
Independence

Congratulations on your purchase of Independence! Be sure to complete and return the postage-paid registration card so we can notify you about other new products and updates to this product as they become available.

In the past the printer choices available to IIGS users have been limiting, but Independence™ gives you the freedom of choice! Independence consists of a set of GS/OS "printer drivers" that allow you to print high quality text *and* graphics on Hewlett-Packard DeskJet, DeskWriter and LaserJet printers.

Our goal was to make Independence a very useful tool and to make it valuable to you personally. By making a quality program available at a reasonable price and by not copy-protecting the disk, we think we have succeeded. **We hope that you support our efforts and encourage future updates and products by not allowing your family or friends to copy Independence.**

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We'll notify you as new versions of this program become available. Updates are always reasonably priced.

Questions and Comments

We always welcome feedback—if you have any questions, comments, or suggestions for improving this product, please let us know! In addition, we would like to hear your ideas for new programs.

Contacting Us

For orders and general product information call (904) 575-0566 from 9 a.m. to 5 p.m. ET, Monday-Friday or email *SevenHills@aol.com* anytime.

For technical questions about a specific product, send email to *SHSDave@aol.com* anytime. If you do not have email capability you can FAX your question to (904) 575-2015 anytime and we'll FAX you back. If you have neither email nor FAX capability, leave your name, address, and problem description at (904) 575-0566 and we'll mail a response.

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Getting Started

We know you are anxious to start using Independence, but please read this section first because it leads you through several important steps which you need to do only once:

- Learning conventions and terminology
- Installing Independence on the startup disks you want to use it with (including a hard disk drive)

After this section is the Reference section which covers the options available in Independence, organized for reference. It is the best place to look when you need added information or help with a particular feature.

Things You Need To Know

Requirements

To use Independence you need:

- An Apple IIGS
- A program that runs only on the Apple IIGS, with GS/OS, and supports printing.
- One 3.5" disk drive
- A hard disk drive is highly recommended for storing the large fonts required for highest quality output.
- The "Printer" port driver from System 5.0.3 or later (this port driver is included on the Independence disk).
- A Hewlett-Packard DeskJet, DeskWriter, or LaserJet.

Keys on Your Keyboard

Keys on the keyboard are referred to by the name printed on them (*Delete*, *Option*, *A*, etc.). The Command key is shown as ⌘.

Steps

Steps you should follow are indented and numbered. For example:

- ① Use Independence.
- ② Increase your printing choices.

Installing Independence

To print from a GS/OS desktop application, the appropriate printer driver must be in the System/Drivers folder of the startup disk. For example, the LaserJet driver must be in the System/Drivers folder in order to print to a Hewlett-Packard LaserJet printer.

Before installing a printer driver you'll have a chance to test it out to make sure it works with your setup. This is especially helpful if you've just connected a new printer and don't know whether it and the computer are working with each other properly.

After successfully printing a test page you can then install the appropriate driver onto the startup disks of the programs you want to use.

Starting the Original Disk

To start the original Independence disk,

- ① Insert the Independence disk into the startup disk drive.
- ② Turn on the monitor and computer (if the computer is on already, hold ⌘-Control down and press Reset). The 3.5" disk drive will come on and begin loading our Out To Launch program launcher.
*NOTE: If you haven't set your 3.5" disk drive to be the startup slot, the computer will try to start up from some other disk drive. If you get the message "Check Startup Device," hold Control down and press Reset. At the prompt type **PR#5** (assuming your 3.5" disk is connected to slot 5) and press Return.*

As Out To Launch is loaded, a "thermometer" fills up and soon the Out To Launch window is displayed. Out To Launch is a small program that gives you access to the Apple menu so you can use New Desk Accessories and lets you launch programs.

Connecting Your Printer

If you have already connected the printer using the manufacturer's instructions, you can skip to the next section. However, if you just purchased your printer and haven't yet connected and tested it, this section may help.

After unpacking the new printer according to the directions provided in the printer's manual, there are two main steps. Connect the computer and printer with a printer cable, then verify that the settings on the computer and printer are set so that they can work with each other.

Cable

Using the proper printer cable is important: If you have the wrong cable the computer and printer won't communicate properly and you'll either get "garbage" or nothing at all. Fortunately, getting the right cable is easy...if you know what to ask for!


We recommend using a serial instead of parallel connection because the cost is much cheaper (you just need a cable instead of a cable and parallel card, which also requires a slot), and it's easier to connect because you have the necessary port driver software.

For Hewlett-Packard DeskJet, DeskWriter, and LaserJet printers you need a "Macintosh Plus to ImageWriter I printer cable" (technically speaking, that's an RS232-C printer cable with mini-8 to DB-25 connectors).

This serial cable should be plugged into the Printer Port on the back of the IIGS, then attached to the serial connector on the printer.

Settings in the Apple IIGS Control Panel

To change the settings for the Printer Port:

- ① Choose Control Panels from the  (Apple) menu. At the left of the Control Panels window is a scroll box that shows all the installed Control Panel Devices (CDEVs).
- ② Open the "Printer Port" option and change the settings to match the following:



Printer Port

Device Type: Printer

Parity:

Baud:

Line Length:

Data/Stop:

Delete LF after CR

Add LF after CR

Echo

Buffering

DCD Handshake

DSR/DTR Handshake

XON/XOFF Handshake

*The Control Panel's
"Printer Port" option*

Note that the recommended Baud setting is 19200 for the fastest communication. If you plan to switch printing between the HP printer and a printer that can't communicate at 19200 baud, remember to change the baud setting when you switch printers.

Settings on the Printer

DeskJet, DeskWriter

The DeskJet settings are made by setting two groups of "DIP switches" (see the DeskJet printer manual for the exact location). All of the switches should be down, except for #5 on the right-hand set of switches.

You are now ready to try printing a test page (skip to the section titled "Printing a Test Page").

LaserJet

The LaserJet settings are made by changing options using the "control panel" at the front-right of the LaserJet. Most of the "factory default" options apply, except the method of connection (serial or parallel) and the baud rate may need to be changed.

Follow these steps to change the printer's "I/O SETTINGS":

- ① Turn on the printer, wait for it to warm up, then press the printer's ON LINE button to take the printer off-line (the indicator light will go off).
- ② Repeatedly press the printer's MENU button until DEVICE CONFIG appears in the display panel.
- ③ Press the printer's ENTER button (AUTO CONT OFF* appears in the display).
- ④ Press the MENU button (I/O PARALEL* is displayed).
- ⑤ Press the +/- button to change the display to I/O SERIAL.
- ⑥ Click the ENTER button to make the selection (an * will appear).
- ⑦ Press the MENU button to show BAUD RATE 9600*.
- ⑧ Click the +/- button to display 19200.
- ⑨ Press the ENTER button to make the selection (an * will appear).
- ⑩ Click the ON LINE button to save your selections and put the printer back on-line.

You are now ready to try printing a test page.

Printing a Test Page


In this section we'll show you how to specify which printer you want to use for printing. After choosing the appropriate printer you can use a special desk accessory for printing a test page.

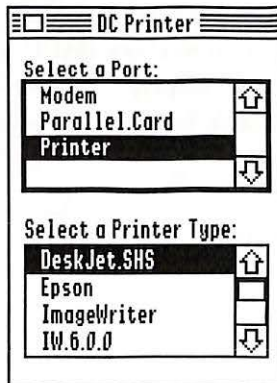
Choosing the Printer Driver

In order to print to a specific printer, the appropriate printer driver must be selected in the Control Panels New Desk Accessory (NDA).

You'll save time by following these steps now because they update a "Printer.Setup" file that indicates which port and printer driver you are using. By following these steps *before* installing Independence, the correct "Printer.Setup" file will be copied during installation.

These are the steps to choose the port and printer driver:

- ① Make sure that the disk you started the computer with is **not** write-protected (i.e., you *cannot* see through the hole at the upper-right corner of the disk). This will let your choices be saved to disk.
- ② Choose Control Panels from the  (Apple) menu. At the left of the Control Panels window is a scroll box that shows all the installed Control Panel Devices (CDEVs).
- ③ Open the "DC Printer" option:



The Control Panel's "DC Printer" option


- ④ Under "Select a Port" choose the port to which the printer is connected.
- ⑤ Under "Select a Printer Type" choose the appropriate Independence printer driver.

- ⑥ Click the close box (the box in the upper-left corner of the window) to save your choices to disk. *NOTE: The disk must **not** be write-protected, otherwise your choices will not be used.*

Print Test Page NDA

“Print Test Page” is a New Desk Accessory that presents the chosen printer driver’s “Page Setup” and “Print” dialog boxes, then prints a test page.

To print a test page using the currently-selected port and printer driver:

- ① Choose Print Test Page from the  (Apple) menu. This presents the driver’s “Page Setup” dialog box. *NOTE: If the Print Test Page NDA is not on the Apple menu then you did not start up with the 3.5" Independence disk.*
- ② Click OK to accept the default Page Setup options (or select different options) and the “Print” dialog box is displayed.
- ③ Click OK to accept the default Print options (or select different options). *NOTE: The test page is only a single page, so specifying a page range is not meaningful. Also, do not choose “Print Even Only” because the test page would not be printed (because it is page 1, an “odd” page).*

The test page should consist of a rectangle, oval, and an “X” that fills the printable area, and a smaller rectangle with text inside it. If the printout contains “garbage” or nothing prints, go back to the beginning of this “Installing Independence” section and verify you followed the steps exactly. If you still need help please contact technical support (there are no known bugs or incompatibilities in Independence).

When you are done experimenting with the test page NDA, follow the steps in the next section to install the correct printer driver onto all “startup” disks you have.

Using Apple's Installer

Before installing a printer driver from Independence, the program you want to print from must be prepared for use. If you haven't already used the program, follow the directions that came with it to get that software prepared for use. When you're done, you will have a "startup" disk—the disk that you use when starting that program. This "startup" disk is the disk onto which you will install any printer drivers or fonts from Independence.

If you are using a hard disk drive as your "startup" disk, then you only have to install an Independence driver once.

We will use Apple's Installer to install the appropriate printer driver from Independence onto the startup disks you want to use it with. Depending upon the amount of disk space you have available, you can also use it to install some of the supplied fonts.

At this point you should have started the original Independence disk, and Out To Launch should be displayed on the screen. In the Out To Launch window is an area where frequently-used applications can be listed for quick launching. We have added an item titled "Apple's Installer" so you can launch that program easily.

The "Apple's Installer" item is already highlighted, so you just need to...

- ① Click the Launch Item button to launch Apple's Installer. Soon the Installer window is displayed.

The scroll box on the left side of the window contains the "scripts" that are used to install an Independence printer driver and the special program launcher "Out To Launch". The right side of the window is used to specify which disk to install Independence on.

Installing the Printer Driver

To install a printer driver from Independence,

- ① Click on the installation script for the printer you are using (e.g., if you are using a Hewlett-Packard DeskJet, select the script "a. Install DeskJet").
- ② If the startup disk you want to install onto is not in a drive, insert it (eject a disk if necessary). *NOTE: The "startup disk" is the disk that is used to start the computer. You might have only one startup disk for all the applications you use (e.g., a hard disk drive), or you might have different startup disks for each application. You must install Independence onto each startup disk for every program you want to print with.*
- ③ If necessary, click the Disk button until the name of the startup disk to install onto is displayed above the scroll box.
- ④ Click the Install button and the printer driver is copied to the selected disk, along with the applicable port driver and the current "Printer.Setup" file.

Repeat steps ②-④ for each startup disk that you want to install onto.

Installing Fonts

Fonts that will be available in an application must reside in the System:Fonts folder of the startup disk. Fonts use a considerable amount of disk space, which is why we recommend a hard disk drive for use with Independence. If you're operating with a 3.5" disk you may not have enough room to keep a wide variety of fonts.

To install a particular font:

- ① Click on the installation script for the font you want to install (e.g., to install Helvetica, click the "b. Install Helvetica" script).
- ② If the startup disk you want to install onto is not in a drive, insert it (eject a disk if necessary). *NOTE: The "startup disk" is the disk that is used to start the computer.*
- ③ If necessary, click the Disk button until the name of the startup disk to install onto is displayed above the scroll box.
- ④ Click the Install button and several sizes of the chosen font are copied to the selected disk. You will be notified if there is not enough room to install the chosen font (see the suggestions below for 3.5" disks).

Repeat steps ①-④ for each font that you want to install.

Notes for 3.5" Startup Disks

If you are installing fonts onto a 3.5" disk drive and do not have enough space available, you can create some space by deleting your current Fonts folder (to do this you will need to use a program like Apple's Finder or Seven Hills Solution Specialists's Disk Access).

Also, if Apple's Finder is the "startup" application on the startup disk, you can create extra space by replacing the Finder with Seven Hills Solution Specialists's Out To Launch program (refer to the next section if you wish to do this). And if you remove the Finder, you can delete the Icons folder to save even more space.

After creating more space, you can try installing the fonts again.

Installing Out To Launch

Out To Launch is a small program launcher that does not provide the "housekeeping" capabilities of Apple's Finder, but it does let you launch programs. If you want to install Out To Launch, follow these steps:

*WARNING: Out To Launch replaces the "Start" file on your startup disk. If your program starts directly without using Apple's Finder, you should **not** install Out To Launch (to be extra safe you should install onto backup copies of your startup disks)!*

- ① Click on the script "c. Install Out To Launch".
- ② If the startup disk you want to install onto is not in a drive, insert it (eject a disk if necessary).
- ③ If necessary, click the Disk button until the name of the startup disk to install onto is displayed above the scroll box.
- ④ Click the Install button and Out To Launch is copied to the selected disk.

Repeat steps ②-④ for each startup disk that you want to install Out To Launch on.

Quit and Shut Down

Click the Quit button to quit the Installer and return to the Out To Launch program. When the Out To Launch window appears, choose Shut Down from the File menu to shut the computer down.

You are finished with the installation! To use an installed printer driver, insert one of the startup disks you installed onto and restart the computer. Refer to the Reference section for information about the features of each Independence printer driver.

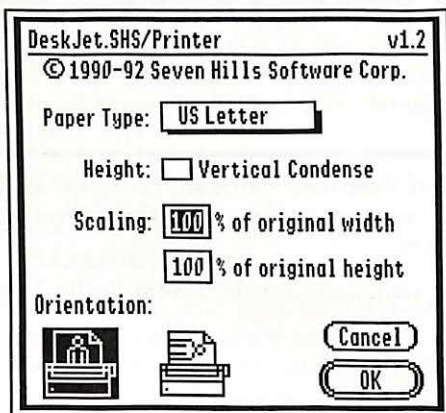
Reference

The *Reference* section describes the features found in the Independence printer drivers. This section is organized for reference—use it to learn about a specific feature.

A particular topic or command can be found in the Table of Contents or Index.

Page Setup Options

In an application, choose Page Setup from the File menu to specify the paper size and other page-related options. The following Page Setup options are available in Independence:



Independence's Page Setup dialog box

Paper Type

There are four paper sizes that can be selected, and the maximum printable area is different depending upon which printer driver is chosen:

DeskJet and DeskWriter

Paper Type	Page Size	Margins			
		Top	Bottom	Left	Right
US Letter	8.5" x 11"	.10"	.50"	.25"	.25"
US Legal	8.5" x 14"	.10"	.50"	.25"	.25"
A4 Letter	8.26" x 11.68"	.10"	.50"	.13"	.13"
#10 Envelope	9.5" x 4.125"	.10"	.65"	.75"	.75"

LaserJet

Paper Type	Page Size	Margins			
		Top	Bottom	Left	Right
US Letter	8.5" x 11"	.16"	.16"	.25"	.25"
US Legal	8.5" x 14"	.16"	.16"	.25"	.25"
A4 Letter	8.26" x 11.68"	.16"	.16"	.23"	.23"
#10 Envelope	4.125" x 9.5"	.16"	.24"	.25"	.25"

If you have the optional lower-cassette tray attached, use the printer's control panel to indicate which tray to feed paper from.

Independence sends the appropriate page size command to the printer, but the printer's MP SIZE setting is left up to you. If you switch paper sizes but do not change the MP SIZE on the printer's control panel, Independence will send all of the data for the specified page, but instead of printing the page the printer's control panel will prompt you to load the proper size paper. Once the proper paper is loaded you may cause the page to print by holding down the printer's ALT button and pressing the CONTINUE button. If you have several pages to print in this new size, you may want to change the MP SIZE.

Because you feed envelopes in sideways, when selecting #10 Envelopes you should also set Orientation to Sideways (on the screen, not on the printer's control panel). If you wish the printed information to be on the envelope with the flap at the top (typical) then you must load the envelopes reversed from what the HP manual instructs. That is, feed the envelope with the flap toward the center of the printer instead of the right side.

Vertical Condense

Vertical Condense is typically used when printing text. It prints dots more in a 1:1 ratio than the usual 2:1 "tall rectangles." The result is much better looking text output.

Depending upon the program, this option may squish bitmap graphics ("paintings") to half their normal height (some programs automatically compensate for this).

Scaling

You can adjust the size of the finished page by entering a reduction or enlargement percentage in the scaling boxes. You can adjust the height and width independently.

Scaling affects how much information you can print: By entering a reduction, more information can be put onto the page; by entering an enlargement, less information can be put onto the page.

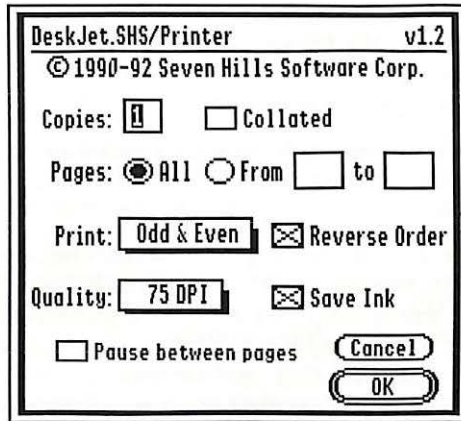
To exactly match the screen's aspect ratio, enter 104% Height and 94% Width. This is useful when an exact screen match is important, and for printing existing documents without having to reformat them first.

Orientation

Orientation indicates whether the page is printed in normal/portrait/tall orientation, or sideways/landscape/wide orientation. *LaserJet Note: You do **not** need to set the orientation mode on the printer's control panel.*

Print Options

To print something in an application you typically choose Print from the File menu, and a Print dialog box appears. The following Print options are available in Independence:



Independence's Print dialog box

After entering your print options, click OK to begin printing (see Appendix B for descriptions of the messages that appear while a document is being printed).

Copies

Up to 99 copies of each page can be printed by entering the number of copies desired.

DeskJet Notes: If there is enough computer memory to process the entire page in one pass, multiple copies will print quickly if the "Collated" option is not checked.

LaserJet Notes: The LaserJet is capable of quickly producing multiple copies of a page. For extremely fast multiple copy printing, be sure the "Collated" option is *not* checked so the Independence driver can instruct the LaserJet to produce the multiple copies.

Collated

When printing more than one copy, this option determines whether the copies will be collated or not. For example, imagine we have a two page document. When we print three copies of this document we have a choice whether they should be collated or not. Collating the copies will produce three entire documents (page 1,2; page 1,2; page 1,2), while collating produces each page three times (page 1,1,1; page 2,2,2).

DeskJet Notes: If there is enough computer memory to process the entire page in one pass, multiple copies will print quickly if the "Collated" option is not checked.

LaserJet Notes: The LaserJet is capable of quickly producing multiple copies of a page. For extremely fast multiple copy printing, be sure the "Collated" option is *not* checked so the Independence driver can instruct the LaserJet to produce the multiple copies.

Pages

You can print either All the pages of a document or a range of pages by entering numbers in the From and To boxes. To print only one page, enter that page number in both the From and To boxes (e.g. From 8 to 8).

Print

If you want to do double-sided printing, you can choose to print just the Odd-numbered pages first, then print the Even-numbered pages onto the backs of those printed pages.

Reverse Order

When this option is checked, the last page received by the driver will be printed first and the first page received by the driver will be printed last. By using this feature you can end up with a complete document in the face-up output tray in the proper readable order.

LaserJet Notes: When using the face-down output tray, uncheck the Reverse Order option to end up with the document in the proper readable order.

Quality

Quality lets you choose which printer resolution to use. The higher the number, the higher the quality: 75 Dots Per Inch (DPI) produces extremely fast, good-looking results; 150 DPI produces better-looking results (great for “near-final” drafts); 300 DPI produces the best possible printer output.

Higher quality output requires more time and memory to print. If there’s not enough memory available to print at a higher quality, you’ll be given a chance to lower the quality setting and try again. See the “Getting Imaging Memory” message in Appendix B for more information.

Achieving greater quality output is not simply a matter of commanding the printer to print at a higher DPI; to get better output the whole page must be enlarged to produce higher resolution. During this enlargement, drawn objects will become smoother, but bitmap graphics (“paintings”) will look similar regardless of the quality setting. Text will become smoother only if there is a larger font available in the System/Fonts folder.

Save Ink (DeskJet/DeskWriter Only)

This option cuts ink consumption by 50% and speeds up printing...great for rough drafts! For the best quality output, be sure to uncheck this option when printing your final output.

Pause Between Pages

When this option is checked you will be given the choice whether to continue or cancel printing before each page.

All paper feed is “automatic” in that it all comes from the paper tray. However, sometimes it is useful to pause before printing a page (such as printing the first page on letterhead, or checking the quality of a page before continuing).

Notes

Appendix A

Tips and Suggestions

Fonts

Depending upon which driver and quality you choose, double- or quadruple-size fonts are used when printing. To get the best output make sure you use fonts that also have a double- or quadruple- size available in the System:Fonts folder of the startup disk you are using.

If you have a font that only has a "large" size like 48 point, you can use that font in a smaller size (such as 12 or 24 point). The font won't look perfect on the screen but when it is printed at a higher resolution it'll look great because the larger font size is used.

TIP: WestCode Software's "Pointless" program is an ideal companion to Independence.

Paper

The paper on which you print yields different results, especially with an inkjet printer such as the DeskJet.

Regardless of the printer, results seem satisfactory with regular 20 pound photocopy paper. For printing graphics with an inkjet printer, it was suggested that a paper with 25% cotton would give very nice results because the ink would be slightly absorbed into the paper.

Technical Note

There is a print driver function (PrPixelFormat) that is used by some programs to produce a quick print of a single page without going through the normal printing process. A likely use for this function would be to print a "snapshot" of the current screen.

Because this method completely bypasses the normal Page Setup and Print dialogs, you'd normally just have to accept some pre-determined options. The Independence drivers, however, print using the most-recently accepted print options so that you can control the results.

Software

AppleWorks GS version 1.1

Most modules print each page as if it was an entirely separate document. Because every page is essentially page 1, two handy features of the Independence drivers are useless in those modules:

- Printing "Odd only" or "Even only" is meaningless.
- The Collation option is meaningless, and fast multiple-copy printing cannot be done.

Fitting the printout onto a single page

Some programs (particularly painting programs) have a fixed page size in which you can work, while individual printers may be able to print more than or less than this fixed size. If a printer can print more than the fixed size, then it's not a problem. But if a printer fits less than the fixed size onto the paper, the question is "where does the extra information go?"

Some programs ignore the extra information and just "clip" the printout at the edge of the paper. Here are two suggestions you can try if you don't want to lose the extra information:

- Choose Page Setup and set the scaling factors to reduce the image enough to fit it on the paper. To accomplish the reduction, some dots have to be removed from the picture, which might distort the image, especially at lower resolution settings. To match the IIGS screen, specify 104% Height and 94% Width.
- If the image is only about one screenful tall, choose Page Setup and specify "sideways" orientation so the width of the picture fits down the length of the page. Because this suggestion does not involve reducing the image, the picture is not distorted; just turned sideways.

Other programs (such as SuperConvert and DrawPlus) automatically print separate sheets for anything that doesn't fit onto a single page, and you can then paste the pages together to get the whole image. If you want just a single page you can either try the suggestions above, or if you'd rather have the "clipped" output, print just page 1.

High quality graphics

Here are two tips for printing high quality bitmap or "painted" graphics (not applicable to text or "draw-type" graphics):

- Try different resolutions: Even though the screen picture has a fixed resolution (maximum 80 DPI), different printer resolutions will affect the printed result.

For black and white graphics, or other graphics with "sharp" edges, using the lowest DPI setting usually gives the best results.

For grayscale graphics, or other graphics that look "near photographic" on the screen, using a higher DPI usually gives a better result. On the DeskJet or LaserJet, 150 DPI usually works well (and it's faster than 300 DPI).

- When using the DeskJet you can use the "Save Ink" option to lighten a dark graphic.

If you use a page layout program, you can mix text and bitmap graphics on the same page. Because the printed quality of a bitmap graphic changes depending upon the selected printer resolution, you may want to print the graphic separately at its best resolution, then hand-paste it onto the final highest-resolution output.

Notes

Appendix B

Messages

No matter which Independence printer driver you are using, after clicking "OK" to begin printing you will see a series of messages. This section explains each message you could see with Independence.

The following terms are used:

Application: The program you are using (e.g. GraphicWriter III, AppleWorks GS, etc.).

Driver: The particular printer driver you are using (e.g. DeskJet, LaserJet, etc.).

Preparing Data

At this stage the application is sending page drawing commands to the driver. The driver stores these commands until all pages have been collected.

If you get an out of memory message at this stage, it usually means you have a very small amount of memory in your computer, or that you are using a large application. See the next section for suggestions on increasing the amount of memory available.

NOTE: The page numbers displayed during the collection phase are not necessarily your original page numbers. They always begin at 1 and count up one for every page that the application sends.

Getting Imaging Memory

All the pages have been stored and now the driver is requesting memory for imaging and printing the pages. The higher the desired quality, the more memory is required.

More memory is also needed if you use scaling reduction. If you use very small scaling numbers (for extreme reduction) and select a high quality, you may see a message that the job is out of range and has been cancelled; try less reduction or less quality.

If there is not enough memory to print a page you will be given a choice of either automatically reducing the quality and trying again, or aborting the printing process. If there's not enough memory to print even at the lowest resolution, you will only have the option to abort.

Increasing Memory

Independence uses memory very efficiently, so you probably won't see any "out of memory" messages. However, printing is very memory-intensive and the more memory your computer has available the faster printing will be. Here are some suggestions to make the most out of the memory you have:

- Remove unused New Desk Accessories (NDAs) and Classic Desk Accessories (CDAs). NDAs and CDAs are loaded into memory when you start the computer; so unused desk accessories just waste memory.
- Close windows that aren't needed. If you're using a program that lets you open multiple documents at once, close the document windows that you aren't using.
- If you're printing many pages, try printing smaller ranges. For example, instead of printing all pages of a 10 page document, try printing pages 1-5 then 6-10 (or even smaller sections).

Printing In Progress

A status message window is displayed that shows the various stages of the printing process. The terms used in this message dialog are explained below:

Check Printer: (LaserJet only): If your print job seems stalled on this message, the printer is probably out of paper or off line.

Drawing: The previously stored commands are played back to build the page in memory.

Scaling: Any scaling reduction or enlargement is applied to the image of the page. This step is skipped if both width and height are 100%.

Imaging: The image of the page is converted from color pixels to grayscale patterns.

Rotating: The page image is rotated clockwise 90° in memory, if Sideways/Landscape orientation is used.


Printing: The final image is being sent to the printer.

Below the main message, up to three progress indicators are displayed:

Band: Higher quality output requires more memory to print. Because not many people have enough memory to process an entire page at once, processing is done in smaller “bands” that will fit into memory. This count shows how many bands each page is broken into, and which band is currently being processed.

Page: This indicates the how many pages will be printed, and shows which page is currently being processed. *NOTE: The numbers are not actual page numbers, but a count of pages to print.*

Copy: This indicates the total number of copies to be printed, and which copy is currently being processed. *NOTE: Some printers (such as the Hewlett-Packard LaserJet) can handle multiple, uncollated copies internally. When this built-in capability is being used for generating multiple copies, no “Copy” message is displayed.*

Press  to cancel: Some stages in the printing process cannot be interrupted, but your request to cancel will be honored as soon as possible.

Notes

[Faint, illegible text covering the majority of the page, likely bleed-through from the reverse side.]

Index

This index attempts to reference all the topics you might look up. If you are looking for a particular topic and can't find it, please let us know so we can incorporate it in the next printing of the manual.

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