few small mountains and dormant volcanos.

At certain times of the year, some rivers can be crossed, but the force of their flow is such that there are no clearly marked fords. There are also rumors of underground rivers and lakes, but no one who has ventured underground has survived long enough to map them. Many of the rivers are surrounded by dismal swamps inhabited by some rather unpleasant creatures. While the marshes can be crossed, it is rather slow going.

The Korayan Mountains in the eastern part of Arroya are so tall and steep that they have traditionally been considered to be an insurmountable barrier. These mountains are the home of the fierce Korayan Falcon and the famed Spider People of Selcham Pass, a particularly nasty tribe of four-armed mutant orcs.

But perhaps the most striking aspect of Arroya is the northeastern part—the Enchanted Plains. These are broad expanses of sand and sawgrass where inexplicable forces seem to be at work. There are areas of these plains that no human can cross, yet monsters roam about them freely. Philosophers have debated the reasons for such phenomena over the centuries, but none has found the solution to the mystery posed by this landscape.

There are also rumors of large areas of underground tunnels and caverns, where it is said the once-great Demon civilization still resides. There may be some truth to these rumors as not very many Demons are spotted above ground...Nevertheless, it is common knowledge among the Arroyan Dwarves that there are, indeed, numerous tunnels in the southwest of the continent, come quite large, while others are so narrow that only a human child can pass through them.

Outposts

Through the Lost Continent there are scattered forts and trading posts. The forts are the only signs of the invasion of Arroya by Das the Conqueror, who you serve. In these forts you can rest, be healed by skilled conjurers (at no charge) and purchase supplies. Most of the forts are hard pressed by the local tribes of goblins, orcs, and Demons. Often you will be called upon by the commanders of these garrisons to carry messages to other, similar outposts.

The trading posts are scarce and hard to find. These wilderness stores are manned by those who can live with either side in the great war, and who pledge allegiance to no ruler. They are permitted to exist in Das because they aid his troops and scouts, while local tribes find them to be the only source of good metal weapons and armor. Healing services are provided at the trading posts as well, at no charge to the wounded character.

Character Races & Professions

There are three races in Arroya from which player characters can be recruited. They are Elf, Human, and Dwarf. Each race has its strengths and weaknesses, some of which may not become apparent until later in

the campaign. Choose your party carefully.

Elf - The Arroyan elf is not a true native of the continent, but rather a descendant of a band of elves that came to Arroya centuries earlier under the leadership of the warrior-king Ellanyl. An outcast from his homeland, Ellanyl led his colony to the Lost Continent in search of a new home. He rashly burnt his three long ships immediately upon his arrival on the coastal plains of Arroya and subsequently was killed, along with all of his skilled carpenters, in a Demon raid within a year of his landing. The surviving elves established small settlements in the coastal forests and have managed to eke out a meager existence until the present.

Elves are small people, averaging perhaps five feet in height. They are very quick and agile, and are most at home in the woods. They are good fighters and spell casters, although they tend to tire quickly if using heavy weapons.

Humans - The Human is the only true Arroyan race from which characters may be recruited. For hundreds of centuries they were slaves of the Demon civilization, and their numbers diminished yearly under the harsh treatment they received at the hands of their cruel masters. The slave race of Humans eventually died out, but not before runaways had escaped into the mountains and formed small outlaw bands that still survive till this day. The Humans of Arroya hate Demons above all else and will fight them to their dying breath.

The Human stands between five and a half and six and a half feet tall, usually weighs 150-250 pounds, and is at his or her best wielding heavy weapons. They are not as hardy as Dwarves, but a lot tougher than Elves.

Dwarf - The Dwarves of Arroya are recent arrivals to the Lost Continent. They first touched her shores a paltry two hundred years ago, in search of precious metals. The dwarves are a race of miners, and thrive in rocky, mountainous terrain. They are also at home underground and are valued for their acute sense of direction in subterranean passages. They have no love for Demons or any of the goblin tribes that inhabit Arroya, and are handy in a fight.

The tallest dwarf stands but four feet from head to toe. They are uniformly stocky, usually outweighing their Elven counterparts. Common wisdom is that a Dwarf can stand three blows for every two another race receives in a fight. However, they have very short legs and are not fond of running, a trait which makes them laggards on any expedition.

Professions

There are two classes of player characters in Xyphus: Fighter and Spellcaster.

The Fighter can use any weapon except the Xiphoid Amulet, but may not cast spells or use magic other than in the form of magical weapons and armor enchantments.

The Spellcaster can fight a little, using clubs or maces, but is unable to wield an edged or advanced weapon. A spellcaster can, however, cast spells, provided that he or she possesses a Xiphoid Amulet. There are no restrictions on the armor that a spellcaster may use, but both armor and spells are expensive in Arroya and gold is scarce.

Character Creation

One may have up to four characters in Xyphus, although that number is not required. To create characters, simply type in their names when asked to do so by the program, and choose their professions. Depending

on their race and profession, they will be given their proper hit points, skill factors and movement abilities.

Should you succeed in winning the game with a party of four, you might consider tackling it with fewer player characters...

Playing the Game

The game Xyphus consists of six separate scenarios, each one tougher than the previous one. The average playing time of a scenario ranges from 3 - 12 hours, depending on the skill of the player. There are three components to playing Xyphus, the Master Disk, the Scenario Disk, and the Game Disk. The Game Disk must be created by you. The game is always played on the Game Disk you create. Any number of Game Disks can be created with characters unique to that game.

To begin boot the Master Disk. You will be presented with two choices:

(A) - CREATE NEW GAME DISKETTE (B) - CONTINUE EXISTING GAME

Select (A). You will then be asked to enter the number of characters (1-4) for this game. Using four characters is recommended the first time through. Less than four makes for a very difficult game.

Once you have selected the number of characters in your party, you will then be asked: ENTER THE NAME OF CHARACTER 1. Upon naming your first character, you will be asked: SELECT RACE: H)UMAN D)WARF E)LF. Choose your race carefully and remember that balanced parties are the key to success in Xyphus.

Upon choosing the character race, you will be asked: SELECT F)IGHTER OR S)PELLCASTER. Choose the profession you wish that character to be.

Finally, you will be shown the character as it exists and asked: CHARACTER OK? (Y OR N). Type "Y" if you are satisfied with the character or "N" if you wish to start over.

Repeat the sequence for the remaining characters in your party.

Once you have created your party, you will be asked: ENTER NUMBER OF DISK DRIVES (1 OR 2)? Type in the appropriate number.

If you have one disk drive, you will be told to put a blank diskette in the drive. This will be your Game Disk. Press the spacebar to continue here, and throughout the process of creating the Game Disk. You will be told to insert the Scenario Disk at the appropriate times. Be patient, there is a lot of data on the Scenario Disk and you will have to swap disks a number of times. The program will always tell you when to do so.

If you have two disk drives, you will be told to put a blank in Drive two and the Scenario Disk in Drive one. The program will then create your Game Disk.

Once you have created your Game Disk, you will always use it to play Xyphus. Each time you boot up the Master Disk, choose the (B) CONTINUE EXISTING GAME option and insert your Game Disk when asked to do so.

NOTE: During the play of Xyphus there will be pauses after battles and victories to allow you to read displayed messages. The computer is waiting for a keypress. Pressing the spacebar will continue the game.

Controls

Xyphus can be played with the keyboard (Macintosh users should see special instructions). The map in Xyphus is based on a system of hexagons, thus you may move any of your characters in any of six

directions - Northeast, East, Southeast, Southwest, West, and Northwest. The keys to use are:

Y - Northeast
 H - East
 B - Southeast
 V - Southwest
 F - West
 T - Northwest
 G - Remain for one turn in the same spot.

NOTE: Should you wish to move the entire party as a group instead of moving your characters, simply hold down the CTRL key while pressing the key for your chosen direction. Common sense should tell you that any party can only move as quickly as its slowest member. This is true for Xyphus.

Combat

The keys for combat are the same as for movement. Combat takes place when a player characters moves next to a creature and then chooses to strike at it by attempting to move through it. Should you attempt to fight something using group movement capability (holding down the CTRL key in conjunction with a direction key), your party may move, but will refuse to engage in combat.

Other Important Keys

O - Rest & Heal. This command will put the player character into a trance of approximately 10 moves, during which his or her endurance level will return to full strength and 4 points of damage will be healed. However, a character in a trance is extremely vulnerable to and will be unable to defend against an attack until he or she awakens.

P - Purchase. The purchase command serves two very important functions. Whenever it is invoked, the current Experience Point total of the character is checked to see if a new level has been reached. If so, you will be advised of the advancement and your character will be awarded extra Hit Points. It is a good practice to hit "P" whenever you enter a trading post or a fort, regardless of whether you intend to purchase anything or not.

Also, whenever you enter a trading post or a fort, you have the option of purchasing new weapons, spells, or armor. Pressing the "P" key will enable you to do so. You will then be shown a menu:

(A) ARMORY SHOP
 (W) WEAPONS SHOP
 (M) MAGIC SHOP
 (/) CHARACTER STATUS
 (SPC) EXIT

Choosing any of the above options will in turn lead to a new menu. Entering the Weapons, Armor, or Magic shop will show you a list of available merchandise and the current prices for each item. You may choose to buy whatever you can afford.

Finally, when your party has completed assigned tasks in the scenarios and are all gathered in the destination fort, selecting "P" will end the current scenario and move the party to the next one.

Choosing (/) - Character status - will provide the following two or three screens of information (This option may be chosen at any time during the game):

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First Screen:

HIT POINTS:
 The amount of damage your character can take.

MAXIMUM HIT POINTS:
 Your character's full potential if unwounded.

LEVEL:
 This is the measure of your character's experience and expertise.

ENDURANCE LV:
 This is the indicator of your character's level of fatigue.

WEAPON-IN-HAND:
 Tells what weapon the character has ready to use.

ARMOR CLASS:
 This tells you what type of armor the character is wearing.

GOLD OWNED:
 The amount of gold the character possesses.

EXPERIENCE:
 This figure shows how much experience the character has earned as a result of victories in battles and gold found.

Second Screen:

SPELLS OWNED:
 (if the character is a Spellcaster)

Third Screen:

WEAPONS OWNED:
 SELECT ONE (This screen permits the character to change the weapon-in-hand).

Permanent Status Display

During actual game play, there are always four lines of information displayed at the bottom of the screen. The information shown is:

```
CHARACTER NAME/PROFESSION  RACE/HIT  POINTS:  ENDURANCE  (1-100)
WEAPON-IN-HAND
```

On occasion, such as during combat or when a spell has been cast, special messages will be shown in this window. When you have finished reading such a message, press the spacebar to continue.

Miscellaneous Commands

There are four other important commands to remember while playing Xyphus. They are:

Q -
 Quit and save. Pressing "Q" will save the current game status to your Game Disk, allowing you to attend to frivolities such as eating, sleeping, or being social.

W -
 Weapon Selection. Pressing "W" will allow you to change the weapon-in-hand, and costs the character one movement turn.

Weapons

There are many types of weapons available in Arroya, some of which cannot be purchased anywhere. The forts and trading posts in different parts of the continent may offer weapons particular to that locale as well as common weapons such as swords, maces, and morningstars. Many of the special weapons are outlawed in other parts of the Lost Continent and may be confiscated by garrison commanders there. (The program will take care of these simply by eliminating them when you move to a new scenario).

Many of the creatures found in Arroya are enchanted by nature, and may only be wounded with magical or silver weapons. Most Lost Continent veterans will tell you that if the creature seems unusual, it will probably require the use of a special weapon to destroy it.

At some time your party may come across enchanted weapons useable either by Fighters or Spellcasters. Be thankful and grab them! Some of these weapons will last throughout the campaign, while others will vanish when their enchantment is used up. Be warned that there are cursed weapons around...

SPELLCASTING & MAGIC AND MONSTERS ARE IN FILE #2. THEY WILL BE RELEASED AS SOON AS POSSIBLE...

S -

Spell. This command allows you to cast spells, and will be discussed in the file on Spellcasting.

Z -

Change text delay and movement delay. The text delay is the amount of time that special messages are displayed on the screen. The movement delay is the amount of time taken for response to a selected directional move. Pressing "Z" will get the message: ENTER TEXT DELAY (1-9) CURRENT VALUE IS X; followed by: ENTER MOVEMENT DELAY (1-9) CURRENT VALUE IS X. Play with these values until you have found the right ones for you.

Movement, Endurance, & Dexterity Factors

Each character and creature in Xyphus is rated for movement, endurance, and dexterity. What this means is that each creature will move better on certain types of terrain and worse on others, as is the case for the different races of player characters.

Furthermore, depending on the weapon used, each character or creature will strike more frequently during the length of a fight, or less often. For example, a Dwarf wielding a two-handed longsword will not strike nearly as frequently as an Elf using a hunting knife. (He will do a lot more damage per blow, however). Different monster types will strike at different rates as well.

Finally, each character and creature is rated for endurance. That means that depending on the weapon being used and the spell being cast, the player will tire out more quickly or at a slower pace. The effects of fatigue on player characters is that there will be reduced damage on blows struck or the character may cease to be able to fight at all, and fatigued Spellcasters may not be able to cast some of the more demanding spells.

Armor & Weapons

Metal is very scarce in Arroya - The Dwarves are the only true miners and smiths in the whole land and there are only a few of them. A warrior's wealth is often measured by the armor and weapons he or she owns. There is no plundering of corpses for weapons. In fact, when possible, the weapons and armor are buried with the corpse in accordance with the dictates of Arroyan culture. However, weapons which are lost and have no rightful owner may be claimed by any Arroyan. Legends tell of many magical weapons which are scattered about the Lost Continent.

The Arroyan warrior uses only one kind of armor, and only the most powerful of warriors have full suits. The armor consists of a padded jerkin of cloth, covered with a leather tunic that protects the waist and hips. The tunic is in turn covered with a hauberk of chain mail that covers the torso and protects the arms. Finally, a breastplate of polished bronze is placed over the hauberk. Most Arroyans, however, cannot afford this much armor and they must collect it piece by piece. Fortunately, each component of the armor does provide an additional degree of protection as it is accumulated. Custom (and practicality) dictates that a warrior first purchase a shield, then begin building his or her armor collection. No armorer will sell armor to a warrior without a shield.

Should a warrior manage to purchase a full suit of armor, there is yet another way of increasing his or her armor class. This is through the purchase of an enchantment available through any armorer. The enchantment is a two-part affair called the Veils of Szhaalin. The first part is called the Inner Veil, and must be in place before the second part - the Outer Veil - can be purchased.

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    |
    |          XYPHUS SOFT-DOX
    |
    |    SPELLCASTING AND MAGIC
    |
    |          WRITTEN BY
    |
    |          THE PENGUIN
    |
    |          FOR
    |
    | THE SOUTH POLE.....[312] 677-7140
    | THE OUTPOST.....[312] 441-6957
    | TEMPLE OF DOOM.....[805] 682-5148
    |
    /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\ /\
  
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Spellcasting & Magic

The use of magic in Arroya is governed by some fairly strict rules. To begin with, the source of magic is the Xiphoid Amulets - small, sword-shaped, violet gemstones that are found in the wilderness of the Lost Continent. Legend says that these stones are pieces of the Heart of Xyphus, torn from the breast of the Lord of Demons by the great wizard Szhaalin thousands of years ago. Legend also says that the Heart itself still exists and must be found before Xyphus can be slain.

What is known about the Xiphoid Amulets is that they seem to be the catalyst for the casting of spells. Once a Spellcaster has purchased a magic scroll or spell, he or she has that spell memorized and can use it forever - PROVIDED THEY HOLD IN THEIR HAND A XIPHOID AMULET WITH WHICH TO FOCUS AND MAGNIFY THE ENERGY THAT BRINGS INTO BEING AN ACTUAL SPELL. Without the amulet, the spell is nothing more than a meaningless chant.

Another known fact about the Xiphoid Amulets is that they shatter. They do so when their power has been consumed. There is no getting around the fact that the amulets are finite, and that they wear out. Thus, the Spellcaster that conserves his or her spells usually lives to raise children and discuss philosophy late into the evening.

One last fact about the amulets: They can and are often used as weapons. They are small and do very little damage, but they do affect normal and enchanted being alike.

The casting of a spell is not an easy task for the Spellcaster. Regardless of the success or failure of a spell, it requires a great deal of concentration and energy from the magic user. The amount of endurance necessary to cast a particular spell is noted on the lists of spells throughout the game.

The wizards of Arroya commonly use a dozen spells, although rumors circulate about the existence of scrolls with unknown spells etched on them in magical writing that fades after a short time. Should a player encounter one of these scrolls, they must determine its effect and purpose through experimentation. The well-known spells are:

Attack Spells

Abeja - This spell produces a profusion of livid welts to appear on

the recipient, severe enough to slay small creature and wound humans gravely. This spell has a high probability of succeeding, although it will only work on normal living creatures.

Matamosca - This spell delivers a sharp blow to its recipient, causing about as much damage as the Abeja spell. It has a relatively good chance of being cast successfully, but will not affect Demons and certain types of enchanted beings.

Bendicca - This spell only affects shapechangers and lycanthropes. It causes a great deal of damage on the life force of the dormant shape of the creature, e.g. if a werewolf in its human shape is the recipient of a Bendicca spell, its latent wolf shape will suffer the damage. The spell has a good probability of being cast successfully.

Hela - This spell is a staple of the Demon-fighter's bag of tricks. It causes an area of intense cold to briefly materialize around its recipient, causing serious damage. This spell does not always work, but is successful more often than not.

Tirayama - This spell is only effective against Undead creatures such as Zombies and Liches. This spell does not always work, but is relatively successful for the skilled Spellcaster.

Tirayela - This spell is similar to the Hela spell in its effect, i.e., its damage is rendered by intense cold. However, it is not effective against Demons or certain enchanted creatures. Furthermore, it is an extremely difficult spell to cast correctly and often does not work.

Hindrance Spells

Ciega - This spell works against all normal (not enchanted or Undead) creatures, and renders them blind for a limited period of time.

Piedra - This spell paralyzes its victims. It works against shapechangers and lycanthropes only.

Lubrika - This spell slows down Demons by turning the ground beneath their feet into extremely slippery clay. Unfortunately, the effects of the spell are rather short-lived.

Cieno - This spell slows down Undead creatures by turning the ground beneath their feet to a fine, powdery substance. The effects do not last very long.

Healing Spells

Sana - Sana is a high-powered healing spell that will completely cure an injured character, even if that character has been poisoned.

Goza - Goza will cure some damage to all members of a party, but is ineffective where poison is concerned.

Other Spells

[> Thanx to the Archer <]

These spells were not listed in the manual nor can you buy them from a trading post:

Attack Spells

Sling Of A Sage - This spell seems to cause a small amount of damage to one creature. It seems to have a high probability of succeeding.

Magic Firebow - Seems to affect all monsters and has a high probability of succeeding. To my knowledge it has not been tried on

enchanted beings.

Tree - This is the only spell or weapon, for that manner, that will harm a Treant. It usually destroys them with one try.

Demonda - This spell does an extreme amount of damage to Demons and will usually kill them.

Astral Fence - This spell will protect all the characters in a party from being attacked by monsters, but there is no guarantee that it will be cast correctly.

Star Burst - This is the only known effective weapon or spell that will cause harm to Glass Gods.

Hindrance Spells

Lycod - This spell seems to paralyze the recipient. It only seems to work on shapechangers and lycanthropes.

Casting Spells

Unlike a fighter who must be next to an opponent in order to strike a blow, the Spellcaster may strike from a distance. To cast a spell, simply type "S" when it is the Spellcaster's turn. You will be shown a list of spells available to that character, of which one may be selected. If you decide not to use a spell, press the spacebar to return to the game.

As a Spellcaster advances in level due to experience point gain, his or her effective range for casting spells will increase. So will the probability for successful casting of a spell. Practice makes perfect, even in magic.

```
-----  
-----  
IF ANYONE FINDS ANY OTHER SPELLS NOT  
LISTED HEREIN, CALL THE SOUTH POLE  
[312] 677-7140  
-----
```

```
FILE #3 WILL BE THE DESCRIPTION OF ALL  
THE MOSTERS WITHIN XYPHUS.  
-----
```

```
THE PENGUIN/T-MEN  
-----
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DOCUMENT yankit
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YankIt v1.2 README
Copyright (C) 1992 by Andy McFadden
All Rights Reserved

This program is Freeware - distribute freely, do not sell

Usage: yankit t[vs]|x[vs]|i[vs] archive.shk [file1 file2 ...]

Options:

- t - just get a table of contents on the archive
- x - extract files
- i - integrity check; looks like it's extracting, but doesn't write anything

- v - verbose mode; combine with one of the first three
- f - force overwrite of existing files (doesn't prompt)
- s - don't use GS/OS sessions

If "archive.shk" is "-", then YankIt will read from stdin instead of a file.

v1.2 changes:

- (very slightly) more speed
- misc tweaks

v1.1 changes:

- new 'f' flag
- fixes two bugs in LZW uncompression

v1.0 features:

- supports uncompressed, LZW-I, and LZW-II storage
- extracts forked files
- works under APW/Orca, Gno, and ProSel-16 shells
- handles other compression methods and non-file archives (e.g. disk archives) in a reasonable manner
- silently ignores Binary II headers, so it will extract .BXY files
- "usually" faster than GS/ShrinkIt (see benchmarks for discussion)
- uses only two pages of DP space, making it ideal for running in the background

Info

The "read from stdin" feature allows you to do things like:

```
cat foo.shk | yankit tv -  
or  
yankit tv - < foo.shk
```

under Gno to get a listing of the files in foo.shk (why you'd want to do this is beyond me, but I imagine situations will arise).

** NOTE: the current version of the GNO shell doesn't appear to support this correctly. YankIt will appear to hang, but is actually trying to read from the keyboard. If this happens, just hold down a key until it quits (it's trying to read 48 characters). Orca I/O redirection appears to work, but supposedly pipes will not because they don't work correctly with binary data.

YankIt will always prompt you before overwriting existing files. YankIt prompts are of the form

```
message (Y/N/Q)? N
```

Pressing 'Y' or 'N' does something appropriate. Pressing RETURN accepts the default (which will appear under the cursor; in this case it's 'N'). Pressing 'Q' or ESCAPE will answer 'N' to the question and then exit the program. Note that you don't need to hit RETURN; YankIt (which uses the console driver in raw mode) reacts to the first key hit.

Other prompts will appear when you try to extract files compressed in a format that YankIt doesn't handle (such as UNIX compress), and when you try to extract a disk archive. In both cases, you will be given the option of ignoring the record or to extracting it into a file. If the problem is the compression format, it will be extracted as raw data (which could then be passed to a utility like "uncompress").

(note: YankIt does not and never will extract a disk archive to a disk. Use GSHK or P8 ShrinkIt to do disks.)

Comparison with NuLib

YankIt has features that NuLib doesn't, including:

- ability to handle resource forks
- the integrity check actually does something useful (NuLib's doesn't verify the CRCs)
- smaller and MUCH faster (100% assembly)

However, NuLib has features like:

- can create NuFX archives and compress as well as uncompress
- handles Binary II
- SQ/USQ uncompression and UNIX 16-bit compression/uncompression
- variety of display modes
- lots of other misc features, like the ability to delete files from archives, extract based on partial filename matches, and view files without having to extract them into a file.
- available as source code, and very portable

YankIt is intended as a quick & dirty way to extract files from archives created by ShrinkIt. It is not intended to replace ShrinkIt nor is it a prelude to a Super Duper New and Improved compression program. It was written primarily with Gno in mind.

If you ask me to add a new feature, be prepared to answer the question, "why can't you just use GS/ShrinkIt to do that?"

Some (rather crude) benchmarks (Apple //gs at 2.5MHz, GS/OS 5.0.4, GSHK 1.0.4, ZipGS 8/16K, and a development version of YankIt):

Moria GS is:

```
MORIA          1134 block shell executable
MORIA.CONFIG   6 block text file
MORIA.DOC      129 block text file
MORIA.IIGS.INFO 10 block text file
```

YankIt was timed with "show time; yankit ... ; show time". GS/ShrinkIt was timed with a stopwatch. All times should be considered +/- 2 seconds.

```
Unpacking Moria GS packed with LZW-I (368K) from /ram5 to /ram5:
GS/Shrinkit  1:42      With Zip: 0:51
YankIt       1:10      0:38
```

```
Unpacking Moria GS packed with LZW-II (348K) from /ram5 to /ram5:
GS/ShrinkIt  1:38
YankIt       1:07
```

```
Unpacking Moria GS packed with LZW-I (368K) from an InnerDrive to /ram5:
```

```
GS/Shrinkit  1:41      With Zip: 0:50
YankIt       1:09      0:37
```

(and now the interesting one...)

```
Unpacking Moria GS packed with LZW-I (368K) from AppleDisk 3.5" to /ram5:
GS/Shrinkit  1:49      With Zip: 1:00
YankIt       1:36      1:05
```

YankIt's uncompress routines are faster than GSHK's, but GSHK will read the entire archive into memory if it can instead of grabbing 32K chunks. This makes it faster than YankIt when I/O with a slow device is involved (especially if that device's I/O causes the processor to slow down to 1MHz temporarily).

On the other hand, YankIt's total memory usage is known at load time (somewhere in the neighborhood of 80K for buffers and code). It also uses very little DP space, and doesn't require any tools that aren't resident in ROM. Generally, YankIt is a win when you need to conserve memory and you're running off of a fast hard drive (which should be a common situation for people using Gno).

Known bugs/glitches:

ShrinkIt has never done the same thing twice when it comes to disk archives. Some versions set the uncompressed thread EOF, some set it to an apparently meaningless value, some don't set it at all. ShrinkIt v3.03 didn't follow the NuFX spec as far as setting the value of storage_type properly. GSHK sets the file_sys_id, P8 ShrinkIt doesn't.

Rather than try to deal with this in an elegant way, I have settled on dealing with it as best I can and just warning you that you may see something like:

| Name | Kind | Typ | AuxTyp | Archived | Format | Size | Un-Length |
|-------|------|-----|--------|-----------------|--------|------|-----------|
| SHELL | Disk | --- | 800k | 13-Feb-92 21:38 | LZW-II | 97% | 395264 |

Note that YankIt does not attempt to convert pathnames to something appropriate for the target file system (so don't unpack HFS archives onto ProDOS disks). This will likely be fixed with the System 6.0 JudgeName call once the system software becomes commonly used.

YankIt and ECP-16 don't get along (I'm using v0.18). I don't know why.

Bug me at fadden@uts.amdahl.com.

NuLib is available (for now) on the OCF disaster cluster: tornado, avalanche, plague, monsoon, and headcrash.berkeley.edu via anonymous FTP in pub/Apple2.

For the statistically minded, YankIt is about 6000 lines of heavily commented 65816 assembly. Not a major undertaking, but hardly a trifle.

Thanks go to the volunteer guinea^H^H^H^H^Hbeta testers (you know who you are). Special commendation to Jerry Penner, Bug Hunter Extraordinaire, for finding a couple of nasty ones.

That's all, folks...

=====

DOCUMENT ymodem

=====

XMODEM/YMODEM PROTOCOL REFERENCE

A compendium of documents describing the

XMODEM and YMODEM

File Transfer Protocols

Edited by Chuck Forsberg

Please distribute as widely as possible.

Questions to Chuck Forsberg

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Chapter 1

TOWER OF BABEL ??

In the interest of fostering compatibility among communications programs, part of of the Professional-YAM manual is reproduced here to minimize the Electronic Tower of Babel.

The YMODEM Protocol is supported by the public domain programs YAM (CP/M), YAM(CP/M-86), YAM(CCPM-86), rb/sb (Unix, Berkeley Unix, Venix, Xenix, Coherent, IDRIS, Regulus) as well as Professional-YAM. These programs have been in use since 1981.

The protocols described below are enhancements to Ward Christensen's XMODEM protocol, and are public domain.

The 1k packet length capability described below may be used in conjunction with the Batch Protocol, or with single file transfers identical to the XMODEM/CRC protocol except for minimal changes to support 1k packets.

To complete this tome, Ward Christensen's original protocol document and John Byrns's CRC-16 document are included for reference.

References to the MODEM or MODEM7 protocol have been changed to XMODEM to accommodate the vernacular.

Watch for an article describing the YMODEM protocol in a more coherent fashion later this year. This article will include some interesting history on the development of file microcomputer file transfers.

1.1 Some Messages from the Pioneer

```
#: 130940 S0/Communications 25-Apr-85 18:38:47
Sb: my protocol
Fm: Ward Christensen 76703,302 (EDITED)
To: all
```

Be aware the article[1] DID quote me correctly in terms of the phrases like "not robust", etc.

It was a quick hack I threw together, very unplanned (like everything I do), to satisfy a personal need to communicate with "some other" people.

ONLY the fact that it was done in 8/77, and that I put it in the public domain immediately, made it become the standard that it is.

 1. Infoworld April 29 p. 16

Chapter 1 (cont)

I think its time for me to

1. document it; (people call me and say "my product is going to include it - what can I 'reference'", or "I'm writing a paper on it, what do I put in the bibliography") and

2. propose an "incremental extension" to it, which might take "exactly" the form of Chuck Forsberg's YAM protocol. He wrote YAM in C for CP/M and put it in the public domain, and wrote a batch protocol for Unix called rb and sb (receive batch, send batch), which was basically XMODEM with

- a. a record 0 containing filename date time and size
- b. a 1K block size option
- c. CRC-16.

He did some clever programming to detect false ACK or EOT, but basically left them the same.

People who suggest I make SIGNIFICANT changes to the protocol, such as "full duplex", "multiple outstanding blocks", "multiple destinations", etc etc don't understand that the incredible simplicity of the protocol is one of the reasons it survived to this day in as many machines and programs as it may be found in!

Consider the PC-NET group back in '77 or so - documenting to beat the band - THEY had a protocol, but it was "extremely complex", because it tried to be "all things to all people" - i.e. send binary files on a 7-bit system, etc. I was not that "benevolent". I (emphasize > I <) had an 8-bit UART, so "my protocol was an 8-bit protocol", and I would just say "sorry" to people who were held back by 7-bit limitations.

...
Block size: Chuck Forsberg created an extension of my protocol, called YAM, which is also supported via his public domain programs for UNIX called rb and sb - receive batch and send batch. They cleverly send a "block 0" which contains the filename, date, time, and size. Unfortunately, its UNIX style, and is a bit weird[1] - octal numbers, etc. BUT, it is a nice way to overcome the kludgy "echo the chars of the name" introduced with MODEM7. Further, chuck uses CRC-16 and optional 1K blocks. Thus the record 0, 1K, and CRC, make it a "pretty slick new protocol" which is not significantly different from my own.

1. The Unix style stuff (time, file mode) is optional. The pathname and file length may be sent alone if desired.

Chapter 1 (cont)

Also, there is a catchy name - YMODEM. That means to some that it is the "next thing after XMODEM", and to others that it is the Y(am)MODEM protocol. I don't want to emphasize that too much - out of fear that other mfgs might think it is a "competitive" protocol, rather than an "unaffiliated" protocol. Chuck is currently selling a much-enhanced version of his CP/M-80 C program YAM, calling it Professional Yam, and its for the PC - I'm using it right now. VERY slick! 32K capture buffer, script, scrolling, previously captured text search, plus built-in commands for just about everything - directory (sorted every which way), XMODEM, YMODEM, KERMIT, and ASCII file upload/download, etc. You can program it to "behave" with most any system - for example when trying a number for CIS it detects the "busy" string back from the modem and substitutes a diff phone # into the dialing string and branches back to try it.

Chapter 2

XMODEM Protocol Enhancements

Professional-YAM uses several compatible extensions and logic enhancements to the widely used Ward Christensen XMODEM protocol.

This chapter discusses the protocol extensions to Ward Christensen's 1982 XMODEM protocol description document.

YAM does not ask the operator whether he wishes to keep retrying after 10 attempts have failed to correctly transfer a packet. Virtually all correctable errors are corrected within the first few retransmissions. If the line is so bad that ten attempts are insufficient, there is a significant danger of undetected errors. In that case, it's better to redial for a better connection.

2.1 CAN-CAN Abort

YAM recognizes a sequence of two consecutive CAN (Hex 18) characters without modem errors (overrun, framing, etc.) as a transfer abort command[1]. The check for two consecutive CAN characters virtually eliminates the possibility of a line hit aborting the transfer. YAM sends five CAN characters when it aborts a XMODEM protocol file transfer, followed by five backspaces to delete the CAN characters from the remote's keyboard input buffer (in case the remote had already aborted the transfer).

1. This is recognized when YAM is waiting for the beginning of a packet or for an acknowledge to one that has been sent.

Chapter 2 (cont)

2.2 CRC-16 Option

The XMODEM protocol uses an optional two character CRC-16 instead of the one character arithmetic checksum used by the original protocol and by most commercial implementations. CRC-16 guarantees detection of all single and double bit errors, all errors with an odd number of error bits, all burst errors of length 16 or less, 99.9969% of all 17-bit error bursts, and 99.9984 per cent of all possible longer error bursts. By contrast, a double bit error, or a burst error of 9 bits or more can sneak past the XMODEM protocol arithmetic checksum.

The XMODEM/CRC protocol is similar to the XMODEM protocol, except that the receiver specifies CRC-16 by sending C (Hex 43) instead of NAK when requesting the FIRST packet. A two byte CRC is sent in place of the one byte arithmetic checksum. YAM's c option to the r command enables CRC-16 in single file reception, corresponding to the original implementation in the MODEM7 series programs. Many commercial communications programs and bulletin board systems still do not support CRC-16, especially those written in Basic or Pascal.

XMODEM protocol with CRC is accurate provided both sender and receiver both report a successful transmission. The protocol is robust in the presence of characters lost by buffer overloading on timesharing systems.

Professional-YAM add several proprietary logic enhancements to XMODEM's error detection and recovery. These compatible enhancements eliminate most of the bad file transfers other programs make when using the XMODEM protocol under less than ideal conditions.

2.3 1024 Byte Packet Option

If YAM is sending with the k option, the transmitted packet contains 1024 bytes of data. An STX (02) replaces the SOH (01) at the beginning of the transmitted block to notify the receiver of the longer packet length. The receiver should be able to accept any mixture of 128 and 1024 byte packets. The packet number is incremented by one for each packet[1].

1. The displayed sector number should be the number of bytes divided by 128. This maintains a familiar unit of measurement for the progress report and avoids ambiguity caused by rollover of the sector number.

Chapter 2 (cont)

If 1024 byte packets are being used, it is possible for a 128 byte file to "grow" to 1024 bytes on CP/M. This does not waste disk space on CP/M because the allocation granularity is 1k. When 1024 byte packets are used with batch transmission, the file length transmitted in the file name packet allows the receiver to discard the padding.

CRC-16 should be used with the k option to preserve data integrity

over phone lines. The k option may be used with batch file transmission, or with single file transmission.

Chapter 3

XMODEM Protocol Enhancements

Figure 1. 1024 byte Packets

```
SENDER          RECEIVER
"foo.bar open x.x minutes"
                "s -k foo.bar"
                C
STX 01 FE Data[1024] CRC CRC
                ACK
STX 02 FD Data[1024] CRC CRC
                ACK
STX 03 FC Data[1000] CPMEOF[24] CRC CRC
                ACK
EOT
                ACK
```

Figure 2. Mixed 1024 and 128 byte Packets

```
SENDER          RECEIVER
"foo.bar open x.x minutes"
                "s -k foo.bar"
                C
STX 01 FE Data[1024] CRC CRC
                ACK
STX 02 FD Data[1024] CRC CRC
                ACK
SOH 03 FC Data[128] CRC CRC
                ACK
SOH 04 FB Data[100] CPMEOF[28] CRC CRC
                ACK
EOT
                ACK
```

Chapter 3 (cont)

YMODEM Batch File Transmission

The YMODEM Batch protocol is an extension to the XMODEM/CRC protocol that allows 0 or more files to be transmitted with a single command. (Zero files may be sent if none of the requested files is accessible.) The design approach of the YAM Batch protocol is to use the normal routines for sending and receiving XMODEM packets in a layered fashion similar to packet switching methods.

Why was it necessary to design a new batch protocol when one already existed in MODEM7? The batch file mode used by MODEM7 is unsuitable because it does not permit full pathnames, file length, file date, or any other attribute information to be transmitted. Such a restrictive design, hastily implemented with only CP/M in mind, would not have permitted extensions to current areas of personal computing such as Unix, DOS, and object oriented systems.

As in the case of single a file transfer, the receiver initiates batch file transmission by sending a "C" character (for CRC-16).

The sender opens the first file and sends packet number 0 with the following information[1].

Only the pathname (file name) part is required for batch transfers.

To maintain upwards compatibility, all unused bytes in packet 0 must be set to null.

Pathname The pathname (conventionally, the file name) is sent as a null terminated ASCII string. This is the filename format used by the handle oriented MSDOS(TM) functions and C library fopen functions. An assembly language example follows:

```
DB      'foo.bar',0
```

No spaces are included in the pathname. Normally only the file name stem (no directory prefix) is transmitted unless the sender has selected YAM's f option to send the full pathname. The source drive (A:, B:, etc.) is not sent.

1. Only the data part of the packet is described here.

Chapter 3 (cont)

Filename Considerations:

+ File names should be translated to lower case unless the sending system supports upper/lower case file names. This is a convenience for users of systems (such as Unix) which store filenames in upper and lower case.

+ The receiver should accommodate file names in lower and upper case.

+ The rb(1) program on Unix systems normally translates the filename to lower case unless one or more letters in the filename are already in lower case.

+ When transmitting files between different operating systems, file names must be acceptable to both the sender and receiving operating systems. If directories are included, they are delimited by /; i.e., "subdir/foo" is acceptable, "subdir\foo" is not.

Length The file length and each of the succeeding fields are optional[1]. The length field is stored in the packet as a decimal string. The file length does not include any CPMEOF (^Z) characters used to pad the last packet.

If the file being transmitted is growing during transmission, the length field should be set to at least the final expected file length, or not sent.

The receiver stores the specified number of characters, discarding any padding added by the sender to fill up the last packet.

Mod Date A single space separates the modification date from the file length.

The mod date is optional, and the filename and length may be sent without requiring the mod date to be sent.

The mod date is sent as an octal number giving the time the contents of the file were last changed measured in seconds from Jan 1 1970 Universal Coordinated Time (GMT). A date of 0 implies the modification date is unknown and should be left as the date the file is received.

This standard format was chosen to eliminate ambiguities arising from transfers between different time zones.

1. Fields may not be skipped.

Chapter 3 (cont)

Two Microsoft blunders complicate the use of modification dates in file transfers with MSDOS(TM) systems. The first is the lack of timezone standardization in MS-DOS. A file's creation time can not be known unless the timezone of the system that happened to write the file[1] is known. Unix solved this problem (for planet Earth, anyway) by stamping files with Universal Time (GMT). Microsoft would have to include the timezone of origin in the directory entries, but does not. YAM gets around this problem by using the z parameter which is set to the number of minutes local time lags GMT. For files known to originate from a different timezone, the -zT option may be used use T as the timezone for an individual file transfer.

The second problem is the lack of a separate file creation date in DOS. Since some backup schemes used with DOS rely on the file creation date to select files to be copied to the archive, backdating the file modification date could interfere with the safety of the transferred files. For this reason, Professional-YAM does not modify the date of received files with the header information unless the d parameter is non zero.

Mode A single space separates the file mode from the modification date. The file mode is stored as an octal string. Unless the file originated from a Unix system, the file mode is set to 0. rb(1) checks the file mode for the 0x8000 bit which indicates a Unix type regular file. Files with the 0x8000 bit set are assumed to have been sent from another Unix (or similar) system which uses the same file conventions. Such files are not translated in any way.

Serial Number A single space separates the serial number from the file mode. The serial number of the transmitting program is stored as an octal string. Programs which do not have a serial number should omit this field, or set it to 0. The receiver's use of this field is optional.

The rest of the packet is set to nulls. This is essential to preserve upward compatibility[2]. After the filename packet has been received, it is ACK'ed if the write open is successful. The receiver then initiates transfer of the file contents according to the standard XMODEM/CRC protocol. If the file cannot be opened for writing, the receiver cancels the transfer with CAN characters as described above.

-
- 1. Not necessarily that of the transmitting system!
- 2. If, perchance, this information extends beyond 128 bytes (possible with Unix 4.2 BSD extended file names), the packet should be sent as a lk packet as described above.

Chapter 3 (cont)

After the file contents have been transmitted, the receiver again asks for the next pathname. Transmission of a null pathname terminates batch file transmission. Note that transmission of no files is not necessarily an error. This is possible if none of the files requested of the sender could be opened for reading.

In batch transmission, the receiver automatically requests CRC-16.

The Unix programs sb(1) and rb(1) included in the source code file RBSB.QOQ (rbsb.sh) should answer questions about YAM's batch protocol.

Figure 3. Batch Transmission Session

```
SENDER          RECEIVER
"sending in batch mode etc."
SOH 00 FF foo.c NUL[123] CRC CRC
                C
                ACK
                C
```

```
SOH 01 FE Data[128] CRC CRC
SOH 02 FD Data[1024] CRC CRC
SOH 03 FC Data[128] CRC CRC
SOH 04 FB Data[100] CPMEOF[28] CRC CRC
EOT
SOH 00 FF NUL[128] CRC CRC
```

ACK
ACK
ACK
ACK
ACK
C
ACK

Figure 4. Filename packet transmitted by sb

```
-rw-r--r-- 6347 Jun 17 1984 20:34 bbcsched.txt
00 0100FF62 62637363 6865642E 74787400 |...bbcsched.txt.|
10 36333437 20333331 34373432 35313320 |6347 3314742513|
20 31303036 34340000 00000000 00000000 |100644.....|
30 00000000 00000000 00000000 00000000
80 000000CA 56
```

Chapter 4

XMODEM PROTOCOL OVERVIEW

8/9/82 by Ward Christensen.

I will maintain a master copy of this. Please pass on changes or suggestions via CBBS/Chicago at (312) 545-8086, CBBS/CPMUG (312) 849-1132 or by voice at (312) 849-6279.

4.1 Definitions

```
<soh> 01H
<eot> 04H
<ack> 06H
<nak> 15H
<can> 18H
<C> 43H
```

4.2 Transmission Medium Level Protocol

Asynchronous, 8 data bits, no parity, one stop bit.

The protocol imposes no restrictions on the contents of the data being transmitted. No control characters are looked for in the 128-byte data messages. Absolutely any kind of data may be sent - binary, ASCII, etc. The protocol has not formally been adopted to a 7-bit environment for the transmission of ASCII-only (or unpacked-hex) data, although it could be simply by having both ends agree to AND the protocol-dependent data with 7F hex before validating it. I specifically am referring to the checksum, and the block numbers and their ones- complement.

Those wishing to maintain compatibility of the CP/M file structure, i.e. to allow modemming ASCII files to or from CP/M systems should follow this data format:

- + ASCII tabs used (09H); tabs set every 8.
- + Lines terminated by CR/LF (0DH 0AH)
- + End-of-file indicated by ^Z, 1AH. (one or more)
- + Data is variable length, i.e. should be considered a

continuous stream of data bytes, broken into 128-byte chunks purely for the purpose of transmission.

+ A CP/M "peculiarity": If the data ends exactly on a 128-byte boundary, i.e. CR in 127, and LF in 128, a subsequent sector containing the ^Z EOF character(s) is optional, but is preferred. Some utilities or user programs still do not handle EOF without ^Zs.

Chapter 4 (cont)

+ The last block sent is no different from others, i.e. there is no "short block".

Figure 5. XMODEM Message Block Level Protocol

Each block of the transfer looks like:

```
<SOH><blk #><255-blk #><--128 data bytes--><cksum>
      in which:
<SOH>      = 01 hex
<blk #>    = binary number, starts at 01 increments by 1,
and wraps 0FFH to 00H (not to 01)
<255-blk #> = blk # after going thru 8080 "CMA" instr, i.e.
each bit complemented in the 8-bit block
number. Formally, this is the "ones
complement".
<cksum>    = the sum of the data bytes only. Toss any
carry.
```

4.3 File Level Protocol

4.3.1 Common_to_Both_Sender_and_Receiver

All errors are retried 10 times. For versions running with an operator (i.e. NOT with XMODEM), a message is typed after 10 errors asking the operator whether to "retry or quit".

Some versions of the protocol use <can>, ASCII ^X, to cancel transmission. This was never adopted as a standard, as having a single "abort" character makes the transmission susceptible to false termination due to an <ack> <nak> or <soh> being corrupted into a <can> and cancelling transmission.

The protocol may be considered "receiver driven", that is, the sender need not automatically re-transmit, although it does in the current implementations.

4.3.2 Receive_Program_Considerations

The receiver has a 10-second timeout. It sends a <nak> every time it times out. The receiver's first timeout, which sends a <nak>, signals the transmitter to start. Optionally, the receiver could send a <nak> immediately, in case the sender was ready. This would save the initial 10 second timeout. However, the receiver MUST continue to timeout every 10 seconds in case the sender wasn't ready.

Chapter 4 (cont)

Once into a receiving a block, the receiver goes into a one-second timeout for each character and the checksum. If the receiver wishes to <nak> a block for any reason (invalid header, timeout receiving data), it must wait for the line to clear. See "programming tips" for ideas.

Synchronizing: If a valid block number is received, it will be:

1. the expected one, in which case everything is fine; or

2. a repeat of the previously received block. This should be considered OK, and only indicates that the receivers <ack> got glitched, and the sender re-transmitted
3. any other block number indicates a fatal loss of synchronization, such as the rare case of the sender getting a line-glitch that looked like an <ack>. Abort the transmission, sending a <can>

4.3.3 Sending_program_considerations

While waiting for transmission to begin, the sender has only a single very long timeout, say one minute. In the current protocol, the sender has a 10 second timeout before retrying. I suggest NOT doing this, and letting the protocol be completely receiver-driven. This will be compatible with existing programs.

When the sender has no more data, it sends an <eot>, and awaits an <ack>, resending the <eot> if it doesn't get one. Again, the protocol could be receiver-driven, with the sender only having the high-level 1-minute timeout to abort.

Here is a sample of the data flow, sending a 3-block message. It includes the two most common line hits - a garbaged block, and an <ack> reply getting garbaged. <xx> represents the checksum byte.

Figure 6. Data flow including Error Recovery

| SENDER | | RECEIVER |
|-------------------------|-------|-----------------------------|
| | | times out after 10 seconds, |
| | | <nak> |
| <soh> 01 FE -data- <xx> | <---> | |
| | | <ack> |
| <soh> 02 FD -data- xx | <---> | (data gets line hit) |
| | | <nak> |
| <soh> 02 FD -data- xx | <---> | |
| | | <ack> |
| <soh> 03 FC -data- xx | <---> | |
| (ack gets garbaged) | <---> | <ack> |
| <soh> 03 FC -data- xx | <---> | <ack> |
| <eot> | <---> | <ack> |

Chapter 4 (cont)

4.4 Programming Tips

+ The character-receive subroutine should be called with a parameter specifying the number of seconds to wait. The receiver should first call it with a time of 10, then <nak> and try again, 10 times.

After receiving the <soh>, the receiver should call the character receive subroutine with a 1-second timeout, for the remainder of the message and the <cksum>. Since they are sent as a continuous stream, timing out of this implies a serious glitch that caused, say, 127 characters to be seen instead of 128.

+ When the receiver wishes to <nak>, it should call a "PURGE" subroutine, to wait for the line to clear. Recall the sender tosses any characters in its UART buffer immediately upon completing sending a block, to ensure no glitches were misinterpreted.

The most common technique is for "PURGE" to call the character receive subroutine, specifying a 1-second timeout[1], and looping back to PURGE until a timeout occurs. The <nak> is then sent, ensuring the other end will see it.

+ You may wish to add code recommended by John Mahr to your character receive routine - to set an error flag if the UART shows framing error, or overrun. This will help catch a few more glitches - the most common of which is a hit in the high bits of the byte in two consecutive bytes. The <cksum> comes out OK since counting in 1-byte produces the same result of adding 80H + 80H as with adding 00H + 00H.

Chapter 5

XMODEM/CRC Overview

1/13/85 by John Byrns -- CRC option.

Please pass on any reports of errors in this document or suggestions for improvement to me via Ward's/CBBS at (312) 849-1132, or by voice at (312) 885-1105.

- 1. These times should be adjusted for use with timesharing systems.

Chapter 5 (cont)

The CRC used in the Modem Protocol is an alternate form of block check which provides more robust error detection than the original checksum. Andrew S. Tanenbaum says in his book, Computer Networks, that the CRC-CCITT used by the Modem Protocol will detect all single and double bit errors, all errors with an odd number of bits, all burst errors of length 16 or less, 99.997% of 17-bit error bursts, and 99.998% of 18-bit and longer bursts.

The changes to the Modem Protocol to replace the checksum with the CRC are straight forward. If that were all that we did we would not be able to communicate between a program using the old checksum protocol and one using the new CRC protocol. An initial handshake was added to solve this problem. The handshake allows a receiving program with CRC capability to determine whether the sending program supports the CRC option, and to switch it to CRC mode if it does. This handshake is designed so that it will work properly with programs which implement only the original protocol. A description of this handshake is presented in section 10.

Figure 7. Message Block Level Protocol, CRC mode

Each block of the transfer in CRC mode looks like:

```
<SOH><blk #><255-blk #><--128 data bytes--><CRC hi><CRC lo>
in which:
<SOH>      = 01 hex
<blk #>    = binary number, starts at 01 increments by 1,
and wraps 0FFH to 00H (not to 01)
<255-blk #> = ones complement of blk #.
<CRC hi>   = byte containing the 8 hi order coefficients of
the CRC.
<CRC lo>   = byte containing the 8 lo order coefficients of
the CRC. See the next section for CRC
calculation.
```

5.1 CRC Calculation

5.1.1 Formal_Definition

To calculate the 16 bit CRC the message bits are considered to be the coefficients of a polynomial. This message polynomial is first multiplied by X¹⁶ and then divided by the generator polynomial (X¹⁶ + X¹² + X⁵ + 1) using modulo two arithmetic. The remainder left after the division is the desired CRC. Since a message block in the Modem Protocol is 128 bytes or 1024 bits, the message polynomial will

be of order X¹⁰²³. The hi order bit of the first byte of the message block is the coefficient of X¹⁰²³ in the message polynomial. The lo order bit of the last byte of the message block is the coefficient of X⁰ in the message polynomial.

Chapter 5 (cont)

Figure 8. Example of CRC Calculation written in C

```
/*
 * This function calculates the CRC used by the XMODEM/CRC
 * Protocol.
 * The first argument is a pointer to the message block.
 * The second argument is the number of bytes in the message
 * block.
 * The function returns an integer which contains the CRC.
 * The low order 16 bits are the coefficients of the CRC.
 */

int calcrc(ptr, count)
char *ptr;
int count;
{
    int crc, i;

    crc = 0;
    while(--count >= 0) {
        crc = crc ^ (int)*ptr++ << 8;
        for(i = 0; i < 8; ++i)
            if(crc & 0x8000)
                crc = crc << 1 ^ 0x1021;
            else
                crc = crc << 1;
    }
    return (crc & 0xFFFF);
}
```

Chapter 5 (cont)

5.2 CRC File Level Protocol Changes

5.2.1 Common_to_Both_Sender_and_Receiver

The only change to the File Level Protocol for the CRC option is the initial handshake which is used to determine if both the sending and the receiving programs support the CRC mode. All Modem Programs should support the checksum mode for compatibility with older versions. A receiving program that wishes to receive in CRC mode implements the mode setting handshake by sending a <C> in place of the initial <nak>. If the sending program supports CRC mode it will recognize the <C> and will set itself into CRC mode, and respond by sending the first block as if a <nak> had been received. If the sending program does not support CRC mode it will not respond to the <C> at all. After the receiver has sent the <C> it will wait up to 3 seconds for the <soh> that starts the first block. If it receives a <soh> within 3 seconds it will assume the sender supports CRC mode and will proceed with the file exchange in CRC mode. If no <soh> is received within 3 seconds the receiver will switch to checksum mode, send a <nak>, and proceed in checksum mode. If the receiver wishes to use checksum mode it should send an initial <nak> and the sending program should respond to the <nak> as defined in the original Modem Protocol.

After the mode has been set by the initial <C> or <nak> the protocol follows the original Modem Protocol and is identical whether the checksum or CRC is being used.

5.2.2 Receive_Program_Considerations

There are at least 4 things that can go wrong with the mode setting handshake.

1. the initial <C> can be garbled or lost.
2. the initial <soh> can be garbled.
3. the initial <C> can be changed to a <nak>.
4. the initial <nak> from a receiver which wants to receive in checksum can be changed to a <C>.

The first problem can be solved if the receiver sends a second <C> after it times out the first time. This process can be repeated several times. It must not be repeated too many times before sending a <nak> and switching to checksum mode or a sending program without CRC support may time out and abort. Repeating the <C> will also fix the second problem if the sending program cooperates by responding as if a <nak> were received instead of ignoring the extra <C>.

Chapter 5 (cont)

It is possible to fix problems 3 and 4 but probably not worth the trouble since they will occur very infrequently. They could be fixed by switching modes in either the sending or the receiving program after a large number of successive <nak>s. This solution would risk other problems however.

5.2.3 Sending_Program_Considerations

The sending program should start in the checksum mode. This will insure compatibility with checksum only receiving programs. Anytime a <C> is received before the first <nak> or <ack> the sending program should set itself into CRC mode and respond as if a <nak> were received. The sender should respond to additional <C>s as if they were <nak>s until the first <ack> is received. This will assist the receiving program in determining the correct mode when the <soh> is lost or garbled. After the first <ack> is received the sending program should ignore <C>s.

5.3 Data Flow Examples with CRC Option

Here is a data flow example for the case where the receiver requests transmission in the CRC mode but the sender does not support the CRC option. This example also includes various transmission errors. <xx> represents the checksum byte.

Figure 9. Data Flow: Receiver has CRC Option, Sender Doesn't

| | | |
|-------------------------|------|-----------------------------|
| SENDER | | RECEIVER |
| | <--- | <C> |
| | | times out after 3 seconds, |
| | <--- | <nak> |
| <soh> 01 FE -data- <xx> | ---- | |
| | <--- | <ack> |
| <soh> 02 FD -data- <xx> | ---- | (data gets line hit) |
| | <--- | <nak> |
| <soh> 02 FD -data- <xx> | ---- | |
| | <--- | <ack> |
| <soh> 03 FC -data- <xx> | ---- | |
| (ack gets garbaged) | <--- | <ack> |
| | | times out after 10 seconds, |
| | <--- | <nak> |
| <soh> 03 FC -data- <xx> | ---- | |
| | <--- | <ack> |
| <eot> | ---- | |
| | <--- | <ack> |

Chapter 5 (cont)

Here is a data flow example for the case where the receiver requests transmission in the CRC mode and the sender supports the CRC option. This example also includes various transmission errors. <xxxx> represents the 2 CRC bytes.

Figure 10. Receiver and Sender Both have CRC Option

| | | |
|---------------------------|------|----------------------|
| SENDER | | RECEIVER |
| | <--- | <C> |
| <soh> 01 FE -data- <xxxx> | ---- | |
| | <--- | <ack> |
| <soh> 02 FD -data- <xxxx> | ---- | (data gets line hit) |
| | <--- | <nak> |
| <soh> 02 FD -data- <xxxx> | ---- | |
| | <--- | <ack> |
| <soh> 03 FC -data- <xxxx> | ---- | |
| (ack gets garbaged) | <--- | <ack> |
| | | times out after 10 |
| seconds, | | |
| | <--- | <nak> |
| <soh> 03 FC -data- <xxxx> | ---- | |
| | <--- | <ack> |
| <eot> | ---- | |
| | <--- | <ack> |

Technical questions about Professional-YAM and requests for evaluation copies for magazine reviews may be directed to:

Chuck Forsberg
 Omen Technology Inc
 17505-V Sauvie Island Road
 Portland Oregon 97231
 Voice: 503-621-3406
 Modem: 503-621-3746 Speed: 1200,300
 Compuserve: 70715,131
 Source: TCE022

More information about Professional-YAM may be obtained by calling Telegodzilla at 503-621-3746. Hit RETURNS for baud rate detection.

A version of this file with boldface, underlining, and superscripts for printing on Epson or Gemini printers is available on Telegodzilla as "YMODEME.DOC" or "YMODEME.DQC".

=====

DOCUMENT z9200hst

=====

19200HST

By Joseph Sheppard

Sysop, The Ledge PCBoard (818) 352-3620

WHAT IT DOES:

19200HST is a utility program written with Turbo Pascal 5.0 using routines from Prokit by Samuel Smith.

19200HST is released as a free program. No donations are requested for it's use. The authors are not responsible for any damage that might be caused by the use of this program. Please use this program at your own risk.

The purpose of 19200HST is to aid owners of USRobotics Courier HST modems in setting up for optimum speed.

This program is designed for callers only. Although I run my BBS with the settings from 19200HST, I would recommend that Sysops follow the instructions for their specific BBS package on modem settings.

Registered PCBoard sysops have a similar program called PCBMODEM that should be used instead of this program.

This program will lock your serial port at 19200. This setting may only be effective on 286 and 386 systems. Some multi-tasking software may not be able to handle this setting. If you find that you are having trouble with aborted downloads after running this program then you should probably go into your terminal program and type AT&F followed by the ENTER key to reset the modem to it's factory settings.

Using these settings along with protocols designed for error correcting modems such as DSZ's Ymodem-G and Xmodem-1K-G or Qmodem's version of Ymodem-G I have achieved file transfer speeds in the 1100 - 1150 cps range on a regular basis using both 286 and 386 systems.

HOW IT DOES IT:

19200HST starts by giving the suggested dipswitch settings, which are as follows:

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| UP | UP | DN | DN | DN | UP | UP | DN | UP | UP |

These settings will do the following to your modem:

- 1 UP - DTR is controlled by software
- 2 UP - Send verbal result codes
- 3 DN - Result codes are displayed
- 4 DN - Local echo of commands is suppressed
- 5 DN - Auto Answer Suppressed
- 6 UP - Do not force carrier detect
- 7 UP - Single phone line connection (RJ-11)
- 8 DN - AT command set enabled
- 9 UP - Hang up when escape code is sent
- 10 UP - Load from NRAM in power up

It then will reset your modems internal NRAM settings to the original factory defaults.

Next it sends the following settings to the modem's non-volatile memory:

ATS7=60E0M0X7

S7=60 - Number of seconds modem waits for carrier

E0 - Local echo off

M0 - Speaker Off (can be overridden by putting M1 in your modem program's initialization string)

X7 - Result code option (OK, CONNECT, RING, NO CARRIER, ERROR, CONNECT, NO DIAL TONE, BUSY, NO ANSWER, RINGING, VOICE)

Once this string is received it sends the following additional settings:

AT&H3&R2&S1&B1&K0&W

&H3 - Hardware and software control

&R2 - Received data output to terminal on RTS high

&S1 - Modem controls DSR

&B1 - Lock port at speed setting (19200)

&K0 - Disable data compression (override with &K1 in modem initialization string)

&W - Write these settings to non-volatile RAM (NRAM).

After running this program, you should go into the setup portion of your modem program (Qmodem, Procomm or whatever) and change the modem initialization string to ATZ followed by whatever character that program uses to send a carriage return (Qmodem uses a { Procomm uses a !).

DATA COMPRESSION?

The HST has a setting for "Data Compression". 19200HST turns this off because I've found that when the HST tries to compress a file that is already compressed, such as an .ARC file that it will slow the transfer down considerably. Text Files and compiler listings that are not compressed will go at blinding speeds, but in the real BBS world it's rare to find files in the download sections that aren't in some sort of compressed form.

If your application finds you downloading mostly un-compressed files then you may want to put &K1 in your modem initialization string.

Otherwise, leave it alone and you will see a marked increase in performance.

TIPS 'N' TRICKS:

If you want to override any of the NRAM settings that I have written in the program, you can either do by placing the replacement commands in the modem initialization string, or by going into the terminal mode of your modem software and typing those commands followed by AT&W.

It is highly recommended that you use a high performance protocol driver such as DSZ by Chuck Foresberg. The registered version of DSZ includes YMODEM-G and Xmodem-1K-G protocols which should yield the highest possible CPS ratings under this setup. The current versions of many popular modem programs have built-in versions of Xmodem-1K-G (called Ymodem-G in some versions) which will yield excellent speed, but won't allow batch mode downloading that true Ymodem-G from the DSZ program features.

Zmodem will give 1000-1100 cps on properly configured systems. Zmodem is featured in non-registered versions of DSZ that are available on most BBS systems.

Avoid using Xmodem, Ymodem, Wxmodem, Kermit, Jmodem or other protocols that rely on software error checking when you are connected to another HST at the fixed 19200 bps rate. These protocols will give you between 400-900 cps. One reason I wrote this program was that I see people night after night calling with HST modems improperly configured and getting transfer speeds of 400 cps.

SUPPORT:

As stated above, this is a free program. You will probably use it once, then throw it away and forget all about me. That's fine, but at least when you call my BBS at 19200 you won't be getting 400 cps!

Updates to 19200HST are always available on my BBS, The Ledge PCBoard, which is listed at the top of this file. Although you can't download from my file directory on the first call, you will be able to open the SUPPORT door and download any of the programs that I've written, or any third party programs (such as DSZ:xxxx.ARC) that are mentioned in this file. My support door DOES have Xmodem-1K-G (Ymodem-G) so if you are looking for a place to test...come on!

===== DOCUMENT zapcode =====

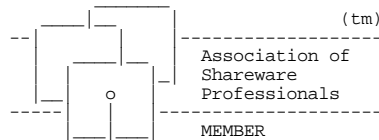
(tm)
ZAPCODE
/ /
/ /
/ /

Professional Printer Control
Version 3.2 - Released May 18, 1990
(C) Copyright 1990 Robert L. Morton

Morton Utilities, International
81-887 Tournament Way
Indio, CA 92201

Compuserve 70132,3707

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|--------------|---|--|
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| ZAPCODE.DOC | - | ZAPCODE program documentation |
| INVOICE.DOC | - | Invoice for permanent license |
| ASP.DOC | - | Association of Shareware Professionals Info. |
| EPSFX.PMF | - | Printer driver: Epson FX Series |
| HPLJ.PMF | - | Printer driver: Hewlett Packard LaserJet |
| IBMCOLOR.PMF | - | Printer driver: IBM Color Printer |
| IBMPRO.PMF | - | Printer driver: IBM Proprinter |
| TSHP341.PMF | - | Printer driver: Toshiba P321SL/P341SL |
| TSHP351C.PMF | - | Printer driver: Toshiba P351C Color Printer |

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-----+-----
 | Introducing ZAPCODE |
 -----+-----

 | What is ZAPCODE? |

ZAPCODE, simply put, is a printer control utility. With it, you can send control codes to your printer to activate or deactivate

any of its options and features. Pop-up ZAPCODE at any time to, for example, reset your printer, turn on condensed print, or advance the page. ZAPCODE can also be used to automatically enter printer codes into your word processor, spreadsheet, or any other program. This is great for word processors that don't support all of your printer's features but allow you to embed printer control codes inside your documents. Simply pop-up ZAPCODE, select the desired printer option(s), and then let ZAPCODE enter the printer codes for you, just as if you had typed them at the keyboard. ZAPCODE can even be used to print envelopes, as a dialing directory, and even as a crude keyboard macro program. ZAPCODE is ideal for all types of printers including dot-matrix, laser, and even plotters. Additional features include:

- o Stand-alone running for those times when memory residency might not be desirable.
- o Support for any parallel printer attached to LPT1 to LPT3, and any serial printer attached to COM1 to COM4.
- o Completely customizable printer drivers. You can easily modify the included printer drivers to suit any desired configuration, or even create your own.
- o Memory resident activation over most applications, including those graphics-based.
- o Customizable window colors and activation hotkey.
- o Capability of multiple installations for those systems which require support for more than one printer.
- o Uninstallation of memory resident copies for those times when the extra RAM is needed.

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ZAPCODE Files

ZAPCODE consists of the following files:

- ZAPCODE.COM - ZAPCODE program
- ZAPCODE.DOC - ZAPCODE program documentation
- INVOICE.DOC - Invoice for permanent license
- ASP.DOC - Association of Shareware Professionals Info.
- EPSFX.PMF - Printer driver: Epson FX Series
- HPLJ.PMF - Printer driver: Hewlett Packard LaserJet
- IBMCOLOR.PMF - Printer driver: IBM Color Printer
- IBMPRO.PMF - Printer driver: IBM Proprinter
- TSHP341.PMF - Printer driver: Toshiba P321SL/P341SL
- TSHP351C.PMF - Printer driver: Toshiba P351C Color Printer

All printer drivers end in the extension "PMF" (Printer Make File). Printer drivers have been included for some of the more popular printers. If your printer is not yet supported, you can easily build your own driver or customize one of the given. This will be covered shortly in the section "Using The PMF Editor".

System Requirements

To use ZAPCODE you need:

- o IBM PC, XT, AT, PS/2, or compatible computer
- o A parallel or serial printer

o PC-DOS or MS-DOS version 2.0 or later

You'll also need at least 64K available memory to use ZAPCODE in stand-alone mode. 128K is required to use the PMF Editor. When installed in memory, ZAPCODE uses approximately 17K. However, depending on the size of the printer driver, an additional 10K is usually needed.

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```

+-----+
|           Purchasing ZAPCODE           |
+-----+
  
```

ZAPCODE is distributed under the Shareware marketing system. The Shareware concept allows you, the user, to use a program on a trial basis to determine if it meets your needs. If you find the program useful and wish to continue using it, you are required to pay a license or registration fee to the author.

If you recieved ZAPCODE through a distribution service and paid a small fee (usually \$3 to \$5), this does not constitute payment for ZAPCODE. You have simply paid for the distribution service. The \$3.00 or \$5.00 or whatever pays for the diskette, duplications and handling and does NOT constitute payment for the programs contained on the diskette.

ZAPCODE license and registration costs \$19.95. The file "INVOICE.DOC" contains an invoice which you may print and use for this purpose. Registering ZAPCODE gets you:

1. The latest version of ZAPCODE without the Shareware notice.
2. A professionally printed/bound 33 page manual.
3. All of the latest printer drivers. We're always creating new drivers for more printers. If yours isn't currently supported, we'll create it for you FREE. Just mention it to us on the invoice.
4. Six months support plus we'll notify you of any program updates and new products.

The Shareware system is dependant upon honest people. If you use a Shareware program and have not registered with the author after the evaluation period, you are helping to destroy the viability of the Shareware concept. If you appreciate the ability to try software, before you buy it, then we encourage you to register EVERY Shareware program you use. Registration of Shareware products ensures the existance of quality, low-cost software.

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```

+-----+
|           Running ZAPCODE           |
+-----+
  
```

To get ZAPCODE up and running, simply log into the drive and directory containing ZAPCODE and type:

ZAPCODE <Enter>

A window will be displayed containing a list of all printer drivers in the current directory. Use the following keys:

- UpArrow - Move selection bar up one file
- DnArrow - Move selection bar down one file
- PgUp - Move selection bar up one page
- PgDn - Move selection bar down one page

- Home - Move selection bar to first file
- End - Move selection bar to last file
- Enter - Use the selected PMF in stand-alone mode
- I - Install the selected PMF in memory
- U - Uninstall last PMF installed in memory
- E - Edit the selected PMF
- A - Add/create a new PMF
- Esc - Exit

Use the UpArrow, DnArrow, PgUp, PgDn, Home, and End keys to select a PMF.

Press the Enter key to use the selected PMF in stand-alone mode. Consequently, ZAPCODE will not be installed in memory.

Press the "I" key to install ZAPCODE and the selected PMF in memory. To confirm memory resident installation, a window is displayed containing printer setup, program activation, and memory information. The default hotkey for ZAPCODE is Ctrl-Alt-Z. That means, to activate ZAPCODE, hold down the Ctrl and Alt keys and press "Z".

You may install as many copies of ZAPCODE as available memory will allow. If you have installed more than one copy and each shares the same hotkey, press the hotkey once to activate the copy installed last. Press it again to activate the copy installed prior to that, and so on.

Press the "U" key to uninstall ZAPCODE from memory. If you have installed more than one copy, the last copy installed will be uninstalled. Uninstalling again will cause the copy installed prior to that one to be uninstalled. If you have loaded other memory resident utilities after ZAPCODE, it is possible that ZAPCODE will not be able to uninstall itself. When this happens, the message "Cannot uninstall" is displayed.

Press the "E" key to edit the selected PMF. The "PMF Editor" allows you to easily create and edit printer drivers. See "Using The PMF Editor" for instructions.

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Press the "A" key to create a new PMF. A window will be displayed prompting for the PMF filename to create. Once you enter a filename, the "PMF Editor" is invoked and you can begin building your new printer driver.

Command Line Switches

All of the above functions can be performed by use of command line switches. The complete syntax for ZAPCODE is:

ZAPCODE [filename] [/I] [/U] [/E]

"filename" is the name of the printer make file. It is not necessary to type the ".PMF" extension.

/I installs ZAPCODE and the specified PMF in memory.

/U uninstalls the last installed copy of ZAPCODE.

/E invokes the PMF editor. You must also specify the name of the PMF you wish to edit. If the PMF does not exist, it will be created.

If you wish to have a PMF loaded automatically each time you boot up, you may include ZAPCODE as an entry in your

AUTOEXEC.BAT file. If other memory resident utilities are loaded in your AUTOEXEC.BAT and conflicts occur when loading ZAPCODE, try different variations in the order each is loaded.

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```

+-----+
|                Using ZAPCODE                |
+-----+

```

When ZAPCODE is activated, a window is displayed containing the printer options. A bar highlights the currently selected option. The description window contains a description of the selected option. Another window contains a list of keys that can be used to control ZAPCODE. They are:

- UpArrow - Move selection bar up one option
- DnArrow - Move selection bar down one option
- PgUp - Move selection bar up one page
- PgDn - Move selection bar down one page
- Home - Move selection bar to first option
- End - Move selection bar to last option
- Insert - Send the selected option to keyboard
- Enter - Send the selected option to printer
- Spacebar - Send reset code sequence to printer
- Slash (/) - Manually enter codes to send to printer
- Esc - Exit ZAPCODE

Use the UpArrow, DnArrow, PgUp, PgDn, Home, and End keys to select a printer option.

Press the Insert key to send the control codes for the selected option to the keyboard. Use this feature to enter printer codes into your word processor, spreadsheet, or any other program. ZAPCODE can be configured to enter codes in a variety of formats including decimal and hexadecimal. This feature defaults off and you must use the "PMF Editor" to activate it. (See "Using The PMF Editor" for instructions.) This feature only works when ZAPCODE is memory resident. Pressing the Insert key when ZAPCODE is stand-alone or when this feature is off causes the speaker to beep and has no effect.

Press the Enter key to send the control codes for the selected option to the printer. When done, the message "Codes Zapped" will be displayed if the operation was successful. If your printer is off-line or turned off, an error message will be displayed and you will be prompted for necessary action.

Press the Spacebar to send the reset codes to the printer. This is a string of control codes used to restore all printer options to their power-on defaults. Some printers provide a control code for doing just this, while with others, each option must be restored individually. If there are no reset codes configured, this function has no effect.

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Sending Printer Codes Manually

Pressing the Slash (/) key causes a window to be displayed in which you may enter codes to send to the printer. The codes may be entered in any of three formats:

- Decimal - eg. 255
- Hexadecimal - eg. 0FFh
- ASCII - eg. "&k4s"

Codes must be separated by a comma or a space. Codes entered in hexadecimal format must be preceded by a numeric digit and end with the character "h". Codes entered in ASCII format must be enclosed in quotation marks. AS YOU ENTER CODES, THE WINDOW WILL PAD ONCE YOU HAVE REACHED THE RIGHT MARGIN. This allows you to enter an unlimited number of codes.

Example: 27,"&o2e5",0C5h

While entering codes, use the following keys to edit and control ZAPCODE:

- LeftArrow - Move cursor left one character
- RightArrow - Move cursor right one character
- Ins - Toggle insert/overwrite entry modes
- Del - Delete character under cursor
- Backspace - Delete character left of cursor
- F1 - Display syntax help window
- Enter - Send entered codes to printer
- Esc - Abort

Use the LeftArrow, RightArrow, Insert, Delete, and Backspace keys to edit what you have entered. Press F1 to display a window containing information about the syntax that must be used while entering codes. Press Enter to send the entered codes to the printer. Press Esc to abort.

The "Enter Missing Parameter(s)" (EMP) Window

Some printer options require that a parameter or parameters be entered before they can be activated (eg. Set Tabs). Selecting one of these options causes a window to be displayed prompting you for the missing parameter(s). This window is identical to the window used for entering codes manually. However, there is an additional window containing instructions explaining what is expected. Two additional keys are available for scrolling the instruction text:

- PgUp - Display previous page of instructions
- PgDn - Display next page of instructions

Once you have entered the necessary parameter(s), the control codes for that option along with the missing parameter code(s) will be sent to the printer.

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```

+-----+
|                Using The PMF Editor                |
+-----+

```

Using the PMF Editor, you can create and edit PMF's and change the following PMF control information:

- Printer Name
- Printer Port and Setup
- Printer Reset Codes
- Activation Hotkey
- Window Colors
- Keyboard Setup

All control information is personal and stored in that PMF. This means that each PMF can have its own personal activation hotkey, window colors, and everything else.

The PMF Editor's main editing screen is identical to ZAPCODE's main selection window. There is an additional window displayed

at the bottom containing status information and a list of keys that can be pressed to control editing. They are:

- E - Edit the selected code
- A - Add a new code after the selected
- D - Delete the selected code
- M - Move the selected code
- C - Configure other options

The PMF filename and memory usage are displayed in the lower left corner. This memory amount reflects the number of bytes the PMF would use when installed in memory (using the "/I" switch). This amount does not include the 17K bytes ZAPCODE itself uses.

Add Printer Code

Press "E" to edit the selected printer code. A window will be displayed containing the printer code name, description and actual codes in decimal. Use the following keys during editing:

- UpArrow - Move to previous field
- DnArrow - Move to next field
- LeftArrow - Move cursor left one character
- RightArrow - Move cursor right one character
- Ins - Toggle insert/overwrite entry modes
- Del - Delete character under cursor
- Backspace - Delete character left of cursor
- Enter - Finish editing and save changes
- Esc - Abort without saving changes
- F1 - Display syntax help window
- Alt-A - Add EMP window at cursor
- Alt-E - Edit EMP window at cursor

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Use the UpArrow and DnArrow keys to move between fields. Use the LeftArrow, RightArrow, Insert, Delete, and Backspace keys to edit the current field. Press Enter to finish editing and save changes. Press Esc to abort without saving changes.

Press F1 to display a window containing information about the syntax that must be used while entering codes. You may press F1 only when the cursor is in the codes field.

Press Alt-A to add an EMP window at the current cursor location. You may press Alt-A only when the cursor is in the codes field.

Press Alt-E to edit the EMP window at the current cursor location. The box character symbolizes an EMP window. You may press Alt-E only when an EMP window symbol is displayed at the current cursor location.

* Adding An EMP Window *

To add an EMP window, place the cursor at the position within the codes that the "missing parameter" codes should be inserted. Then press Alt-A. A window will then be displayed in which you may enter the EMP instruction text. The following keys can be used while entering instruction text:

- UpArrow - Move cursor up one line
- DnArrow - Move cursor down one line
- LeftArrow - Move cursor left one character
- RightArrow - Move cursor right one character
- Ins - Toggle insert/overwrite entry modes
- Del - Delete character under cursor

- Backspace - Delete character left of cursor
- PgUp - Move to previous page of instruction text
- PgDn - Move to next page of instruction text
- Enter - Finish entering EMP instruction text
- Esc - Abort

Use the UpArrow, DnArrow, LeftArrow, RightArrow, Insert, Delete, and Backspace keys to edit the instruction text. If you need additional pages to enter instructions, press the PgDn key. The PgUp key allows you to move back to previous pages. Press Enter to finish and save the new EMP. Press Esc to abort without saving.

You may create as many EMP windows for a printer option as you like. When the printer option is then later used, each EMP window will display and prompt in the order it is found in the control codes. For example, if you defined the following:

```
"Hello ",EMP#1," My name is ",EMP#2,".",13,10
```

(EMP#1 and EMP#2 would be displayed as box characters.)
When this option is printed, the following happens:

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1. "Hello " is sent to the printer.
2. EMP window #1 is displayed and you are prompted for "missing parameter" codes. Let's assume you respond by typing "everybody." (quotation marks included).
3. "everybody." is sent to the printer.
4. " My name is " is sent to the printer.
5. EMP window #2 is displayed and you are prompted again. Let's assume you respond by typing "John Doe".
6. "John Doe" is sent to the printer.
7. "." is sent to the printer.
8. Character 13 (carriage return) and 10 (linefeed) are sent to the printer.

Your printer would have printed the following:

```
Hello everybody. My name is John Doe.
```

EMP windows allow you to do all sorts of great things. Use an EMP window to prompt for the tab stops in a "Set Tabs" control code sequence. Use one to prompt for the recipient's address for printing envelopes. Examine the included PMF's for examples.

* Editing An EMP Window *

To edit an EMP window, place the cursor on the EMP window symbol and press Alt-E. A window will be displayed containing the instruction text. Follow the same rules for editing an EMP as you did for adding.

* Deleting An EMP Window *

To delete an EMP window, place the cursor on the desired window symbol and press the delete key. You will be prompted for confirmation before the window is actually deleted. Attempting to type over the EMP window symbol will also delete it. ZAPCODE will ask you to confirm before it does so.

Add Printer Code

To add a printer code, press "A". A window will be displayed in which you may enter the name, description, and printer codes.

Follow the same rules for adding a printer code as you did for editing. When finished, the code will be added immediately after the one that was selected when the "A" key was pressed.

Delete Printer Code

To delete the selected printer code, press "D". You will be prompted for confirmation before the code is actually deleted.

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Move Printer Code

The move command allows you to organize and group the printer codes. To move the selected code, press "M". Then select the destination for the move using the UpArrow, DnArrow, PgUp, PgDn, Home, and End keys. The printer code will be moved to the entry immediately before the selected destination. Press Enter to perform the move. Press Esc to abort.

Configure Other Options

Pressing "C" allows you to configure the following PMF control information:

- Printer Name
- Port Setup
- Reset Codes
- Activation Hotkey
- Window Colors
- Keyboard Setup

Use the UpArrow and DnArrow keys to select. Press Enter to configure the selected. Press Esc to abort.

* Printer Name *

This option allows you to enter/edit the printer name. A window is displayed containing the printer name for the PMF. Use the following keys:

- LeftArrow - Move cursor left one character
- RightArrow - Move cursor right one character
- Ins - Toggle insert/overwrite entry modes
- Del - Delete character under cursor
- Backspace - Delete character left of cursor
- Enter - Save changes made
- Esc - Abort without saving changes

Use the LeftArrow, RightArrow, Insert, Delete, and Backspace keys to edit the printer name. Press Enter to save new printer name. Press Esc to abort without saving.

* Port Setup *

This option allows you to select and configure the printer port. A window is displayed containing the current port assignment. Your choices are:

- LPT1: Parallel 1
- LPT2: Parallel 2
- LPT3: Parallel 3
- COM1: Serial 1
- COM2: Serial 2
- COM3: Serial 3
- COM4: Serial 4

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Selecting any of the serial ports (COM1 to COM4) will present further configuration windows allowing you to select baud rate, data parity, number of data bits, and number of stop bits.

Baud rate can be any of the following: 300, 1200, 2400, 4800, 9600, 19200, or 38400 bps. Data parity can be either Odd, Even, None, Space, or Mark. The number of data bits can be either 7 or 8 and the number of stop bits can be either 1 or 2.

* Printer Reset Codes *

This option allows you to configure the printer reset codes. The printer reset codes can be sent by pressing the spacebar from ZAPCODE's main window.

Selecting this options causes a window to be displayed containing the current reset codes for the PMF. Use the following keys:

- LeftArrow - Move cursor left one character
- RightArrow - Move cursor right one character
- Ins - Toggle insert/overwrite entry modes
- Del - Delete character under cursor
- Backspace - Delete character left of cursor
- F1 - Display syntax help window
- Enter - Finish and save changes
- Esc - Abort without saving changes

Use the LeftArrow, RightArrow, Insert, Delete, and Backspace keys to edit the reset codes. Press F1 to display a window containing information about the syntax that must be used. Press Enter to finish and save changes. Press Esc to abort without saving changes.

* Activation Hotkey *

This option allows you to change the key combination used to activate ZAPCODE for this PMF.

A window will be displayed prompting for the new activation hotkey. You may use any combination of the shift keys (Ctrl, Alt, LeftShift, and RightShift) while entering a new hotkey. For example: To set the new hotkey to Ctrl-Alt-P, hold down the Ctrl and Alt keys and press "P". If you entered it incorrectly the first time, enter it again. Once you have entered it correctly, you must enter it once again to confirm.

* Window Colors *

This option allows you to change the ZAPCODE window colors. The colors for the following windows can be changed:

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- Installation Window
- Main Window
- Enter Codes to Send Window
- Syntax Help Window
- EMP Window
- Printer Reset Window
- Codes Zapped Window
- Printer Error Window

A window will be displayed in the bottom right corner prompting you for the desired window whose colors you wish to change. Use

the UpArrow and DnArrow keys to select desired window. As you select each window, it is displayed in the upper left corner. Press Enter to confirm selection. Press Esc to end.

After selecting a window, you will be prompted to select a window part. Use the UpArrow and DnArrow keys to select desired window part. As you select each window part, its color will be displayed. Press Enter to confirm selection. Press Esc to return to window selection.

After selecting a window part, you will be prompted to select a new background color. Use the UpArrow and DnArrow keys to select desired color. As you select each color, the window will be updated to reflect it. Press Enter to confirm selection. Press Esc to return to part selection.

After selecting a background color, you will be prompted to select a new foreground color. Use the UpArrow and DnArrow keys to select desired color. As you select each color, the window will be updated to reflect it. Press Enter to confirm selection. Press Esc to return to background color selection.

* Keyboard Setup *

The "Keyboard Setup" option allows you to tailor the way ZAPCODE sends printer codes to the keyboard. The following options allow you to customize ZAPCODE to work with virtually any program:

```
Code Format
String Prefix
String Suffix
Code Prefix
Code Suffix
Code Delimiter
```

"Code Format" is the format each code is expressed in. The following formats are available:

```
Decimal ..... 5,15,255
Decimal 3 character ..... 005,015,255
Hexadecimal with digit start ..... 5,0F,0FF
Hexadecimal without digit start ..... 5,F,FF
Hexadecimal 2 character ..... 05,0F,FF
Hexadecimal 3 character ..... 005,00F,0FF
ASCII
```

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The examples to the right demonstrate how three codes (5, 15, and 255) are expressed when that format is used. "Hex with digit start" means that a numerical digit (0-9) must always lead the number. This is the format ZAPCODE prefers to accept hexadecimal numbers in. The last format, "ASCII", causes each code to be entered as its ASCII character equivalent. Thus, the following codes:

```
72 101 108 108 111
```

would yield their ASCII equivalents:

```
H e l l o
```

The NUL code (character 0) can be used to define special keys and key combinations. For example, the following codes:

```
0 59 65 66 67 0 19
```

translate into:

```
F1      A      B      C      Alt-R
```

Codes 0 and 59 define the F1 function key. Codes 65, 66, and 67 define keys "A", "B", and "C" respectively. Codes 0 and 19 define the Alt-R key combination. See Appendix D for a complete list of special keys and the codes needed to define them.

There aren't many programs that you would use the "ASCII" format for entering printer codes into. However, it does add to ZAPCODE's functionality in that it allows you to create keyboard macros. You could, for instance, create a PMF dedicated to this cause entirely. To use one of the macros, you would simply pop-up ZAPCODE, select it, and voila!

"String Prefix", "String Suffix", "Code Prefix", "Code Suffix", and "Code Delimiter" are used to specify what comes before, after, and in the middle of each individual code and the entire string of codes. Each of these is sent to the keyboard as an "ASCII" format string. This means you may use special keys and key combinations in them. "String Prefix" specifies what comes before the entire string of codes. "String Suffix" specifies what comes after the entire string of codes. "Code Prefix" specifies what comes before each individual code. "Code Suffix" specifies what comes after each individual code. "Code Delimiter" specifies what comes between each individual code. If three codes were sent, they would look like this:

```
SP, CP, Code1, CS, CD, CP, Code2, CS, CD, CP, Code3, CS, SS
```

```
SP = String Prefix
SS = String Suffix
CP = Code Prefix
CS = Code Suffix
CD = Code Delimiter
```

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Consider the following example:

```
Code Format      = Decimal 3 character
String Prefix   = "/PPOS"
String Suffix   = "13,\"QQ"
Code Prefix     = "\"
Code Suffix     = (nothing)
Code Delimiter  = (nothing)
```

The above configuration can be used to enter codes into Lotus 1-2-3. Lotus 1-2-3 requires that each code be expressed as a three digit decimal number and that each is prefixed by the backslash character "\". The "String Prefix" moves 1-2-3 to the "Setup string:" option. The "String Suffix" moves 1-2-3 out of the "Setup string:" option and back to the spreadsheet. With this configuration, all that is needed to do is:

1. Pop-up ZAPCODE.
2. Select desired printer option.
3. Press the Insert key.
4. Goto step 2 if more.
5. Press Esc key.

You may also use the "Send to keyboard" feature to insert printer codes into ZAPCODE itself. For instance, you might want to create two PMF's for your printer. One would contain a definition for each individual printer option. The other might contain entire setup strings which might combine individual printer options. To create this second PMF, you could use the first to insert the codes into the PMF Editor. The "Keyboard

Setup" for the first would look like this:

```
Code Format      = Decimal
String Prefix   = "A",0,80,0,80,0,80,0,80,0,80,0,80
String Suffix   = 0,72,0,72,0,72,0,72,0,72,0,72
Code Prefix     = (nothing)
Code Suffix     = (nothing)
Code Delimiter = ",,"
```

The "String Prefix" contains:

"A" key to tell PMF Editor to add a new option.
Six DnArrow keys to move the cursor to the "Codes" field.

The "String Suffix" contains:

Six UpArrow keys to move the cursor back from the "Codes" field up to the "Name" field.

With this PMF resident in memory and while your using the PMF Editor to create the second:

1. Pop-up ZAPCODE (which contains the PMF for the first).
2. Select desired printer options you wish to combine.
3. Press Esc key.

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You must pop-up ZAPCODE from the main PMF Editor window since the "String Prefix" will take care of adding a new option and moving to the "Codes" field. Once you've exited the resident copy, the codes will be entered and the cursor will be moved to the "Name" field.

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```
-----+-----
|                               |
|           The Printer Make File (PMF)           |
|                               |
|-----+-----
```

The PMF is simply an ASCII text file which you may edit using a line editor (such as EDLIN) or a word processor. The PMF Editor allows you to easily customize and create your own PMF's without regard to PMF syntax or structure. You may, however, do the same by simply text editing the PMF. This section and appendixes A, B, and C describe the PMF structure, syntax, and conventions in detail.

The PMF consists of commands which tell ZAPCODE the following:

```
Printer Name
Printer Port and Setup
Printer Reset Codes
Activation Hotkey
Window Colors
Keyboard Setup
Printer Option Names
Printer Option Descriptions
Printer Option Control Codes
```

Each command consists of a keyword and a number of arguments. The keyword identifies what is being defined, while the arguments define it. Appendix A contains a complete list of all PMF commands and their usage.

PMF Syntax and Guidelines

1. Keywords must be in all capital letters.
2. Keywords may start at any location within the line.
3. Comments may be used by placing a semicolon before the comment text.
4. Blank lines are permitted.
5. The equals sign (=) is not necessary but may be used to enhance the clarity of the PMF.
6. Arguments may be entered in any of three formats:

```
Decimal      eg. 255
Hexadecimal  eg. 0FFh
ASCII        eg. "XYZ"
```

Arguments must be separated by a comma or a space. Arguments entered in hexadecimal must be preceded by a numeric digit and end with the character "h". Arguments entered in ASCII must be enclosed in quotation marks. To use the quotation mark in an ASCII argument, you must define it twice.

The following page contains an example PMF:

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```
-----
; PMF for Printer XYZ
;-----

PRINTER = "XYZ Printer" ;Printer name
PORT    = "COM2:9600,N,8,1" ;Printer port/setup
RESET   = 27,"?",1 ;Reset codes
ACTIVATE = 8,25,"Press Alt-P to activate." ;Alternate hotkey
KCFORMAT = 2 ;Decimal 3 char
KSPREFIX = "/PPOS" ;String prefix
KSSUFFIX = 13,"QQ" ;String suffix
KCPREFIX = "\" ;Code prefix
COLOR    = 2,0,0,0,0,0,0,30 ;Change selection
;bar color to
;yellow on blue.

NAME    = "Compressed Print" ;Option name
DESC    = "This command selects 16.7" ;Option description
        = "characters per inch (cpi)."
```

```
CODES   = 0Fh ;Control codes

NAME    = "Set Horizontal Tab Stop(s)"
DESC    = "This command allows you to set"
        = "horizontal tab stops."
CODES   = 27,44h ;Start of EMP
        = 0
        = "Enter locations you wish to set a"
        = "horizontal tab stop at in ascending"
        = "order. You may set up to 28."
        = " "
        = "Example: Entering 10,20,40 would"
        = "set three tab stops, at locations"
        = "10, 20 and 40."
        = 0 ;End of EMP
        = 0,0 ;NUL code

NAME    = "Select NLQ Print"
DESC    = "Activate Near Letter Quality (NLQ)"
        = "printing. Characters printed in NLQ"
        = "are crisper and more like the"
        = "characters produced by a type-"
        = "writer."
CODES   = 27,120,1
```

 | Appendix A - PMF Commands |

The following is a complete list of all PMF commands. Provided with each is its description, usage, and an example:

Command PRINTER
 Description ... Names the printer for which the PMF is created. Up to 29 characters can be used.
 Usage PRINTER [printer name]
 Example PRINTER "XYZ Printer"

Command PORT
 Description ... Defines the port for which the printer is connected.
 Usage PORT [port:baud,parity,data,stop]
 port = LPT1, LPT2, LPT3, COM1, COM2, COM3, COM4
 baud = 300, 1200, 2400, 4800, 9600, 19200, 38400
 parity = O)dd, E)ven, N)one, S)pace, M)ark
 data = 7, 8
 stop = 1, 2
 Baud, parity, data, and stop only used when defining serial ports COM1 to COM4.
 Example PORT "COM2:9600,N,8,1"

Command RESET
 Description ... Defines the reset codes to be sent to the printer when a reset is requested. Up to 255 codes may be defined.
 Usage RESET [code1, code2,... code255]
 Example RESET 27,"?",1

Command ACTIVATE
 Description ... Defines an alternate hotkey to be used to activate ZAPCODE when installed in memory. If none is defined, the hotkey defaults to Ctrl-Alt-Z.
 Usage ACTIVATE [shiftmask, hotkey, install message]
 install message = message to display in installation window when ZAPCODE is installed. Up to 35 characters can be used to define a message. See Appendix B for shiftmask and hotkey values.
 Example ACTIVATE 8,25,"Press Alt-P to activate."

Command COLOR
 Description ... Defines alternate color(s) for one of ZAPCODE's windows. You may use as many color commands as there are windows.
 Usage COLOR [window, color1, color2,... color7]
 Entering a 0 value for a color argument causes the default to be used. See Appendix C for window numbers and color values.
 Example COLOR 2,0,0,0,0,0,30

Command KCFORMAT
 Description ... Defines "Code Format".

Usage KCFORMAT [format]
 format = 0:Off
 1:Decimal
 2:Decimal 3 character
 3:Hex with digit start
 4:Hex w/o digit start
 5:Hex 2 character
 6:Hex 3 character
 7:ASCII
 Example KCFORMAT 2

Command KSPREFIX
 Description ... Defines "String Prefix". Up to 30 characters can be used. Special keys and key combinations may be defined by preceding each with a NUL code (0). See Appendix D for list.
 Usage KSPREFIX [code1, code2,... code30]
 Example KSPREFIX "ABC",13,0,80,27,"DEF"

Command KSSUFFIX
 Description ... Defines "String Suffix". Up to 30 characters can be used. Special keys and key combinations may be defined by preceding each with a NUL code (0). See Appendix D for list.
 Usage KSSUFFIX [code1, code2,... code30]
 Example KSSUFFIX "ABC",13,0,80,27,"DEF"

Command KCPREFIX
 Description ... Defines "Code Prefix". Up to 30 characters can be used. Special keys and key combinations may be defined by preceding each with a NUL code (0). See Appendix D for list.
 Usage KCPREFIX [code1, code2,... code30]
 Example KCPREFIX "ABC",13,0,80,27,"DEF"

Command KCSUFFIX
 Description ... Defines "Code Suffix". Up to 30 characters can be used. Special keys and key combinations may be defined by preceding each with a NUL code (0). See Appendix D for list.
 Usage KCSUFFIX [code1, code2,... code30]
 Example KCSUFFIX "ABC",13,0,80,27,"DEF"

Command KCDELIM
 Description ... Defines "Code Delimiter". Up to 30 characters can be used. Special keys and key combinations may be defined by preceding each with a NUL code (0). See Appendix D for list.
 Usage KCDELIM [code1, code2,... code30]
 Example KCDELIM "ABC",13,0,80,27,"DEF"

Command NAME
 Description ... Defines the name of a printer option. All printer option names are placed in the selection window in the order they appear in the PMF. Up to 35 characters can be used to name printer options.
 Usage NAME [option name]
 Example NAME "Set Horizontal Tab Stop(s)"

Command DESC
 Description ... Defines the printer option description. The description is displayed in the description window when its option is selected. Up to 5 lines of 35 characters each can be used to define a description.
 Usage DESC [description line 1]
 [description line 2]
 ...
 [description line 5]
 Example DESC "This command allows you to set"
 "horizontal tab stops."

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Command CODES
 Description ... Defines the codes to be sent to the printer when its option is selected. There is no limit to the number of codes that can be defined. For those options which require parameter(s) to be included within the codes, you may define an EMP window. To do so, mark the start and end of the instruction text with a NUL code (0). You may define as many lines of instruction text as you wish. Up to 35 characters can be used per line. When the EMP window is displayed, your instructions will be paged in sets of 10 lines. You may define as many EMP windows as you wish. To define a NUL code to be sent to the printer, you must define it twice.
 Usage CODES [code1,code2]
 0
 [instruction text]
 0
 [code3,code4,...]
 Example CODES 27,44h
 0
 "Enter locations you wish to set a"
 "horizontal tab stop at in ascending"
 "order. You may set up to 28."
 0
 0,0

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-----+-----
 | Appendix B - Shift Mask & Hotkey Tables |
 -----+-----

This appendix contains the Shift Mask and Hotkey tables used for defining an alternate activation hotkey. (See the ACTIVATE command in Appendix A for a discussion.)

To activate ZAPCODE, a combination of shift keys along with a hotkey must be depressed. The shift keys are the Ctrl, Alt, LeftShift, and RightShift keys, while the hotkey can be any other. To setup your own, you'll need to substitute a value from the Shift Mask Table for the argument "shiftmask" and substitute a value from the Hotkey Table for the argument "hotkey". The Shift Mask and Hotkey tables are on the next page.

Example: To change the activation key sequence to Alt-P, you would substitute 8 for "shiftmask" and 25 for "hotkey".

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SHIFT MASK TABLE
 =====

| | | | | | | | | | | | | | | | | | | |
|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alt | | | | | | | | | * | * | * | * | * | * | * | * | * | * |
| Ctrl | | | | * | * | * | * | * | | | | * | * | * | * | * | * | * |
| L-Shift | | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| R-Shift | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| Dec Value | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | | | | | | | | | 0 | 1 | 2 | 3 | 4 | 5 | | |

HOTKEY TABLE

| Key | Dec | Key | Dec | Key | Dec |
|-----------|-----|----------|-----|-------------|-----|
| Esc | 1 | A | 30 | F1 | 59 |
| !1 | 2 | S | 31 | F2 | 60 |
| @2 | 3 | D | 32 | F3 | 61 |
| #3 | 4 | F | 33 | F4 | 62 |
| \$4 | 5 | G | 34 | F5 | 63 |
| %5 | 6 | H | 35 | F6 | 64 |
| ^6 | 7 | J | 36 | F7 | 65 |
| &7 | 8 | K | 37 | F8 | 66 |
| *8 | 9 | L | 38 | F9 | 67 |
| (9 | 10 | ; | 39 | F10 | 68 |
|)0 | 11 | " | 40 | NumLock | 69 |
| _ | 12 | ~` | 41 | ScrollLock | 70 |
| += | 13 | L-Shift | 42 | 7Home | 71 |
| Backspace | 14 | \|\ | 43 | 8UpArrow | 72 |
| Tab | 15 | Z | 44 | 9PgUp | 73 |
| Q | 16 | X | 45 | - | 74 |
| W | 17 | C | 46 | 4LeftArrow | 75 |
| E | 18 | V | 47 | 5 | 76 |
| R | 19 | B | 48 | 6RightArrow | 77 |
| T | 20 | N | 49 | + | 78 |
| Y | 21 | M | 50 | 1End | 79 |
| U | 22 | <. | 51 | 2DownArrow | 80 |
| I | 23 | >. | 52 | 3PgDn | 81 |
| O | 24 | ?/ | 53 | 0Ins | 82 |
| P | 25 | R-Shift | 54 | .Del | 83 |
| { | 26 | PrtSc* | 55 | SysReq | 84 |
| } | 27 | Alt | 56 | F11 | 87 |
| Enter | 28 | Spacebar | 57 | F12 | 88 |
| Ctrl | 29 | CapsLock | 58 | | |

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-----+-----
 | Appendix C - Calculating Window Colors |
 -----+-----

ZAPCODE consists of eight windows in which any of seven colors can be changed. This appendix outlines the window numbers and their color assignments. (See Appendix A for a discussion of the COLOR command.)

To change a window color, you must substitute the desired window number for the argument "window", and a color value for one of the arguments "color1", "color2", etc. depending on which window part you want to change. The Window Color Assignment Table (on the next page) lists each window number and its part assignments.

To calculate the actual color value that must be substituted, you must use the following formula:

$$\text{colorvalue} = (\text{background} \times 16) + \text{foreground}$$

The table below contains the background and foreground color numbers which must be substituted in the equation above.

COLOR TABLE

```

=====
0 Black      8 Gray
1 Blue      9 Light Blue
2 Green     10 Light Green
3 Cyan     11 Light Cyan
4 Red      12 Light Red
5 Magenta  13 Light Magenta
6 Brown    14 Yellow
7 White    15 High-intensity White
=====
    
```

For example, to change the selection bar color to yellow on blue, you would use the following equation:

$$\text{colorvalue} = (1 \times 16) + 14$$

This would yield 30 for the "colorvalue" argument. Thus your COLOR statement would be:

```
COLOR 2,0,0,0,0,0,0,30
```

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WINDOW COLOR ASSIGNMENT TABLE

```

=====
(1) Installation Window
1. Border
2. Title
3. Printer description
4. Activate help
5. Memory amounts
6. Memory amounts' labels
7. N/A

-----

(2) Main Window
1. Border
2. Titles
3. Code names
4. Code description
5. Help text
6. Help text hilight
7. Selection bar

-----

(3) Enter Codes to Send Window
1. Border
2. Title
3. Input area
4. Help text
5. Help text hilight
6. N/A
7. N/A

-----

(4) Syntax Help Window
1. Border
2. Title
3. Help text
4. Help text hilight
5. N/A
6. N/A
7. N/A

-----

(5) EMP Window
1. Border
2. Titles
3. Input area
4. Instruction text
5. More indicator
6. Help text
7. Help text hilight

-----

(6) Printer Reset Window
1. Border
2. Text
3. N/A
4. N/A
5. N/A
6. N/A
7. N/A

-----

(7) Codes Zapped Window
1. Border
2. Text

-----

(8) Printer Error Window
1. Border
2. Printer port name
    
```

```

3. N/A
4. N/A
5. N/A
6. N/A
7. N/A
    
```

```

3. Error message
4. Help text
5. Help text hilight
6. N/A
7. N/A
    
```

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Appendix D - Special Keys Table

This appendix outlines the codes needed to use special keys in the "String Prefix", "String Suffix", "Code Prefix", "Code Suffix", and "Code Delimiter". Special keys can also be used when defining keyboard macros instead of printer options. See section entitled "Keyboard Setup" in "Using The PMF Editor" for details.

The table on the following page lists the special keys on the left and the codes needed to define them on the right. For example, to define "F1" and "Enter", you would use "0,59,13".

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SPECIAL KEYS TABLE

```

=====
Key      Dec      Key      Dec      Key      Dec
-----
Backspace 8      Ctrl-F1  0,94     Alt-L     0,38
Tab       9      Ctrl-F2  0,95     Alt-Z     0,44
Enter     13     Ctrl-F3  0,96     Alt-X     0,45
Escape    27     Ctrl-F4  0,97     Alt-C     0,46
Ctrl-A    1      Ctrl-F5  0,98     Alt-V     0,47
Ctrl-B    2      Ctrl-F6  0,99     Alt-B     0,48
Ctrl-C    3      Ctrl-F7  0,100    Alt-N     0,49
Ctrl-D    4      Ctrl-F8  0,101    Alt-M     0,50
Ctrl-E    5      Ctrl-F9  0,102    NUL (0)   0,3
Ctrl-F    6      Ctrl-F10 0,103    Shift-Tab 0,15
Ctrl-G    7      Alt-F1   0,104    Home      0,71
Ctrl-H    8      Alt-F2   0,105    UpArrow   0,72
Ctrl-I    9      Alt-F3   0,106    PgUp      0,73
Ctrl-J   10     Alt-F4   0,107    LeftArrow 0,75
Ctrl-K   11     Alt-F5   0,108    RightArrow 0,77
Ctrl-L   12     Alt-F6   0,109    End       0,79
Ctrl-M   13     Alt-F7   0,110    DownArrow 0,80
Ctrl-N   14     Alt-F8   0,111    PgDn      0,81
Ctrl-O   15     Alt-F9   0,112    Insert    0,82
Ctrl-P   16     Alt-F10  0,113    Delete    0,83
Ctrl-Q   17     Alt-1    0,120    Ctrl-PrtSc 0,114
Ctrl-R   18     Alt-2    0,121    Ctrl-LtArrow 0,115
Ctrl-S   19     Alt-3    0,122    Ctrl-RtArrow 0,116
Ctrl-T   20     Alt-4    0,123    Ctrl-End  0,117
Ctrl-U   21     Alt-5    0,124    Ctrl-PgDn 0,118
Ctrl-V   22     Alt-6    0,125    Ctrl-Home 0,119
Ctrl-W   23     Alt-7    0,126    Ctrl-PgUp  0,132
Ctrl-X   24     Alt-8    0,127    F11       0,133
Ctrl-Y   25     Alt-9    0,128    F12       0,134
Ctrl-Z   26     Alt-0    0,129    Shift-F11 0,135
F1       0,59    Alt-Hyphen 0,130    Shift-F12 0,136
F2       0,60    Alt-=    0,131    Ctrl-F11  0,137
F3       0,61    Alt-Q    0,16     Ctrl-F12  0,138
F4       0,62    Alt-W    0,17     Alt-F11   0,139
F5       0,63    Alt-E    0,18     Alt-F12   0,140
F6       0,64    Alt-R    0,19
F7       0,65    Alt-T    0,20
    
```

| | | | |
|---------------------|------|-------------------|------|
| F8 | 0,66 | Alt-Y | 0,21 |
| F9 | 0,67 | Alt-U | 0,22 |
| F10 | 0,68 | Alt-I | 0,23 |
| Shift-F1 | 0,84 | Alt-O | 0,24 |
| Shift-F2 | 0,85 | Alt-P | 0,25 |
| Shift-F3 | 0,86 | A61 | |
| Alt-Q | 0,16 | 4. ains ts3q,138t | |
| Alt-U | 19 | | |
| F9 . ains 5s3q,138t | | Alt-I | 4 |
| F10. ains 6s3q,138t | | Alt-Hyp | 6 |
| Shift-F1 7 0,99 | | Alt-= | 7 |
| Shift-F2 8 0,99 | | Alt-Q | 8 |
| Shift-F3 9 0,99 | | Alt-W | 10 |
| Shift-F1 0 0,99 | | Alt-E | 11 |

```
=====
DOCUMENT zippy.zombi
=====
```

+++

ZIPPY ZOMBI
By John Romero

The object of the game is to change the color of all the cubes by jumping on them with your man. If you jump off the edge or run into the snake you will lose a man.

The commands for movement are [I] for up and left, [O] for up and right, [K] for down and left and [L] for down and right. You may change a variety of things such as gamespeed, sound and joystick/keyboard control by choosing change from the start-up screen. The only other commands to be noted are:

[CONTROL]-[Q] to stop the play of the game and place you at the start-up screen
[CONTROL]-[J] to toggle the joystick on and off.

If you are playing Zippy Zombi with a monochrome monitor some sets increase in difficulty, as the color change will not be apparent.

Files Needed:

```
ZIPPY ZOMBI
ZOMBI.SH
ZOMBI.OBJ
ZOMBI.PIC
ZZSCORES
~~~IC
ZZSCORES
~~~
```

```

=====
DOCUMENT zmodem
=====

ZMODEM PROTOCOL REFERENCE

The

ZMODEM

Inter Application

File Transfer Protocol

Chuck Forsberg

Please distribute as widely as possible.

Questions to Chuck Forsberg

Omen Technology Inc
17505-V Northwest Sauvie Island Road
Portland Oregon 97231
Voice: 503-621-3406
Modem (Telegodzilla): 503-621-3746 Speed 1200,300
Compuserve: 70715,131
UUCP: ...!tektronix!reed!omen!caf
    
```

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1. ACKNOWLEDGMENTS

Encouragement and suggestions by Stuart Mathison, Thomas Buck, John Wales, Ward Christensen, and Irv Hoff are gratefully acknowledged.

2. ROSETTA STONE

Here are some definitions which reflect the current vernacular in the computer media. The attempt here is identify the file transfer protocol rather than specific programs.

Frame A ZMODEM frame consists of a header packet and 0 or more data packets.

Response Time This is the maximum expected delay between the receiver sending a packet to the transmitter and receiving the beginning of a response from the transmitter.

XMODEM refers to the original 1979 file transfer etiquette introduced by Ward Christensen's 1979 MODEM2 program. It's also called the MODEM or MODEM2 protocol. Some who are unaware of MODEM7's unusual batch file mode call it MODEM7. Other aliases include "CP/M Users's Group" and "TERM II FTP 3". This protocol is supported by every serious communications program because of its universality, simplicity, and reasonable performance.

XMODEM/CRC replaces XMODEM's 1 byte checksum with a two byte Cyclical Redundancy Check (CRC-16), giving modern error detection protection.

YMODEM refers to the XMODEM/CRC protocol with the throughput and/or batch transmission enhancements described in YMODEM.DOC.

ZMODEM Zmodem is a second generation streaming protocol for text and binary file transmission between applications running on microcomputers and mainframes.

3. YET ANOTHER PROTOCOL, AGAIN?

Since its development half a decade ago, the Ward Christensen modem protocol has enabled a wide variety of computer systems to interchange data. There is hardly a communications program that doesn't at least claim to support this protocol now called XMODEM.

Advances in computing, modems and networking have spread the XMODEM protocol far beyond the close coupled micro to micro

environment for which it was designed. These application have exposed some weaknesses.

- + The short block length causes throughput to suffer when used with timesharing systems, packet switched networks, satellite circuits, and buffered (error correcting) modems.

- + The 8 bit arithmetic checksum and other aspects allows line impairments to interfere with dependable, accurate transfers.

- + Only one file can be sent per command. The file name has to be given twice, first to the sending program and then again to the receiving program.

- + The transmitted file accumulates as many as 127 extraneous bytes.

- + The modification date of the file is lost.

A number of other protocols have been developed over the years, but none have displaced XMODEM to date.

- + Lack of public domain documentation and example programs have kept proprietary protocols such as MNP, Blast, and others tightly bound to the fortunes of their suppliers.

- + Hardware and/or software complexity discourages the widespread application of BISYNC, SDLC, HDLC, X.25, and X.PC protocols.

- + Link level protocols such as X.25, X.PC, and MNP modems do not manage application to application file transfers.

- + The Kermit protocol was developed to allow file transfers in environments hostile to XMODEM. The performance compromises necessary to accommodate non transparent environments limit Kermit's efficiency.

Even with completely transparent channels, Kermit control character quoting limits the efficiency of binary file transfers to about 75 per cent.

3. YET ANOTHER PROTOCOL, AGAIN? (cont)

Kermit Sliding Windows ("SuperKermit") improves throughput over networks at the cost of increased complexity. SuperKermit state transitions are encoded in a special language "wart" which requires a C compiler. The SuperKermit C code requires full duplex communications and the ability to check for the presence of characters in the input queue, precluding its implementation on some operating systems.

A number of extensions to the XMODEM protocol have been made under the collective name YMODEM.

- + YMODEM-k reduces the overhead from transmission delays by 87 per cent compared to XMODEM, but network delays can still degrade performance.

- + The handling of files that are not a multiple of 1024 or 128 bytes is awkward, especially if the file length is not known, or changes during transmission.

- + YMODEM-g is essentially insensitive to network delays. Because it does not support error recovery, YMODEM-g must be used hardwired or with a link level protocol.

Another XMODEM "extension" is protocol cheating, referred to as "Turbo Download" and OverThruster. These improve XMODEM

throughput at the expense of error recovery.

The ZMODEM Protocol is proposed as a means of addressing the weaknesses described above while maintaining as much of XMODEM's simplicity and prior art as possible.

4. ZMODEM Protocol Design Criteria

The design of a file transfer protocol is an engineering compromise between conflicting requirements:

4.1 Throughput

ZMODEM is designed for optimum performance with minimum degradation caused by delays introduced by packet switched networks and timesharing systems.

ZMODEM is optimized for best throughput where line hits occur infrequently. This assumption markedly reduces code complexity and memory requirements.

4. ZMODEM Protocol Design Criteria (cont)

4.1 Throughput (cont)

It is assumed that many transfers will originate from a timesharing system connected to a packet switched network. ZMODEM provides features to allow for simple, efficient implementation on timesharing hosts.

File transfers begin immediately regardless of which program is started first, no 10 second delay.

4.2 Integrity and Robustness

All packets are protected with 16 bit CRC.

4.3 Ease of use

File names need be entered only once. Wild Card names may be used with batch transfers. Minimum keystrokes required to initiate transfers. ZMODEM steps down to X/YMODEM if the other end does not support ZMODEM.

4.4 Ease of implementation

ZMODEM accomodates a wide variety of systems:

- + Microcomputers that cannot overlap disk and serial i/o

- + Microcomputers that cannot overlap serial send and receive

- + Computers and/or networks requiring XON/XOFF flow control

- + Computers that cannot check the serial input queue for the presence of data without having to wait for the data to arrive.

Although ZMODEM provides "hooks" for multiple "threads", ZMODEM is not intended to replace link level protocols such as X.25. ZMODEM provides a near optimal general purpose application to application file transfer protocol to be used with link level protocols such as X.25, MNP, Fastlink, etc.

5. PACKETIZATION

ZMODEM uses packets somewhat different from those used in

X/YMODEM. X/YMODEM type packets are not used for the following reasons:

- + Block numbers are limited to 256
- + No provision for variable length blocks
- + Line hits corrupt protocol signals, causing failed file transfers. In particular, modem errors sometimes generate false block numbers, false EOTs and false ACKs. False ACKs are the most troublesome as they cause the sender to lose synchronization with the receiver.

State of the art X/YMODEM programs such as Professional-YAM overcome some of these weaknesses with clever proprietary code, but a newer protocol is still useful.

- + It is difficult to determine the beginning and ends of X/YMODEM blocks when they are corrupted by line hits. This discourages rapid error recovery.

5.1 Link Escape Encoding

ZMODEM achieves data transparency by extending the 8 bit character set (256 codes) with escape sequences based on the ZMODEM data link escape character ZDLE[1].

Link Escape coding permits variable length data packets. It allows the beginning of packets to be detected without special timing techniques, facilitating rapid error recovery.

Link Escape coding does add some overhead. The worst case, a file consisting entirely of ZDLE characters, would incur a 50% overhead. The particular ZDLE character was chosen after examining the character distributions of many types of files used with personal computers.

The ZDLE character is special. ZDLE represents a control sequence of some sort. If a ZDLE character appears in the data sent within a binary packet, it is prefixed with another ZDLE. An escaped ZDLE is counted once in the CRC.

1. This and other constants are defined in the zmodem.h include file. Please note that constants with a leading 0 are octal constants in C.

5. PACKETIZATION (cont)

5.1 Link Escape Encoding (cont)

The current value for ZDLE is exclamation point (!). Use of a printing character as ZDLE allows application programs to recognize HEX Header Packets. This particular character was chosen because it does not appear often in many types of files likely to be transferred with this protocol. In addition, no known timesharing system uses it for editing.

5.2 Header Packet Information

All ZMODEM frames begin with a header packet which may be sent in binary or HEX form. ZMODEM uses a single routine to recognize binary and hex header packets. Either form of the header packet contains the same raw information:

- + A type byte[1] Future extensions to ZMODEM may use the high order bits of the type byte to indicate thread selection.

- + Four bytes of data indicating flags and/or numeric quantities depending on the packet type

Order of Bytes in Header Packet

T: packet Type
 F0: Flags least significant byte
 P0: file Position least significant
 P3: file Position most significant

```

T  F3 F2 F1 F0
-----
T  P0 P1 P2 P3
  
```

1. The packet types are cardinal numbers beginning with 0 to minimize state transition table memory requirements.

5. PACKETIZATION (cont)

5.3 Binary Header Packet

A binary header packet is only sent by the sending program to the receiving program.

A binary header packet begins with the sequence ZPAD, ZDLE, ZBIN.

The frame type byte is ZDLE encoded.

The four position/flags bytes are ZDLE encoded.

A two byte CRC of the frame type and position/flag bytes is ZDLE encoded.

0 or more binary data packets will follow depending on the frame type.

The function zsbhdr transmits a binary header packet. The function zgethdr receives a binary or hex header packet.

5.4 HEX Header Packet

The receiver sends responses in hex header packets.

Hex encoding is required to support XON/XOFF flow control. Use of Kermit style encoding for control and parity characters was considered and rejected because of increased possibility of interacting with some timesharing systems' line edit functions. Use of HEX packets from the receiving program allows control characters to be used to interrupt the sender when errors are detected. Except for header packet types that imply data packets to follow, a HEX header packet may be used in place of a binary header packet.

A hex header packet begins with the sequence ZPAD, ZPAD, ZDLE, ZHEX. The zgethdr routine synchronizes in the ZPAD-ZDELE sequence. The extra ZPAD allows other parts of the program to detect a ZMODEM packet and then call _#zgethdr to receive the packet.

The type byte, the four position/flag bytes, and the CRC thereof are sent in hex using the character set 01234567890abcdef. Upper case hex digits are not allowed; they would false trigger X/YMODEM programs.

5. PACKETIZATION (cont)

5.4 HEX Header Packet (cont)

A carriage return, line feed, and XON are appended to the HEX header packet but are not considered to be part of it. The CR/LF aids debugging from printouts. The XON releases the sender from spurious XOFF flow control characters generated by line noise, a common occurrence.

0 or more HEX data packets will follow depending on the frame type.

The function zshhdr sends a hex header packet.

5.5 Binary Data Packets

Binary data packets immediately follow the associated binary header packet. A binary data packet contains 0 to 1024 bytes of data. Recommended length values are 256 bytes below 4800 bps, 1024 above 4800 bps or when the data link is known to be relatively error free.

No padding is used with binary data packets. The data bytes are ZDLE encoded and transmitted. A ZDLE and frameend are then sent, followed by two ZDLE encoded CRC bytes. The CRC accumulates the data bytes and frameend.

The function zsbdata sends a binary data packet. The function zrbdata receives a binary data packet.

5.6 HEX Data Packet

The format of HEX data packets is not currently specified. These would be used for server commands, etc.

6. PROTOCOL TRANSACTION OVERVIEW

As with the XMODEM recommendation, ZMODEM timing is receiver driven. The transmitter should not time out at all, except to abort the program if no packets are received for an extended period of time, say one minute.

To start a ZMODEM file transfer session, the sending program is called with the names of the desired file(s).

The sending program sends the string "rz\r" and a single HEX ZRQRINIT packet with data = 0. The "rz" followed by carriage return activates a ZMODEM receive program or command if it were not already active. If the receiving program receives the ZRQRINIT packet, it totally ignores it as the sending program will be responding to the RINIT packet sent by the receiver. The sending program should also ignore this packet type, which would be an echo of its own packet.

6. PROTOCOL TRANSACTION OVERVIEW (cont)

Since the ZRQRINIT sequence contains no exotic control characters, it can be accepted by the application program as a command to begin ZMODEM receive. The sequence prints as:

```
"rz^M**!B00000000000000^M^J"
```

where ^M represents CR and ^J represents LF.

The sending program awaits a command from the receiving program to start file transfers. If a "C" or NAK is received, an XMODEM or YMODEM file transfer is indicated, and file transfer(s) use the X/YMODEM protocol.

Note: With ZMODEM and YMODEM Batch, the sending program provides the file name, but not with XMODEM.

When the ZMODEM receive program starts, it immediately sends a ZRINIT packet to initiate ZMODEM file transfers. The receive program resends the ZRINIT packet at response time intervals for a suitable period of time (40 seconds typical) before falling back to X/YMODEM protocol. If the receiving program receives a ZRINIT packet, it is an echo indicating that the sending program is not operational.

If the receiving program receives a ZRQRINIT packet, it ignores it.

Eventually the sending program correctly receives the ZRINIT packet.

The sender may respond with an optional ZCRYPT packet, which the receiver acknowledges with a suitable frame. (Details to be worked out later)

The sender may respond with an optional ZSINIT frame to set the receiving program's Attention string. The receiver sends a ZACK packet in response.

The sender then sends a ZFILE packet containing the file name, file length, modification date, and other information identical to that used by YMODEM Batch.

The receiver may respond to this with a ZGETCRC packet, which requires the sender to perform a CRC on the file and transmit same with a ZCRC packet. The receiver may use this information to determine whether to accept the file or skip it.

The receiver may respond with a ZSKIP packet, which causes the file to be passed over.

6. PROTOCOL TRANSACTION OVERVIEW (cont)

A ZRPOS packet from the receiver initiates transmission of the file data starting at the offset in the file specified in the ZRPOS packet. Normally the receiver specifies the data transfer begin at offset 0 in the file.

The receiver may start the transfer further down in the file. This allows a file transfer interrupted by a loss or carrier or system crash to be completed on the next connection without requiring the entire file to be retransmitted. If downloading a file from a timesharing system that becomes sluggish, the transfer can be interrupted and resumed later with no loss of data.

The sender sends a ZDATA header packet (with file position) followed by one or more data packets.

The receiver compares the file position in the ZDATA header with the number of characters successfully received to the file. If they do not agree, a ZRPOS error response is generated to force the sender to the right position within the file.

A data packet terminated by ZCRGO and CRC does not elicit a response unless an error is detected; more data packet(s) follow immediately.

ZCRCQ data packets expect a ZACK response (with the file offset) if no error, otherwise a ZRPOS response (with the last good file offset). Another data packet continues

immediately. ZCRCQ packets are not used if the receiver does not indicate FDX ability with the CANFDX bit.

ZCRCW data packets expect a response before the next frame is sent. If the receiver does not indicate overlapped I/O capability with the CANOVIO bit, the sender uses the ZCRCW to allow the receiver to write its buffer before sending more data.

A zero length data packet may also be used as a sending idle packet to prevent the receiver from timing out in case data is not immediately available to the sender.

In the absence of fatal error, the sender encounters end of file. If the end of file is encountered within a frame, the frame is closed with a ZCRCE data packet which does not elicit a response except in case of error.

The sender sends a ZEOF packet with the file ending offset equal to the number of characters in the file. The receiver compares this number with the number of characters received. If the receiver has received all of the file, it closes the file and responds with ZRINIT. Otherwise the receiver sends ZRPOS with the current file offset, forcing the sender to send the missing data.

6. PROTOCOL TRANSACTION OVERVIEW (cont)

After all files are processed, any further protocol errors should not prevent the sending program from returning with a success status.

The sender closes the session with a ZEXIT header packet. The receiver acknowledges this with its own ZEXIT packet.

When the sender receives the acknowledging packet, it sends two characters, "OO" (Over and Out) and exits to the operating system or application that invoked it. The receiver waits briefly for the "O" characters, then exits whether they were received or not.

7. STREAMING TECHNIQUE

ZMODEM allows a choice of data streaming methods selected according to the limitations of the sending program operating environment, receiving program operating environment, and the transmission channel(s).

If the computers can overlap serial I/O with disk I/O, the sender begins data transmission with a ZDATA header and continuous ZCRCG data packets. When the receiver detects an error, it sends the Attn sequence and a ZRPOS packet to force the sender back to the correct position within the file.

At the end of each transmitted packet, the sender checks for the presence of a error packet from the receiver. To do this, the sender may sample the reverse data stream for the presence of a ZPAD character.

If the reverse data stream cannot be sampled without entering an I/O wait, the receiver can interrupt the sender with a control character, break, or combinations thereof, as specified in the ZSINIT frame sent by the sending program.

If the receiver cannot overlap serial and disk I/O, it uses the ZRINIT frame to specify a buffer length which the sender will not overfill before sending a ZCRCW packet.

8. ATTENTION SEQUENCE

The receiving program sends the Attn sequence whenever it detects an error and needs to interrupt the sending program.

The default Attn string value is empty (no Attn sequence). The characters in the Attn string are terminated with a null. Two characters perform special functions:

+ \335 Sends a break signal

+ \336 Pauses one second

9. PACKET/FRAME TYPES

The numeric values for the values shown in boldface are given in zmodem.h.

9.1 ZRQRINIT

Sent by the sending program to call up the receiving program.

P0...P3 are zero.

9.2 ZRINIT

Sent by the receiving program.

ZF0 and ZF1 contain receiver capability flags:

```
#define CANFDX 1 /* Rx can send and receive FDX */
#define CANOVIO 2 /* Rx can receive during disk I/O */
#define CANBRK 4 /* Rx can send a break signal */
#define CANCRY 8 /* Receiver can decrypt */
```

ZP0 and ZP1 contain the size of the receiver's buffer in bytes, or 0 if overlapped I/O is allowed.

9.3 ZSINIT

Sender sends capability flags (none currently defined) followed by a binary data packet terminated with ZCRCW. Data contains the Attn string, maximum length 32 bytes. The ZSINIT is only sent to programs that indicate the ability to overlap serial data and disk I/O (CANOVIO).

9.4 ZACK

Acknowledgement to ZSINIT header packet or ZCRCW data packet.

ZP0 to ZP3 contain file offset.

9.5 ZFILE

This packet indicates the beginning of a file transmission attempt.

ZF0 and ZF1 contain special file processing flags:

+ ZBIN This is a binary file

A ZCRCW data packet follows with file name, file length, modification date, and other information described in a later chapter.

9. PACKET/FRAME TYPES (cont)

9.6 ZSKIP

Sent by the receiver in response to ZFILE, makes the sender skip to the next file.

9.7 ZNAK

Indicates last packet header was garbled. (See also ZRPOS).

9.8 ZABORT

Sent by receiver to terminate batch file transfers when requested by the user.

Sender initiates a ZFIN sequence[1].

9.9 ZFIN

Sent by sending program to terminate ZMODEM. Receiver responds with ZFIN.

9.10 ZRPOS

Sent by receiver to force file transfer to resume at file offset given in ZP0...ZP3.

9.11 ZDATA

ZP0...ZP3 contain file offset. One or more data packets follow.

9.12 ZEOF

ZP0...ZP3 contain file offset. Sender reports End of File.

9.13 ZFERR

Error in reading or writing file, equivalent to ZABORT.

9.14 ZCRC

Request (receiver) and response (sender) for file CRC.

ZP0 and ZP1 contain 16 bit file CRC.

9.15 ZCRYPT

Negotiation for encryption.

1. Or ZCOMPL in case of server mode.

9. PACKET/FRAME TYPES (cont)

9.16 ZCOMPL

Server request now completed.

10. Transaction

A simple transaction, one file, no errors, overlapped I/O:

| | |
|----------------|----------|
| Sender | Receiver |
| | ZRINIT |
| ZFILE | ZRPOS |
| ZDATA data ... | |
| ZEOF | |

ZRINIT
ZFIN
ZFIN
OO

11. PERFORMANCE

Some tests of ZMODEM protocol performance have been made. A PC-AT with SCO SYS V Xenix or DOS 3.1 was connected to a PC with DOS 2.1 either directly at 9600 bps or with dial-up 1200 bps modems. The ZMODEM software was configured to use 1024 byte packet lengths above 2400 bps, 256 otherwise.

Because no time delays are necessary in normal file transfers, per file negotiations are much faster than with YMODEM, the only observed impediment being the time required by the program(s) to update logging files.

During a file transfer, a short line hit seen by the receiver usually induces a CRC error. The interrupt packet is usually seen by the sender before the next packet is sent, and the resultant loss of data throughput averages about half a packet. At 1200 bps this would be about .75 second lost per hit. At 10-5 error rate, this would degrade throughput by about 9 per cent. The throughput degradation increases with the channel delay, as the packets in transit through the channel are discarded on error.

A longer noise burst that affects both the receiver and the sender's reception of the interrupt packet usually causes the sender to remain silent until the receiver times out in 10 seconds. If the round trip channel delay exceeds the receiver's 10 second timeout, recovery from this type of error may become difficult.

11. PERFORMANCE (cont)

Noise affecting only the sender is usually ignored, with one common exception. Spurious XOFF characters generated by noise stop the sender until the receiver times out and sends an interrupt packet which concludes with an XON.

In summation, ZMODEM performance in the presence of errors resembles that of X.PC and SuperKermit. Short bursts cause minimum data loss. Long bursts (such as pulse dialing noises) often require a timeout error to restore the flow of data.

12. TABLES

Figures are calculated for round trip delay times of 40 milliseconds and 5 seconds. A 102400 byte randomly distributed binary file is sent at 1200 bps 8 data bits, 1 stop bit. The calculations assume no transmission errors. For each of the protocols, only the per file functions are considered. Processor and I/O overhead are not included. YM-k refers to YMODEM with 1024 byte packets. YM-g refers to the YMODEM "g" option. ZMODEM uses 256 byte packets for this example. SuperKermit uses maximum packet size, 8 bit transparent transmission, no run length compression.

Figure 1. Protocol Overhead Information

| Protocol | dump | XMODEM | YM-k | YM-G | ZMODEM | S-Kermit |
|-------------|------|--------|------|------|--------|----------|
| Round-Trips | - | 803 | 103 | 5 | 5 | 5? |
| Time@40ms | - | 32s | 4s | - | - | - |
| Time@5s | - | 4015s | 515s | 25s | 25s | 25 |
| Chars-Ovhd | - | 4803 | 603 | 503 | 2000 | 7460 |

| | | | | | | |
|-----------|------|-------|-------|------|------|-------|
| Time@0s | 853s | 893s | 858s | 857s | 870s | 1135s |
| Time@40ms | 853s | 925s | 862s | 857s | 870s | 1135s |
| Time@5s | 853s | 5761s | 1373s | 882s | 905s | 1160s |

Figure 2. Transmission Time Comparison
(5 second delay)

```
*****
XMODEM
*****
YMODEM-K
*****
Kermit Sliding Windows
*****
YMODEM-G
*****
ZMODEM
```

12. TABLES (cont)

Figure 3. Y/ZMODEM Header Information usage

| Program | Batch | Length | Date | Mode | S/N | YMODEM-g | ZMODEM |
|------------|-------|--------|------|------|-----|----------|--------|
| Unix rb/sb | yes | yes | yes | yes | no | sb only | no |
| Unix rz/sz | yes | yes | yes | yes | no | sb only | yes |
| VMS rb/sb | yes | yes | no | no | no | no | no |
| Pro-YAM | yes | yes | yes | no | yes | yes | yes |
| CP/M YAM | yes | no | no | no | no | no | no |
| KMD/IMP | yes | no\|#- | no | no | no | no | no |
| MEX | no | no | no | no | no | no | no |

13. ZFILE FRAME FILE INFORMATION

Only the pathname (file name) part is required for batch transfers.

Pathname The pathname (conventionally, the file name) is sent as a null terminated ASCII string. This is the filename format used by the handle oriented MSDOS(TM) functions and C library fopen functions. An assembly language example follows:

```
DB 'foo.bar',0
```

No spaces are included in the pathname. Normally only the file name stem (no directory prefix) is transmitted unless the sender has selected YAM's f option to send the full pathname. The source drive (A:, B:, etc.) is never sent.

Filename Considerations:

- + File names should be translated to lower case unless the sending system supports upper/lower case file names. This is a convenience for users of systems (such as Unix) which store filenames in upper and lower case.
- + The receiver should accommodate file names in lower and upper case.
- + The rb(1) program on Unix systems normally translates the filename to lower case unless one or more letters in the filename are already in lower case.
- + When transmitting files between different operating systems, file names must be acceptable to both the sender and receiving operating systems.

If directories are included, they are delimited by /; i.e., "subdir/foo" is acceptable, "subdir\foo" is not.

13. ZFILE FRAME FILE INFORMATION (cont)

Length The file length and each of the succeeding fields are optional[1]. The length field is stored as a decimal string counting the number of data bytes in the file.

With ZMODEM, the receiver uses the file length only for display (progress reporting) purposes; the actual length is determined by the data transfer.

Modification Date - A single space separates the modification date from the file length.

The mod date is optional, and the filename and length may be sent without requiring the mod date to be sent.

The mod date is sent as an octal number giving the time the contents of the file were last changed measured in seconds from Jan 1 1970 Universal Coordinated Time (GMT). A date of 0 implies the modification date is unknown and should be left as the date the file is received.

This standard format was chosen to eliminate ambiguities arising from transfers between different time zones.

Two Microsoft blunders complicate the use of modification dates in file transfers with MSDOS(TM) systems. The first is the lack of timezone standardization in MS-DOS. A file's creation time can not be known unless the timezone of the system that wrote the file[2] is known. Unix solved this problem (for planet Earth, anyway) by stamping files with Universal Time (GMT). Microsoft would have to include the timezone of origin in the directory entries, but does not. Professional-YAM gets around this problem by using the z parameter which is set to the number of minutes local time lags GMT. For files known to originate from a different timezone, the -zT option may be used to specify T as the timezone for an individual file transfer.

- ```

1. Fields may not be skipped.
2. Not necessarily that of the transmitting system!
```

13. ZFILE FRAME FILE INFORMATION (cont)

The second problem is the lack of a separate file creation date in DOS. Since some backup schemes used with DOS rely on the file creation date to select files to be copied to the archive, back-dating the file modification date could interfere with the safety of the transferred files. For this reason, Professional-YAM does not modify the date of received files with the header information unless the d parameter is non zero.

Mode - A single space separates the file mode from the modification date. The file mode is stored as an octal string. Unless the file originated from a Unix system, the file mode is set to 0. `rb(1)` checks the file mode for the 0x8000 bit which indicates a Unix type regular file. Files with the 0x8000 bit set are assumed to have been sent from another Unix (or similar) system which uses the same file conventions. Such files are not translated in any way.

Serial Number - A single space separates the serial number from the file mode. The serial number of the transmitting program is stored as an octal string. Programs which do not have a serial number should omit this field, or set it to 0. The receiver's use of this field is optional.

The file information is terminated by a null. If only the pathname is sent, the pathname will be terminated by two nulls. The length of the file information packet, including the trailing null, must not exceed 1024 bytes; a typical length is less than 64 bytes.

#### 14. MORE INFORMATION

More information may be obtained by calling Telegodzilla at 503-621-3746.

UUCP sites can obtain the `nroff/troff` source to this file with

```
uucp omen! /usr/caf/public/zmodem.mm /tmp
```

A continually updated list of available files is stored in `/usr/spool/uucppublic/FILES`.

The following `L.sys` line calls Telegodzilla (Pro-YAM in host operation). Telegodzilla waits for carriage returns to determine the incoming speed. If none is detected, 1200 bps is assumed and a greeting is displayed.

#### 14. MORE INFORMATION (cont)

In response to "Name Please:" `uucico` gives the Pro-YAM "link" command as a user name. The password (Giznoid) controls access to the Xenix system connected to the IBM PC's other serial port. Communications between Pro-YAM and Xenix use 9600 bps; YAM converts this to the caller's speed.

Finally, the calling `uucico` logs in as `uucp`.

```
omen Any ACU 1200 1-503-621-3746 se:--se: link ord: Giznoid
in:--in: uucp
```

#### 15. ZMODEM Programs

A demonstration version of Professional-YAM is available as `YAMDEMO.LQR` (A SQueezed Novosielski library). This may be used to test ZMODEM and YMODEM implementations.

Unix programs supporting the YMODEM protocol are available on Telegodzilla in the "upgrade" subdirectory as `RBSB.SHQ` (a SQueezed shell archive). Most Unix like systems are supported, including V7, Sys III, 4.2 BSD, SYS V, Idris, Coherent, and Regulus.

A version for VAX-VMS is available in `VRBSB.SHQ`, in the same directory.

A CP/M assembly version is available as `MODEM76.AQM` and `MODEM7.LIB`.

Irv Hoff has added YMODEM 1k packets and basic YMODEM batch transfers to the KMD and IMP series programs, which replace the XMODEM and `MODEM7/MDM7xx` series respectively. Overlays are available for a wide variety of CP/M systems.

MEX and MEX-PC also support some of the YMODEM extensions.

Questions about YMODEM, the Professional-YAM communications program, and requests for evaluation copies may be directed to:

Chuck Forsberg  
Omen Technology Inc  
17505-V Sauvie Island Road  
Portland Oregon 97231  
Voice: 503-621-3406  
Modem: 503-621-3746 Speed: 1200,300  
Usenet: ...!tekrnix!reed!omen!caf  
Compuserve: 70715,131  
Source: TCE022

the points earned and stop rolling. Also, if he stops this turn with 500 or more points before rolling Zonkers, he may choose to stop at any time in his next turn as he no longer needs to 'open'. However, if he continues and rolls ZONKERS at any time, all points earned in the current turn are lost.

The game continues until a score of 10,000 or more points is reached by any player (unless a lower limit is set at the beginning of the game.) At this point, all other players get one more turn to try to top this score. The player with the most points after all have rolled is the winner.

## Game Operation.

Zonkers may be played either from the keyboard or with a joystick. Prompts of "Press <return>..." may be answered by pressing any key or either paddle button. Responses requiring (y/n) may be entered from the keyboard or with either joystick/paddle button. Where button 0 (open-apple) = "yes" and button 1 (solid-apple) = "no".

Dice selection can be made by entering the number of dice of each face value that you want to keep from the keyboard, but may often be made with the buttons also: i.e. button 0 will select all counters rolled for each face value, and button 1 will choose none. The keyboard must be used to select a number between all and none. Pressing the <Esc> key in response to the "Choose # of dice..." prompt will restart the selection process, but will not give the opportunity to stop rolling.

If only one player is selected, a computer player named "Apple" will be added. "Apple" will always choose to keep all counters rolled in any turn, and will stop rolling if only one or two dice remain (provided of course that he has enough points to "open", or that it is not the last turn in the game with another player leading).

## Files needed:

ZONKERS  
~~~

===== DOCUMENT zonkers =====

+++

Zonkers  
By: J. D. Holdeman

## Rules of the Game:

Zonkers is a game of chance and strategy for up to nine players. Players begin each turn rolling six dice, adding points as follows:

|                              |                       |
|------------------------------|-----------------------|
| 1 or 2-1's                   | 100 points each       |
| 1 or 2-5's                   | 50 points each        |
| 3-1's                        | 1000 points           |
| 4-1's                        | 2000 points           |
| 5-1's                        | 5000 points           |
| 6-1's                        | 10000 points          |
| 3 of a kind (all except 1's) | 100 times face value  |
| 4 of a kind (all except 1's) | 200 times face value  |
| 5 of a kind (all except 1's) | 500 times face value  |
| 6 of a kind (all except 1's) | 1000 times face value |

After each roll you may keep all points earned in the current turn and stop, or you may set aside one or more counters and re-roll all the remaining dice. The option to stop is only available after you have rolled 500 or more points in a single turn to "open".

NOTE: In the following example the digit columns represent:  
Dice face value---Number rolled---Points

For example, a sequence of rolls for a player during his first turn might be as follows:

Roll 1:  
1---2---200  
3---1---0  
4---1---0  
6---2---0

Player sets aside, say, both 1's for 200 points, and rolls four dice.

Roll 2:  
2---3---200  
3---1---0

In this example, the player must set aside all three 2's (as there are no other counters), for an additional 200 points, and roll the one remaining dice as he does not yet have 500 total points.

Roll 3:  
5---1---50

If no new counters appear on any roll (for example, if neither a 1 nor a 5 had come up on the 3rd example roll), you have rolled ZONKERS, and all points earned previously in that turn are lost. If, in any turn, all the dice--including those set aside--are counters, you must roll all six dice again. If no new counters appear, you have Zonked; otherwise you may either stop or set aside one or more dice and roll again.

In the three example rolls, all dice have come up counters, so the player must roll six dice again. If he rolls ZONKERS all points earned in this turn are lost. If any counters are rolled, the player will have 500 or more points and may choose to take

=== === ===

The main menu lets you vary the printing of the picture in many ways. You can change any option shown on the menu by selecting its number, the current values are shown on the right on the menu, and you can decide to go ahead and print it that way - all you have to do is press [return]

1) white dots depending on the graphic you are printing you may want to remove the colors of the dots on the printout. Most plots and graphics look best with the white dots printed black-but digitized pictures look better with white dots

2) printout is: this may be either upright or rotated. When Zoom Grafix prints rotated, the printout is always turned 90 degrees (i.e. Upside down). the [f] command from the picture menu toggles between these.

3) size: the size setting controls how many dots the printer prints for each dot on the screen. the smallest picture is 1 x 1, with each point on the screen printed as a single point on the printout. Guess what 2 x 2 does??? you can also mix values.

4) Zoom window this is the Zoom part of Zoom Grafix, and it lets you Zoom in, selecting what part of the screen is to be printed.

The four #'s are the values of the top, bottom, left and right edges of the current Zoom window, which is shown on the picture with a flashing box. with the apple ii high-res screen, there are 192 dots from top to bottom of the screen, numbered starting with 0 at the top down to 191 at the bottom. horizontally there are 280 dots, numbered starting with 0 at the left to 279 at the far right.

When the current Zoom window is less than the whole screen, you'll be given a chance to easily set it back to the full screen. Of course, if the full screen won't fit on the paper width, it will be clipped off.

As you set the values the box will change. remember you can always go back and change it.

5) left margin just a way to override the automatic centering. I wouldn't suggest fooling around with it unless necessary.

6) print width this value is preset for the printer you are using. but can be reset if you are using wider or narrower paper. This is not the width of the paper itself is the width of the widest line Zoom Grafix should print. Zoom Grafix will not permit setting too large.

7) delay this option will allow you to change the delay from the original set-up. This is especially important when printing dark areas. Printers with buffers need a longer time to cool, because the delay must be long enough for the buffer to empty out, also time is needed for the print head to cool. To make a delay while printing simply press the [spacebar] and press again to resume printing.

8) printer takes you to the printer/interface etc. Menu, but does not clear the picture.

9) line or form feeds does the obvious

10) intensity unless you have a shitty apple silentype dont worry about this.. hmmm i wont either! (no offense to you silentype owners.)

Hint  
====

Instead of using a delay select to have unidirection printing which will only print from left to right.. not from left to right to

===== DOCUMENT zoom.graphics =====

Zoom Grafix documentation

Zoom Grafix is a great utility for printing (what else?)...graphics. The following is a detailed explanation..

special keys  
=====

[esc]  
is used to escape from where you are back to the beginning. You may use it to stop printing, or just to get back to the picture menu. More about that later.

[<-]  
is used to backspace. use it to change something that you've already typed. In most of Zoom graphics, you can back up past the current line all the way to a previous selection. This can be handy in the tricky parts, like when your setting the Zoom window

[->]  
is the opposite of the [<-] key. Its used to move ahead, and it does something else; it accepts each character on the screen that it moves over (duh.)

[return]  
is the key that tells Zoom graphics that you're done entering (duh again)

[spacebar]  
is used to make Zoom Grafix stop printing..if your printer has memory in it, it may take a bit longer for it to stop.

the set up  
=== === ==

The first time you use Zoom graphics you will be asked for printer info. This set up may be changed if you are using a different printer later on.

Using the wrong set-up can't hurt your printer or computer. But the program probably won't print out the picture. If you type in a wrong answer to one of the set-up questions, you can back space with the [<-] key. using [esc] will take you back to the beginning.

the picture menu  
=== =====

The picture menu lets you see the current graphics screen while letting you change the picture by flipping it, exchanging screens, or loading a new one from a disk.

If the graphics area looks like garbage don't be alarmed; it only means you don't have a picture loaded into the screen yet. if you're trying to print graphics from another program that you were running before you ran zg, you might need to swap screens to see the pic. You want. press [s] to swap screens

If you wish to load a picture insert your dos 3.3 disk and press [1]

The flip command [f] will turn the picture upside down. this is useful in printing graphs or charts (don't ask me why though...)

the main menu

left...this should give the delay nescessary.

F I N I S