

Impressario™ User's Guide

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New Features in This Guide

This rewrite of the Impressario User's Guide supports the 6.5.10 release of applications for the IRIX operating system.

Documentation Changes

Chapter 3, "Scanning with Impressario," contains new information about scanning an image when using a transparency adapter on an HP ScanJet scanner.

Contents

Figures	xi
Tables	xiii
1. Getting Started With Impressario	1
Overview of Impressario Tools	1
Opening Impressario Tools	2
Opening an Application From a UNIX Shell	3
Turning Pages in the Icon Catalog	4
Supported Printers and Scanners	4
Setting Up an Impressario Printer	4
Updating Impressario Printers	5
Setting Up an Impressario Scanner	6
Overview of the Scanner Manager	7
About the Menus	7
Setting Up Scanner Software	7
Deleting a Scanner	9
Setting the Default Scanner	9
Starting the Scanning Tool	9
2. Printing With Impressario	11
Understanding the Different Printer Icons	12
Icons for Impressario and Generic Printers	12
Icons for Different Types of Impressario Printers	13
Icons That Show the Printer's Status	13
Cancelling a Print Job	14
Checking a File's Status in the Print Queue	14
Dragging and Dropping Files to Print	15

- Setting Options for Printing Files 15
 - Changing Printer Settings for All File Types 16
 - Changing Printer Settings for PostScript Files 16
 - Changing Printer Settings for Image Files 18
 - Changing Printer Settings for Text Files 19
 - Saving Printer-Specific Options 20
- 3. Scanning With Impressario 23**
 - Overview of the Scanning Tool 24
 - Opening gscan 24
 - Sources You Can Scan From 24
 - Sources You Can Scan To 25
 - About the Menus 25
 - The Setup Menu 25
 - The Parameters Menu 26
 - The Scan Menu 27
 - The View Menu 27
 - The Other Tools Menu 27
 - The Help Menu 28
 - The Scanning Process 28
 - Choosing the Image Source 29
 - Choosing to Scan From a Scanner 29
 - Choosing to Scan From an IRIS Screen 30
 - Choosing to Scan From an SGI Image File 31
 - Choosing the Scanning Destination 31
 - Using Color Management 31
 - Understanding Impressario’s Color Management 31
 - Choosing a Source Profile 32
 - Choosing a Destination Profile 32
 - Prescanning the Entire Image 33
 - Cropping the Prescanned Image 34
 - Zooming the Image 35
 - Prescanning the Cropped Image 35

Setting the Scanning Resolution	35
Adjusting Advanced Resolution Settings	36
Choosing Color, Grey Scale, or Black and White	37
Scanning the Final Image	37
Scanning to a File	37
Using an Automatic Document Feeder	38
Scanning to a Screen	39
Scanning to a Printer	39
Stopping a Scan Before It Is Complete	40
Saving Scanning Settings	40
4. Viewing Files With vstiff	41
Overview of vstiff	41
Opening a File	42
Setting PostScript Options	42
5. Impressario Administration	43
Setting Default Printer Options for the System.	43
Client/Server Printing	44
Printer Settings.	45
The Settings File	45
Creating Multiple Configurations for a Single Printer	46
Client/Server Scanning	47
Viewing a Document Online	47
Troubleshooting Printing Problems	48
A Troubleshooting Roadmap	48
Job Never Appears in the Local Queue	51
Job Never Appears in the Remote Queue	53
Job Disappears From a Queue but Never Prints	55
Checking and Restarting lpsched	57
Understanding the Printing Process	58
Where the Printing Process May Fail	59
Troubleshooting Tools	61
Glossary	63

Figures

Figure 1-1	Printing Tools in the Icon Catalog	2
Figure 1-2	Find the Toolchest on Your Desktop	3
Figure 2-1	Impressario and Generic Printer Icons	12
Figure 2-2	Impressario Icons for a Black and White PostScript Printer and a Color Raster Printer	13
Figure 2-3	Impressario Icons When the Printer is Idle, Busy, and Broken . . .	14
Figure 2-4	Change PostScript Settings for PostScript and Text Files	17
Figure 2-5	Change Image Settings for SGI Image Files	18
Figure 2-6	Change Text File Settings for Text Files	19
Figure 3-1	The gscan Window With a Prescanned Image	33
Figure 3-2	The gscan Window With an Area of the Prescanned Image Cropped	34

Tables

Table 1-1	Summary of Printing and Scanning Application Names	3
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Getting Started With Impressario

Overview of Impressario Tools

Impressario™ provides a full range of tools and *drivers* for printing, viewing, and scanning a variety of image types. The product includes or interacts with the following applications:

Viewing tools

- Use `vstiff` to view a file and check it for errors before final printing or scanning. See Chapter 4, “Viewing Files With `vstiff`.”

Scanning tools

- Use `gscan` to select, preview, crop, and scan an image from a scanner, a file, or your monitor’s screen. See Chapter 3, “Scanning With Impressario.”
- Use `scanners` to add, configure, or remove scanners. This tool is also known as the Scanner Manager. See “Setting Up an Impressario Scanner” on page 6.

Printing tools

- Use `PrintStatus` to check which print jobs are in the queue, or delete a print job from the queue. See “Cancelling a Print Job” on page 14.
The printer icon shows you if the printer is idle, busy, or broken. See “Understanding the Different Printer Icons” on page 12.
- Use `PrintPanel` to send a file to a printer, and to choose printer options like number of copies and paper size. See “Setting Options for Printing Files” on page 15.
- Use `printers` to add, configure, or remove printers. This tool is also known as the Printer Manager. See “Setting Up an Impressario Printer” on page 4.
- Use `imprint` to convert any text file to PostScript® when you are not using the `PrintPanel`. This is a tool for advanced users. See the reference (man) pages for details.

Developer software

- Use Impressario’s developer software to create your own scanner and printer *drivers*. This is a tool for software programmers.

Built-in Features

- An Adobe Level II PostScript Interpreter.

Note: You must purchase an optional license if you wish to use the Adobe PostScript interpreter.

- Behind-the-scenes filters that can convert most file types to a format that you can view or print.
- Sophisticated printer *drivers* that let you control the printers’ advanced capabilities through software options panels, and that report up-to-the-minute status on the printers and print jobs.

Note: `scanners`, `printers`, `imprint`, `PrintStatus`, and `PrintPanel` are installed with your system software. Because Impressario interacts with these tools, they are included in this overview.

Opening Impressario Tools

Impressario printing and scanning tools appear in your Icon Catalog (see Figure 1-1).

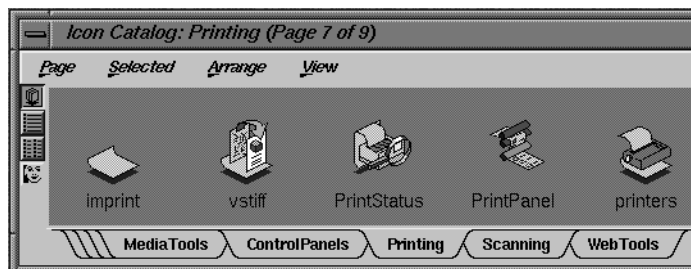


Figure 1-1 Printing Tools in the Icon Catalog

1. To open the Icon Catalog, choose Find, then “Applications” from your toolchest. See Figure 1-2 to see an example of the toolchest.



Figure 1-2 Find the Toolchest on Your Desktop

2. Shuffle the pages so you can see the Printing and Scanning group pages. See “Turning Pages in the Icon Catalog” on page 4 for more details.
3. To open an application, double-click its icon. You can drag any of these icons to your desktop.

Opening an Application From a UNIX Shell

You can open an application by opening a UNIX® shell from the Desktop *toolchest*, typing the application name, and pressing **Enter**. For information on opening applications using their icons, see “Opening Impressario Tools” on page 2.

Table 1-1 Summary of Printing and Scanning Application Names

Icon Name	Command for UNIX Shell	Other Names for Tool
printers	printers	Printer Manager
PrintStatus	printstatus	Printer Status Panel
PrintPanel	printpanel, glp	Printer Panel, glp
imprint	imprint	none
scanners	scanners	Scanner Manager
gscan	gscan	Scanning Tool
vstiff	vstiff	Viewing Tool

Turning Pages in the Icon Catalog

The *Icon Catalog* stores collections of icons on pages. To turn from one page to another, place the cursor over the tab; then click the left mouse button. You move to that page.

Some of the tabs might not fit in the space provided. When this happens, a stack of unnamed tabs appears at the left or right edge of the tab display area. To turn to a page whose tab is hidden:

1. Place the cursor over the stack of unnamed tabs; then press the left mouse button.
2. Choose a page from the menu that appears

Supported Printers and Scanners

For the most current list of supported devices, check the *Impressario Release Notes*.

If your device is not supported, contact your SGI® representative or your local telesales representative. A *driver* may already be available as an add-on product, or a new driver can be written by following the instructions provided in the *Impressario Programming Guide*.

Setting Up an Impressario Printer

Make sure your *Impressario printer* is listed in “Supported Printers and Scanners” on page 4, then set it up by following these steps:

1. Install the Impressario software on the system which you plan to use as the *print server*. See the *Impressario Release Notes* for instructions.
2. If you plan to connect a SCSI printer, shut down your system by choosing “System Shutdown” from the System *toolchest*.
3. Set up the printer according to the instructions in the manual that came with the printer, and connect it to your system (or the network) with the appropriate type of cable.

Cabling information in the printer manufacturer’s manual and in your owner’s guide can help you to build or purchase the correct type of cable.

4. Power on the printer.

Note: Always power on attached SCSI devices before powering on and starting up your system.

5. If you connected a SCSI printer, power on and restart the system.
6. Use the Printer Manager to add the printer to your list of available printers and to choose the correct *driver* for the printer.
 - Start the Printer Manager by choosing “Printer Manager” from the System toolchest.
 - Choose “Add...” from the Printer menu.
 - Click the *OK* button. This updates the printer to use the latest Impressario printer drivers.
7. When the printer is configured, its icon appears in the main window of the Printer Manager.

Shortcut: To access the printer from the desktop, drag its icon onto the desktop. To print, drag and drop your file on this printer icon. Double-click the icon to see the Printer Status Panel.

For a summary of printing capabilities that are available only with Impressario printers, see Chapter 2, “Printing With Impressario.”

Updating Impressario Printers

When you update or reinstall your Impressario software, you must also update your previously installed Impressario printers.

Use the Printer Manager to reinstall the printers:

1. Start the Printer Manager by choosing “Printer Manager” from the System toolchest, or by double-clicking the *launch icon*.
2. Choose “Change Connection” from the Printer menu.

3. Click the *Help* button in the Change Connection window for details on setting up the printer.

Setting Up an Impressario Scanner

Make sure your scanner is listed in the *Impressario Release Notes*, then set up your scanner by following these steps:

1. Install the Impressario software on the system to which you plan to connect the scanner. See the *Impressario Release Notes* for instructions.
2. Shut down your system by choosing "System Shutdown" from the System *toolchest*.
3. Set up the scanner according to the instructions in the manual that came with the printer, and connect it to your system using a SCSI cable.

Use the cabling information in the scanner manufacturer's manual and in your owner's guide to purchase the correct type and length of SCSI cable.

4. Power on the scanner.

Note: Always power on attached SCSI devices before powering on and starting up your system.

5. Power on and restart the system, then use the Scanner Manager to add the scanner to your list of available scanners and to choose the correct *driver* for the scanner.
 - Start the Scanner Manager by choosing "System Manager" from the System *toolchest* and double-clicking the Scanner Manager icon.
 - Choose "Install..." from the Scanner menu.
 - Click the *Help* button in the Install New Scanner window for details on setting up the scanner, or see "Setting Up Scanner Software" on page 7.
6. When the scanner is configured, its name appears in the main window of the Scanner Manager.

For information on scanning using *gscan*, see Chapter 3, "Scanning With Impressario."

Overview of the Scanner Manager

The Scanner Manager lets you:

- Set up system software so you can use a scanner that's physically connected to your system or to another SGI system on the network.
- Start `gscan`, the tool that you use to scan images.
- Set the default scanner, which is the scanner that `gscan` automatically assumes you'll be using when you start `gscan` from the desktop.
- Delete a scanner from your list of available scanners.

For a list of scanners that Impresario supports, see the *Impresario Release Notes*.

About the Menus

The Scanner menu contains these choices:

- "Install" lets you set up a new scanner that's connected to either your own system or another system on the network.
- "Open" starts `gscan` using the selected scanner.
- "Delete" removes the selected scanner from the list of available scanners.
- "Default" makes the selected scanner the default scanner. This is the scanner that `gscan` will automatically choose each time you open `gscan`.
- "Quit" stops the Scanner Manager and closes its window.

The Help menu contains a list of help topics. To view a topic, choose it from this menu.

Setting Up Scanner Software

Make sure your scanner is listed in "Supported Printers and Scanners" on page 4, then set up the software by following these steps:

1. If the Scanner Manager is not already running, start it by choosing "System Manager" from the System *toolchest* and double-clicking the Scanner Manager icon.
2. Choose "Install..." from the Scanner menu.

The Install New Scanner window appears.

3. Enter a name for the scanner in the **New Scanner Name** field.
The name can consist of up to 14 characters; no special characters are allowed.
4. Specify whether the scanner is connected to your own system or to another SGI system on the network.
 - Click the box next to *Local Host* if the scanner is connected to your system.
 - Click the box next to *Remote Host* if it's connected to another SGI system.
5. Specify which scanner you want to use.
 - If this is a local scanner, click to select the correct scanner type from the **Scanner Type** list.

The Scanner Manager fills in the *Scanner Device* field with the SCSI device information for the scanner that you selected. The Scanner Manager can fill in this field only if you connected the scanner securely, powered on the scanner before powering on the system, and selected the correct scanner type from the list.

If the Scanner Manager does not fill in the field, you can manually enter the device information. It must be in this form:

```
/dev/scsi/sc<controller>d<address>10
```

Where *<controller>* is the number of the SCSI controller to which the device is connected, and *<address>* is the SCSI address of the device. Note that the last two characters are the letter "1" and the number zero (0). For example, for a device with an address of 3 that's connected to controller number 0, you enter:

```
/dev/scsi/sc0d310
```

For more information on SCSI devices, see "About SCSI Devices, Controllers, and Addresses" in Chapter 7 of the *Personal System Administration Guide*.

- If the scanner you'd like to add is a network scanner, type the name of the SGI system to which the scanner is connected in the *Remote Host Name* field, click the *List Scanners* button, then click to select a scanner from the *Scanner List*.
6. Click *OK*. If the scanner does not install (some scanners may have a SCSI timeout at this point), then click *OK* a second time. If there was a timeout, the scanner should install on the second attempt.

The scanner appears in the list on the main scanners window, and is now ready for use. To scan an image using this scanner, select the scanner, and choose "Open" from the Scanner menu. Then use the online help that's available in the *gscan* window.

Deleting a Scanner

To delete an installed scanner:

1. If the Scanner Manager is not already running, start it by double-clicking the *launch icon* here, or by choosing “System Manager” from the System *toolchest*, and double-clicking the Scanner Manager icon.
2. Click to select the scanner you want to delete.
3. Choose “Delete” from the Scanner menu.
A message box appears to confirm that you really want to delete the scanner.
4. Click *OK* in the message box.

The scanner is now deleted.

Setting the Default Scanner

You can use the Scanner Manager to specify a default scanner, which is the scanner that *gscan* automatically assumes you’ll be using when you start *gscan* from the desktop. To use a different scanner for a specific scanning job, choose Scanner Source from *gscan*’s Setup menu.

To select a default scanner:

1. If the Scanner Manager is not already running, start it by choosing “System Manager” from the System *toolchest* and double-clicking the Scanner Manager icon.
2. Click to select the scanner you want to use as the default.
3. Choose “Default” from the Setup menu.

The selected scanner is now the default scanner.

Starting the Scanning Tool

You can start the scanning tool, *gscan*, from the Scanner Manager by following these steps:

1. If the Scanner Manager is not already running, start it by choosing “System Manager” from the System *toolchest* and double-clicking the Scanner Manager icon, or by double-clicking the *scanners* icon found in your *Icon Catalog*.
2. Click to select the scanner from which you want to scan an image.
3. Choose “Open” from the Scanner menu; the *gscan* window appears.

Use the Help menu for information on using *gscan*, or see Chapter 3, “Scanning With Impressario.”

Printing With Impressario

Impressario lets you:

- Check the status of a printer by viewing the printer's icon. See "Understanding the Different Printer Icons" on page 12.
- Cancel a print job. See "Cancelling a Print Job" on page 14.
- Choose a file to print by dragging the file icon onto the printer icon. See "Dragging and Dropping Files to Print" on page 15.
- Check the status of a print job in the print queue. See "Checking a File's Status in the Print Queue" on page 14.
- Set simple and more advanced printing options. See "Setting Options for Printing Files" on page 15.
- Save printer settings so that all application programs with print commands use the settings. See "Saving Printer-Specific Options" on page 20.

You can also read about:

- "Setting Up an Impressario Printer" on page 4.
- "Troubleshooting Printing Problems" on page 48.

Understanding the Different Printer Icons

Open the Printer Manager by choosing it from your *System toolchest*, or by double-clicking its icon in your *Icon Catalog*. Notice that an icon for each available printer appears in the Printer Manager window.

Shortcut: You can click and drag any of these printer icons onto your desktop. To submit jobs to the printer, drag a file onto the printer icon. To check the printer's queue, double-click the printer icon.

- There are two kinds of printer icons: Impressario and generic. See "Icons for Impressario and Generic Printers", below.
- Impressario icons change to reflect your printer's status. See "Icons That Show the Printer's Status" on page 13.
- Impressario icons show you if the printer is PostScript or raster, and if it is color or black and white. See "Icons for Different Types of Impressario Printers" on page 13.

Icons for Impressario and Generic Printers

Impressario printers have tall, boxy icons. *Generic printers* have shorter icons with knobs; see Figure 2-1.



Figure 2-1 Impressario and Generic Printer Icons

- Generic printer icons always appear the same.
- Impressario icons change to reflect your printer's status. See "Icons That Show the Printer's Status" on page 13.
- Impressario icons show you if the printer is PostScript or raster, and if it is color or black and white. See "Icons for Different Types of Impressario Printers" on page 13.

Impressario printers are those printers that Impressario supports. Custom printer drivers and printing options are available for supported printers. See your *Impressario Release Notes* for details on supported printers.

Note: If your printer is supported by Impressario, but a generic printer icon appears in the Printer Manager (instead of an Impressario printer icon), see “Setting Up an Impressario Printer” on page 4 to reinstall the printer.

Icons for Different Types of Impressario Printers

The piece of paper exiting the top slot of the printer icon describes the printer’s type: black and white PostScript, color PostScript, black and white raster, or color raster. See Figure 2-2.



Figure 2-2 Impressario Icons for a Black and White PostScript Printer and a Color Raster Printer

Icons That Show the Printer’s Status

Only Impressario icons change to show a change in the status of the printer, as shown in Figure 2-3 and described here:

- An idle *Impressario printer* icon shows that the printer is not currently printing a job. The printer named “Impressario” in Figure 2-3 is currently idle.
- A busy Impressario printer icon shows that the printer is currently printing a job. The printer named “PlainEnglish” in Figure 2-3 is currently busy.

- A broken Impressario printer icon shows that the printer is unable to print at this time. For example, it may be out of paper, have a paper jam, or be turned off. The printer named “BWPostScript” in Figure 2-3 is currently broken.

To see more details on a broken printer, double-click the printer’s icon to see the PrintStatus window. Look for an error message in the window below Current Printer Status.



Figure 2-3 Impressario Icons When the Printer is Idle, Busy, and Broken

Canceling a Print Job

To cancel a print job, open `PrintStatus` by clicking its icon in your *Icon Catalog*. Choose “Cancel Selected Job” from the Queue menu.

Checking a File’s Status in the Print Queue

To check if a file is waiting to be printed:

1. Open `PrintStatus` by double-clicking its icon in your *Icon Catalog*.
2. Check the title bar for the correct printer. For example, if your printer is named “InkJet,” the title bar will read: **Printer Status Panel for printer ‘InkJet’**.
3. If necessary, change to the Print Status for another printer by choosing “Print Status for” from the Other Tools menu.
4. Check for your filename in the Printer Request Queue window. Impressario prints your files in the order that they appear in this queue, starting from the top. Each filename disappears from the queue after it has been printed.
5. You can check if the printer is idle, busy, or not working by looking at its icon.

Note: Printers with built-in PostScript only display a busy icon during the time it takes to transmit the file to the printer (which may only require a few seconds). See “Icons That Show the Printer’s Status” on page 13.

Dragging and Dropping Files to Print

You can print a file by dragging its icon over a printer’s icon. To do this:

1. Open the Printer Manager from the System *toolchest* or double-click its icon in your *Icon Catalog*.
2. Click and drag a printer icon to your desktop.
3. To print, drag and drop your file on this printer icon.
4. To see the file in the printer’s queue, double-click the printer’s icon. Also see “Understanding the Different Printer Icons” on page 12.

Setting Options for Printing Files

Set general printing options in the Options frame of the PrintPanel. For Impressario printers, set printer-specific options by choosing *More Options...* from the PrintPanel. See your *Impressario Release Notes* for a list of Impressario printers.

Tip: To see detailed information on More Options choices, pass your cursor over an item. A description appears in a frame at the top of the More Options window.

Read about:

- “Changing Printer Settings for All File Types” on page 16.
- “Changing Printer Settings for PostScript Files” on page 16.
- “Changing Printer Settings for Image Files” on page 18.
- “Changing Printer Settings for Text Files” on page 19.
- “Saving Printer-Specific Options” on page 20.

Note: Any changes you make to the settings apply only to your own print jobs. For example, if user *joe* changes any settings, the changes apply only to his print job; user *bob*'s print jobs use his own custom settings or the default settings. You can also save any changes you make so they'll apply to all subsequent print jobs sent to the same printer. See "Saving Printer-Specific Options".

The *Administrator* can specify default printer settings for all users, but individual users can override them for their own print jobs; see "Setting Default Printer Options for the System" on page 43.

Changing Printer Settings for All File Types

General printing settings apply to all three file formats that Impressario supports. They often include:

Paper Size Specify the size of paper in the printer's paper tray by clicking the box next to *A* (8.5x11-inch), *A4* (European A-size) or *Legal* (8.5x14-inch).

Printer Resolution Some printers can print at a range of resolutions. The lower the *resolution*, the poorer the quality of the printed image.

Print Banner Page Specify whether to print a banner page as page one of the job. Click in the *Yes* box to print the banner page; click in the *No* box to keep the printer from printing the banner page.

Verbose Logging Specify whether to report the details of all printing activity in the `/var/spool/lp/log` file. Click in the *On* box to turn on verbose logging; click in the *Off* box to turn it off.

Depending on the printer's type and model, more general options may be available; for example, you may be able to specify whether to print in color or in black and white.

Changing Printer Settings for PostScript Files

Find PostScript File Options by clicking on *More Options...* in the PrintPanel window. Scroll down until you see PostScript File Options.

You can change the printer settings for PostScript files and for Text files by changing PostScript File Options.



Figure 2-4 Change PostScript Settings for PostScript and Text Files

Note: Impressario changes plain text files to PostScript files before printing them out on either PostScript or raster printers. This is why you can use PostScript File Options to change the printer settings for plain text files.

Tip: Pass your mouse icon over each option item. Details on each item appear in the top frame of the More Options window.

PostScript printing options include:

- **Page Ordering**—*Normal* prints so page one is the first page of the job; *Reversed* makes page one the last page. Click the box next to the option that you prefer.
- **Page Range**—Lets you print all pages or a subset of pages and, within the range you select, lets you print only even or only odd pages.
 - To print all pages, click the box next to *All*.
 - To print all odd pages in the file, click the boxes next to *All* and *Odd Pages Only*; to print all even pages, click the boxes next to *All* and *Even Pages Only*.
 - To print a subset of pages, click the box next to *From*, then type the starting page and ending page in the fields.
 - To print all odd pages within this subset of pages, click the box next to *Odd Pages Only*; to print all even pages within the subset, click the box next to *Even Pages Only*.

Changing Printer Settings for Image Files

Find Image File Options by clicking on *More Options...* in the PrintPanel window. Scroll down until you see Image File Options.

The options for printing Image files let you control the orientation, darkness, and size of the printed image. These options apply only to image files.



Figure 2-5 Change Image Settings for SGI Image Files

Tip: Pass your mouse icon over each option item. Details on each item appear in the top frame of the More Options window.

To change the orientation of the image on the page, change one or more of these settings:

- **Mirror Image**—Click this box to flip the image horizontally.
- **Rotate**—Click the box next to *Best Fit* to automatically rotate and scale the image so that it is printed as large as possible on the page.

Click the box next to *Angle* and type in the number of degrees you would like to rotate the image. The image rotates in a counter-clockwise direction, so typing 90 in this field rotates the image 90 degrees to the left.

- **Darkness**—To change the darkness of the image, either slide the bar next to *darkness*, or type a value in the field that's next to the darkness bar. The lower the darkness value, the lighter the image.
- **Scaling**—To change the size of the image, change one or more of these *Scaling* settings:
 - **None**—Click this box to make the image as large as possible for the specified paper size.
 - **Match Input Resolution**—The resolution of an image is the number of dots per inch (dpi) that are in the image.

To make the printed image the same size as the image on your screen, enter the resolution of your screen in this field.

To find the resolution of your screen, in a shell window, type:

```
/usr/bin/X11/xdpyinfo | grep resolution
```

If your screen's resolution is 72 dpi, you see this message:

```
72x72 dots per inch
```

If your screen's resolution is 96 dpi, you see this message:

```
96x96 dots per inch
```

When printing an image that you originally scanned in, you can match the size of the image to the original by entering the resolution at which you scanned in the original.

- *Page Fill*—Specify what percentage of the printed page your image should occupy. Impressario scales and centers the image to fit.

Changing Printer Settings for Text Files

Find Text File Options by clicking on *More Options...* in the PrintPanel window. Scroll down until you see Text File Options.

The Options window lets you set text file printing options. Click the *Yes* box next to *Format Text* and several options become available.

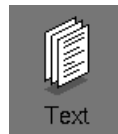


Figure 2-6 Change Text File Settings for Text Files

Tip: Pass your mouse icon over each option item. Details on each item appear in the top frame of the More Options window.

To print headers on each page, click the box next to *Yes*.

To change the layout of the text on the page, change these settings:

- **Orientation**—Click *Portrait* to orient your text vertically (the way the text of standard documents is oriented); click *Landscape* to orient it horizontally.
- **Columns Per Page**—Click the box next to the number of columns you would like; all columns are the same width, with approximately a 1/8" margin between them. Your text will flow from one column to the next.

To change the font style and size, change these settings:

- **Font**—Click any font that appears in the scrolling list.
- **Size**—Click any font size.

Saving Printer-Specific Options

The Save button in the PrintPanel window saves two groups of settings:

- The settings in the PrintPanel window, which apply to all printers shown in the list of available printers. This information is saved in the `.glprc` file in your home directory.
- The settings that you change in the Options window for the selected printer (the printer whose name is highlighted in the *Available printers* list). These settings are saved in a file named `/var/spool/lp/settings/<printername>/<username>`.

When you save these settings, they apply only to jobs that you submit to the printer; they do not apply to jobs that other users submit. The *Administrator* can change system default settings for a printer, but any user can override these settings for their own jobs; see “Setting Default Printer Options for the System” on page 43.

To save printer-specific settings, follow these steps:

1. When the settings in the Options window are correct, click the *OK* or *Apply* button.
2. In the PrintPanel window, click the *Save* button.

You see the Save Settings window, which shows a list of all printers whose settings you have changed during this session with PrintPanel.

3. In the Save Settings window, select the printer(s) whose settings you want to save, then click the *Save* button.

Note: If you are the *Administrator*, you see two buttons for saving: *Save-Personal* saves the settings only for you; *Save-All Users* saves the settings for all users.

The settings that apply to all printers and the printer-specific options are now saved and will be in effect the next time you print a job from the desktop or from an application program.

Now you can either print the file that is specified in the *Files to print* field by clicking the *Print* button, or you can dismiss the PrintPanel window by choosing "Quit" from the File menu.

Scanning With Impressario

This chapter explains how to use `gscan` to scan images. It assumes that you have a scanner connected to your system, and that you have set up the scanner software as described in “Setting Up an Impressario Scanner.”

The chapter covers these topics:

- “Overview of the Scanning Tool” on page 24
- “About the Menus” on page 25
- “The Scanning Process” on page 28
- “Choosing the Image Source” on page 29
- “Choosing the Scanning Destination” on page 31
- “Using Color Management” on page 31
- “Prescanning the Entire Image” on page 33
- “Cropping the Prescanned Image” on page 34
- “Prescanning the Cropped Image” on page 35
- “Setting the Scanning Resolution” on page 35
- “Choosing Color, Grey Scale, or Black and White” on page 37
- “Scanning the Final Image” on page 37
- “Stopping a Scan Before It Is Complete” on page 40
- “Saving Scanning Settings” on page 40

Overview of the Scanning Tool

The Impressario tool `gscan` lets you scan images from a variety of sources. Its main window lets you select an image, preview it, crop it if necessary, and scan it to a selected destination. You can even scan images to and from any IRIS® screen on your network, allowing you to share information quickly without leaving your workstation.

Learn about:

- “Opening `gscan`” on page 24.
- “Sources You Can Scan From” on page 24.
- “Sources You Can Scan To” on page 25.

Opening `gscan`

To open `gscan`, see “Opening Impressario Tools” on page 2.

You can also start `gscan` in these ways:

- In the Scanner Manager, select the scanner you want to use, then choose “Open” from the Scanner menu.
- On the desktop, double-click the `gscan` icon.

If the `gscan` icon is not on your desktop, choose “An Icon” from the Find *toolchest*, type `gscan` in the Find an Icon window, then drag the icon that appears out onto your desktop.

- On the desktop, drag your SGI Image file onto the `gscan` icon. This starts `gscan` with the file selected as the *image source*.

Sources You Can Scan From

`gscan` lets you scan an image from:

- an installed scanner
- an IRIS screen, either your own or another one on the network
- an SGI Image file

Sources You Can Scan To

gscan lets you scan the image directly to:

- an SGI Image file or a TIFF file
- an IRIS screen, either your own or another one on the network
- a printer

About the Menus

Read about:

- “The Setup Menu” on page 25.
- “The Parameters Menu” on page 26.
- “The Scan Menu” on page 27.
- “The View Menu” on page 27.
- “The Other Tools Menu” on page 27.
- “The Help Menu” on page 28.

The Setup Menu

The Setup menu lets you specify the *image source*, set up and advance a document feeder, and save or remove current scanning settings. It contains these choices:

- “Scanner Source” lets you specify a scanner from which to scan.
- “Screen Source” lets you choose a host whose screen is displaying the image that you wish to scan.
- “File Source” lets you choose a file from which to scan.
- “Feeder Options” is available if you have chosen a scanner as the image source and that scanner has a document feeder. This choice displays a window that lets you enable the feeder and set its options.
- “Advance Feeder” sends the next document into the feeder.

- “Save Current Settings” saves all option settings that you changed during your session with `gscan`.
- “Remove Saved Settings” discards all settings you previously saved, and returns all options to their default settings.
- “Quit” stops `gscan`, and closes its window.

The Parameters Menu

The Parameters menu lets you specify the size, *resolution*, and color of the image. It contains these choices:

- “Scan Area” displays a dialog box in which you can enter new values for the area into which `gscan` scans the image; this crops the image. See also “Cropping the Prescanned Image” on page 34.
- “Resolution” displays a dialog box in which you can specify the scanning resolution settings. See also “Setting the Scanning Resolution” on page 35.
- “Color” scans the image in color. See also “Choosing Color, Grey Scale, or Black and White” on page 37.
- “Grey” scans the image in grey scales.
- “Black and White” scans the image in black and white.
- “48 Bit Color” and “16 Bit Grey” let you take advantage of devices that supply more than 8 *bits per pixel* per channel of data.
- “Disable Color Management” turns off color management.
- “Scanner Specific Options” starts a program that lets you change settings that are specific to the scanner selected as your *image source*.

Tip: If you are not using color management, turn Disable Color Management off to stop the prompt window from appearing. Also see “Using Color Management” on page 31.

The Scan Menu

The Scan menu lets you scan and *prescan* the image. It contains these choices:

- “Prescan All” scans the image at a very low *resolution* and displays it in *gscan*’s window. You use the prescanned image to preview and crop the image before scanning the final image. See also “Prescanning the Entire Image” on page 33.
- “Prescan Selected Area” prescans only the portion of the image that appears within the red outline. See also “Prescanning the Cropped Image” on page 35.
- “Previous Prescan” erases the prescanned image that is currently displayed, and replaces it with the prescanned image that was previously displayed.
- “Scan Image” starts the final scan. See also “Scanning the Final Image” on page 37.
- “Stop Scan” stops the scan that is in progress. See also “Stopping a Scan Before It Is Complete” on page 40.

The View Menu

The View menu lets you zoom your view in and out for more accurate cropping, and lets you view the scanned image in a separate window.

- “Zoom In” magnifies your view of the image.
- “Zoom Out” reduces your view of the image.
- “View Scanned Image” displays your scanned image in a separate window.

The Other Tools Menu

The Other Tools menu lets you start associated tools. It contains these choices:

- “Scanner Manager” starts the Scanner Manager, which lets you add and delete scanners, and set *gscan*’s *default scanner*.
- “Printer Status Panel” shows the queue window for the system’s *default printer*, or, if you’ve selected another printer to which to scan, it displays that printer’s queue window.

The Help Menu

The Help menu contains a list of help topics. To view a topic, choose it from this menu.

The Scanning Process

To scan an image, follow these steps:

1. If `gscan` is not already running, start it by double-clicking the `gscan` icon in your *Icon Catalog*, or see “Opening `gscan`” on page 24.
2. Specify whether you’re scanning an image from a scanner, an SGI Image file, or an IRIS screen; see “Choosing the Image Source” on page 29.
3. Specify whether you want the image to go to a file, an IRIS screen, or a printer; see “Choosing the Scanning Destination” on page 31. The color management process begins here, if you have color management turned on. See “Using Color Management” on page 31.
4. *Prescan* the image to the `gscan` window to preview it; see “Prescanning the Entire Image” on page 33.
5. If you like, crop the image so `gscan` will scan only a portion of the image; see “Cropping the Prescanned Image” on page 34. Then you can *prescan* only the cropped area; see “Prescanning the Cropped Image” on page 35.
6. Select a scanning *resolution*; see “Setting the Scanning Resolution” on page 35.
7. Select a color, grey scale, or black and white scan; see “Choosing Color, Grey Scale, or Black and White” on page 37.
8. Scan the image; see “Scanning the Final Image” on page 37. If you decide to stop the scan before it is complete, see “Stopping a Scan Before It Is Complete” on page 40.
9. If you like, you can save the scanning settings; see “Saving Scanning Settings” on page 40.

You do not need to perform each step every time you use `gscan`, and you do not need to perform all the steps in sequence. `gscan` uses a selected option as a default value until another selection is made.

For example, once a *scanning destination* and *resolution* are selected, `gscan` uses the same destination and resolution until you change them. This allows you to scan an additional image in just two or three steps.

Choosing the Image Source

`gscan` can scan an image from three different types of sources:

- To scan an image from a scanner, choose “Scanner Source...” from the Setup menu, then see “Choosing to Scan From a Scanner” on page 29.
- To scan an image from an IRIS screen, choose “Screen Source...” from the Setup menu, then see “Choosing to Scan From an IRIS Screen” on page 30.
- To scan an image that’s in an SGI Image file, choose “File Source...” from the Setup menu, then see “Choosing to Scan From an SGI Image File” on page 31.

Choosing to Scan From a Scanner

To specify that the image you want to scan is located in a scanner bed, follow these steps:

1. Choose “Scanner Source...” from the Setup menu.
2. In the Select Scanner window that appears, select the scanner you want to use.

If no scanners appear in the window, make sure the scanner software is set up correctly; see “Setting Up Scanner Software” on page 7.

3. Click the **OK** button.

If you chose a scanner that’s connected to another system on your network and it is currently in use, you will see a notifier that reports which user is using the scanner. The scanner cannot queue jobs, so you must wait until the scanner is available.

4. If your scanner has a document feeder that you want to use, choose “Feeder Options...” from the Setup menu; then click the box next to **Use Feeder**, and click **OK**.

See “Using an Automatic Document Feeder” on page 38 for information on the options included in the Feeder Options window.

5. If color management is enabled (it can be enabled or disabled from the Parameters pull-down menu) a list of device profiles appear. Device profiles are used to “tag” the image that is to be scanned with information that describes the color

characteristics of the scanner. This information is then used to provide color management when the image is printed with Impressario. Select a profile that best describes your scanner. See “Using Color Management” on page 31 for more information.

Note: When using a transparency adapter on an HP ScanJet scanner, the material to be scanned must be placed 1.75 in. (45 mm) below the top of the scan window because this top area is used for calibration. If the material to be scanned is placed within the calibration area, the scan will not be successful and the scanner may reset the SCSI bus.

Note: Color profiles are not available for all scanners.

Choosing to Scan From an IRIS Screen

To specify that you want to scan an image that is displayed on an IRIS screen, follow these steps:

1. Choose “Screen Source...” from the Setup menu.
2. In the Select Screen window, type the name of a system in the text field; or click *List Hosts* to see a list of systems on the network, and select the one from which you want to scan the image.
3. Click *OK*.
4. If color management is enabled (it can be enabled or disabled from the Parameters pull-down menu) you will see an option to Change Profile. Selecting the option will display a list of device profiles for various monitors. Device profiles are used to ‘tag’ the image that is to be scanned with information that describes the color characteristics of the monitor. This information is then used to provide color management when the image is printed with Impressario. Select a profile that best describes your monitor. See “Using Color Management” on page 31 for more information.

Note: Color profiles are not available for all monitors.

Choosing to Scan From an SGI Image File

To specify that you want to scan an image that is in an SGI Image file, follow these steps:

1. Choose “File Source...” from the Setup menu.
2. In the Select File window click on an existing file.
3. Click the *OK* button.

Choosing the Scanning Destination

Impressario can scan an image to three different types of destinations:

- To place the scanned image in an SGI Image or TIFF file, click the box next to *Scan To File*; see also “Scanning to a File” on page 37.
- To display the scanned image on an IRIS screen, click the box next to *Scan To Screen*; see also “Scanning to a Screen” on page 39.
- To send the scanned image directly to a printer, click the box next to *Scan To Printer*; see also “Scanning to a Printer” on page 39.

Using Color Management

Understanding Impressario’s Color Management

All scanners, printers and monitors have different color characteristics that affect the color they measure or display. If you were to scan the same image on two different scanners and print them both on the same printer, they would look different (because the two scanners will measure the light from the scanned image differently). Similarly, if you were to scan an image and print it on two different printers, the images would look different (because of different inks and printing technologies employed by different printers).

Impressario uses International Color Consortium (ICC) profiles to perform color management. ICC profiles contain information about the color characteristics of source and destination devices used to acquire and display images. A scanner is an example of a source device; a printer is a destination device. Separate profiles are available for

various scanners, printers, and monitors. By combining the information from the source and destination profile, a color correction can be determined and applied to the image. The result is a printed, or displayed image (using a monitor) that looks more like the original.

Choosing a Source Profile

When you choose to scan from a scanner, or from an IRIS screen, `gscan` prompts you to select an ICC profile from a list. This profile is the SOURCE profile—it describes the color characteristics of your scanner or monitor (if you are scanning from the screen). `gscan` ‘tags’ your image with the source profile data for later use by using color management software.

Note: You should choose the ICC profile from the list that describes your scanner or monitor. ICC profiles are not available for all scanners and monitors; if you do not see an appropriate profile select “No profile” from the list.

Later, when you print the image, the Impressario printer driver will color correct the image using the source profile (that was recorded when the image was scanned) and a destination profile specific to the printer being used. Impressario automatically determines the destination profile to use.

Choosing a Destination Profile

In addition to choosing a source profile, you can also use `gscan` to apply the destination ICC profile if you know what the output device will be.

Note: Only specify a destination profile if you are scanning an image and you know it will be printed on a specific printer (or displayed on a specific monitor) that does not have color management available; otherwise, it is best not to specify the destination ICC profile from within `gscan`.

The Select File window allows you to specify a destination ICC profile (the Select File window is presented when you scan to a file). Normally, the ICC profile listed will be the source profile you selected when you specified the scanner source. You may change the

destination ICC profile by selecting the *Change profile* button on the Select File menu. This will bring up a browser that lets you browse through all of the ICC profiles on your system. Select the ICC profile that matches the output device that you intend to use.

Prescanning the Entire Image

Once the *image source* and the *scanning destination* are selected, you can *prescan* the image to the *gscan* window for viewing and cropping. Prescanning scans the image at a very low *resolution* so you can quickly preview and crop the image before scanning it at a high resolution.

To prescan the image, either click the *Prescan All* button in the *gscan* window or choose “Prescan All” from the Scan menu.

The image appears in the image viewing area of *gscan* as shown in Figure 3-1. The entire source image is displayed; you can now view and crop the image, then prescan it again (see “Cropping the Prescanned Image” on page 34 and “Prescanning the Cropped Image” on page 35). When you have cropped the image as you want it to appear in the final scan, see “Scanning the Final Image” on page 37.

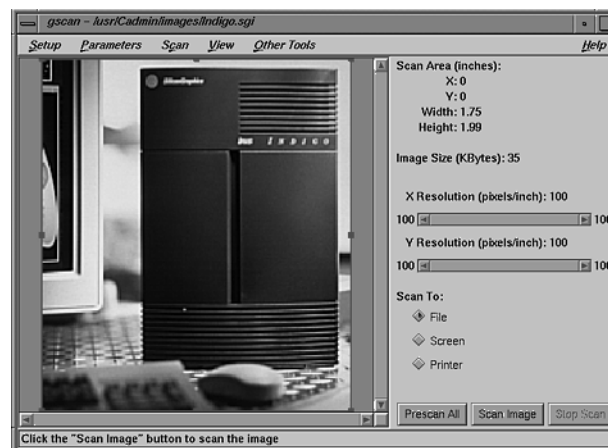


Figure 3-1 The *gscan* Window With a Prescanned Image

Cropping the Prescanned Image

To crop the prescanned image, hold down the left mouse button and drag a box around the desired area. A box with handles on each line and at each corner appears around the area you've selected. The coordinates and dimensions of the selection box are displayed in the upper right of the gscan window. See Figure 3-2.

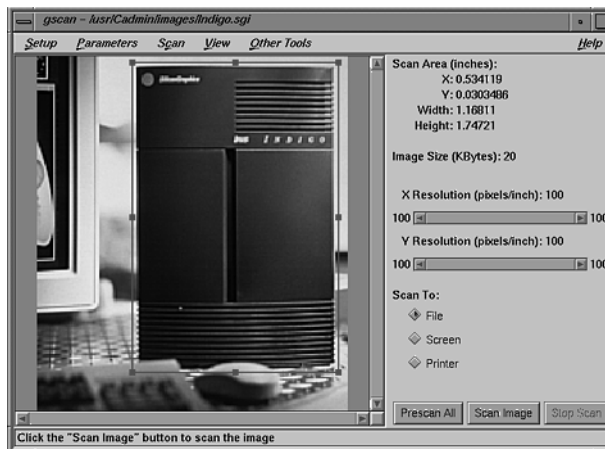


Figure 3-2 The gscan Window With an Area of the Prescanned Image Cropped

If you want to modify the selected area, drag on the box handles to change the dimensions of the box or drag on a side of the box to reposition it. You can also enter the coordinates of the boxed area manually:

1. Choose "Scan Area..." from the Parameters menu.
The Scan Area window appears.
2. Enter the X and Y coordinates for the upper left corner of the selection box.
3. Enter the width and height of the box.
4. Click to select Pixels, Inches, or Centimeters as the unit of measurement.
The button next to the chosen item turns blue to indicate its selection.
5. Click **OK**.

Zooming the Image

You can zoom in on the prescanned image by choosing “Zoom In” from the View menu. Magnifying the image in this way helps you get a more precise image area selection for the final scan.

Note: Zooming in does not increase the *resolution* (pixel density) of the image; it only magnifies its appearance on screen. A zoomed image in the prescan viewing area will be visibly degraded. To return the prescanned area to its original screen resolution, zoom out again after selecting an area of the image for the final scan.

To pan around the entire magnified image, use the scroll bars along the bottom and right side of the image viewing area.

To zoom out after examining the prescanned image, choose “Zoom Out” from the View menu.

Prescanning the Cropped Image

To *prescan* only the portion of the image that is within the red outline, choose “Prescan Selected Area” from the Scan menu.

If you are not happy with the results of a prescan, you can return to the previous prescan by choosing “Previous Prescan” from the Scan menu. This command lets you toggle back and forth between the current and the previous prescan.

Setting the Scanning Resolution

The *gscan* window provides control bars to set the *resolution* of the image scan.

There are separate control bars for the X and Y resolutions. The two resolutions are the same, so the control bars are locked together by default. With the control bars locked together, changing either one changes them both.

Click on the arrow at the right end of the control bar to increase the resolution, click on the left arrow to decrease resolution. By default, the resolution changes incrementally to

reflect the optimal resolutions for the source medium. To change this default behavior, see “Adjusting Advanced Resolution Settings” on page 36.

Adjusting Advanced Resolution Settings

Choose the “Resolution...” command in the Parameters menu to display the Resolution window and additional *resolution* options.

“Keep X and Y Resolutions Equal” is selected by default. This setting locks the X and Y control bars together. Click the button to toggle the setting off if you want the two dimensions to have different resolutions. The image will appear stretched in the dimension with the higher resolution.

Some scanners have inaccuracies in their resolution specifications, which can cause the scan area in the final scan to contain slightly more or less information than the area outlined in red in the viewing area. Normally, when “Prescan at Selected Resolution” is off, *gscan* prescans at a resolution that results in an image that fits into the viewing area. If “Prescan at Selected Resolution” is on, *gscan* uses the resolution displayed on its main window for prescans (as well as final scans), scaling the image so that it fits in the viewing area. This eliminates scan area inaccuracies at the cost of slower prescans.

“Hardware Resolutions Only” is selected by default. This setting lets the equipment providing the source image determine the available resolutions. Click the button to toggle the setting off if you want to scan at a resolution not natively supported by the equipment. You can then enter the desired scanning resolution into the text field that appears above the resolution control bars.

Scanning with “Hardware Resolutions Only” turned off can result in unusual and unpredictable image scans so *gscan* provides several “Rescaling Filters” to adjust the image. The filters are based on complex mathematical models that are beyond the scope of this guide. They are listed in order from standard quality (Scanner Driver) to very high quality (Gaussian); the higher the quality, the longer the scan will take as it will consume much more CPU power. Try experimenting with the filters to determine which renders appropriately for your needs.

You can also choose between the resolution units “pixels/inch” and “pixels/cm” in the Resolution window. “Pixels/inch” is the default.

Choosing Color, Grey Scale, or Black and White

gscan scans in color, grey scale, and black and white. gscan can scan more than 274 trillion colors and 65,536 shades of grey; however, the color and grey scale palette may be limited by the source image, the equipment providing the source image, and the equipment to which the image is being sent. A common hardware limit is 16.7 million colors and 256 shades of grey.

Choose “Color,” “Grey,” or “Black and White” from the Parameters menu.

Scanning the Final Image

When you have set all the necessary parameters and are ready to scan the image, click the *Scan Image* button in the gscan window or choose “Scan Image” from the Scan Menu. A window appears that lets you select the *scanning destination* for the image; when you have done so, gscan begins the scan.

To stop the scan while it is under way, click the *Stop Scan* button in the gscan window.

Scanning to a File

To scan an image into an SGI Image file or a TIFF file, follow these steps:

1. Click the box next to *File* in the *Scan To:* area of the window.
2. If your scanner has an automatic document feeder that you want to use, choose “Feeder Options...” from the Setup menu, and click the *Help* button in the Feeder Options window for information on setting the options.
3. Choose “Scan Image” from the Scan menu.
4. In the File Type window, choose whether to place the image in an SGI Image file or a TIFF file.
5. Enter a name for the file or click to select an existing file from the list if you want to overwrite a file.
6. If color management is enabled (it can be enabled or disabled from the Parameters pull-down menu) you will see an option to Change Profile. The Change Profile option from this menu allows you to specify a destination device (printer or monitor) that the scanned image will be displayed on. Printers supported by

Impressario have color management support; you do not need to change the destination profile if you will be printing with Impressario. See “Choosing a Destination Profile” on page 32 and “Using Color Management” on page 31 for more information.

7. Click *OK*.
8. To stop the scan before it is complete, click the *Stop Scan* button.

When the scan is complete, your image is in a file. To view the scanned image, choose “View Scanned Image” from the View menu. The image appears in a `vstiff` window (see Chapter 4, “Viewing Files With `vstiff`”).

Using an Automatic Document Feeder

If the Feeder Options window is not already open in `gscan`, open it by choosing “Feeder Options” from the Setup menu.

To enable the document feeder, click the box next to *Use Feeder*.

With TIFF files, you can either create one file per scanned image, or you can put several distinct scanned images into one file (one scanned image appears on each “page” of the file). Click *Each Image in a Separate File* or *All Images in One File*.

Note: You can save only one image to an SGI Image file.

When scanning multiple images to separate SGI Image files or TIFF files, `gscan` uses the file name you specified for the image and appends a sequential series of numbers to name each file you create. For example, if the image filename is `myscans` and you enter 0 (zero) as a starting number, `gscan` automatically creates the files `myscans0`, `myscans1`, `myscans2`, and so on.

Enter the starting number for the sequence in the *Starting Number* field of the Feeder Options window.

Scanning to a Screen

To scan an image directly to your IRIS screen, follow these steps:

1. Click the box next to *Screen* in the *Scan To:* area of the window.
2. Choose "Scan Image" from the Scan menu.
3. In the Select Screen window, type the name of a system in the text field; or click *List Hosts* to see a list of systems on the network, and select the one to which you want to scan the image.
4. If color management is enabled (it can be enabled or disabled from the Parameters pull-down menu) you will see an option to Change Profile. You can use this to select a profile that describes the screen (monitor) characteristics of the screen that you are scanning to (this improves the color matching to the original being scanned). See "Using Color Management" on page 31 for more information.

Note: Color profiles are not available for all monitors.

5. Click *OK*.
6. To stop the scan before it is complete, click the *Stop Scan* button.

The image is scanned and then displayed on the selected screen in a *vstiff* window. See Chapter 4, "Viewing Files With *vstiff*" for information on the *vstiff* window.

Scanning to a Printer

To scan an image directly to a printer, follow these steps:

1. Click the box next to *Printer* in the *Scan To:* area of the window.
2. Choose "Scan Image" from the Scan menu.
3. In the Select Printer window, select the printer and its options.
 - Click to select a printer from the *Available printers* list.
 - Set options in the Options area.
4. To start the scan, click *OK* in the Select Printer window.
5. To stop the scan before it is complete, click the *Stop Scan* button in the *gscan* window.

The image is scanned and then printed on the selected printer. To check the printer's queue, choose "Printer Status Panel" from the Other Tools menu.

Stopping a Scan Before It Is Complete

To stop a scan that is in progress, click the *Stop Scan* button.

If you were scanning to a file, gscan automatically removes the file.

Saving Scanning Settings

To save all of gscan's current settings, choose "Save Current Settings..." from the Setup menu; then click *OK* when the message box asks for confirmation.

To return to the default settings after saving your custom settings, choose "Remove Saved Settings..." from the Setup menu; then click *OK* when the message box asks for confirmation.

Viewing Files With `vstiff`

Overview of `vstiff`

The Impressario tool `vstiff` lets you view Stream TIFF (STIFF) files. Stream TIFF is a subset of TIFF (Tagged Information File Format) and is based on version 6.0 of the TIFF specification.

`vstiff` can also be used to view other types of files:

- If the PostScript interpreter `psrip` is installed on your system, `vstiff` automatically invokes `psrip` to convert a PostScript file to Stream TIFF, and then displays the file.

Note: `psrip` is included with the Impressario software; however, an optional license must be purchased if you wish to use `psrip`.

- If `fileconvert` is installed on your system, `vstiff` automatically invokes `fileconvert` to convert a file to PostScript, invokes `psrip` to convert the PostScript file to Stream TIFF, and then displays the file.

`vstiff` also uses `fileconvert` to convert GIF (Graphics Interchange Format), TIFF, SGI Image, PPM, and JPEG files directly to STIFF.

The Help menu provides a variety of help topics. If you need additional help information while using `vstiff`, use the Help menu that appears in the tool's main window, or click the **Help** button that appears in any subsequent windows.

Opening a File

To display a file using *vstiff*:

1. If *vstiff* is not already running, start it by double-clicking the *launch icon*. See also “Opening Impressario Tools.”
2. Select “Open...” from the File menu.
The Select File window appears. Select File is a standard file browsing window.
3. Click to select the desired file from the list or enter a filename in the text field; then click *OK*.
4. Use the commands in the Page menu to browse through the contents of the file.

Setting PostScript Options

vstiff offers several options for displaying a PostScript file (including any file converted to PostScript). To set these options, choose “PostScript Options...” from the file menu. The PostScript options window appears.

- “Bits Per Color” lets you display the PostScript file in one bit, four bits, or eight bits per pixel per color.
- “Color Space” lets you specify either black and white or color display for the PostScript file.
- “Resolution” lets you enter the desired screen *resolution* for the displayed file.
- “Force Landscape Mode” lets you display the PostScript file in landscape mode.

Click *Reopen* to view the file that is currently open with the new settings. Click *OK* to save the options you have set.

If you click *OK* and do not click *Reopen* in this window, the options apply to the next file you open; a file that is currently open is not affected. To make the options apply to the file that is currently open, choose “Reopen” from *vstiff*’s File menu.

Impressario Administration

This chapter provides information for the person who is the *administrator* of the system, or who sets up printers and scanners and troubleshoots problems.

Setting Default Printer Options for the System

The *administrator* of the system can set default printer-specific options using the Printer Manager. Once these options are set, they automatically apply to all print jobs submitted by all users. Any user can override the default options using either the Printer Manager (as described below) or PrintPanel (see “Setting Options for Printing Files” on page 15); the new options will apply only to print jobs submitted by that user.

Note: If a user prints from the command line using the `lp` command and specifies an option using `-o` then all default printer-specific options are ignored (the options specified with `-o` are the only options used in this case).

The administrator can set default printer-specific options by following these steps:

1. Log into the system as root.
2. Start the Printer Manager by clicking the *launch icon*, or by choosing “Printer Manager” from the System *toolchest*.
3. Choose “Set Options” from the Printer menu.
4. Set the printer-specific options (see “Setting Options for Printing Files” on page 15 for information), then click the **OK** button.
5. In the dialog box that appears, click the **All Users** button.

Client/Server Printing

Impressario has a client/server network printing architecture. Impressario servers are workstations that control at least one printer or scanner. Impressario clients are workstations that use the printers or scanners controlled by Impressario servers.

When you submit a print job from an Impressario client, your file, along with any print options, is transmitted to the server. The server queues up your print job upon receipt of a print request. Once the printer you specified is available, the server processes the options sent with the print job, converts the file to a printable format (if necessary), and then prints the file. The client polls the server occasionally to retrieve information on the status of the printer and the print queue. The server processes these requests and sends back the information to the client.

The server consists of drivers that communicate with the printer, and filters that convert data from one format to another.

The client consists of graphical tools for submitting and monitoring the status of a print job, and a network interface for sending print requests to the server.

Impressario uses the SVR3 spooling system to queue print jobs. Impressario supplements the spooling system with graphical printing tools, filters, and a network status daemon called `podd`. The configuration files for the spooling system are located in the directory `/var/spool/lp`. The following additional directories are created when Impressario is installed:

- `/var/spool/lp/pod`
contains the configuration, status, and log files for each directly connected printer
- `/var/spool/lp/gui_model`
contains the templates for the graphical options panels for each printer
- `/var/spool/lp/gui_interface`
contains the instantiations for the graphical options panels for each printer
- `/var/spool/lp/settings`
contains the printer settings files (see below)
- `/var/spool/lp/activeicons`
contains "tagged" files that represent the state (busy, idle, broken) of a printer; they are used for iconic representation of printers on the desktop

`/var/spool/lp/app-defaults`
contains application default files for PrintPanel for remote printers

`/var/spool/lp/devices`
contains device files for printers

`/var/spool/lp/psparams`
contains PostScript interpreter files

`/var/spool/lp/psparams`
scratch files and working directory for the PostScript interpreter

`/var/spool/lp/PPD_model`
contains PostScript Printer Definition (PPD) files for the Impressario PPD driver

`/var/spool/lp/PPD_untested`
contains untested PostScript Printer Definition (PPD) files for the Impressario PPD driver

Printer Settings

This section identifies the location of the settings files and describes ways to save multiple settings for a single printer.

Note: See Chapter 2, “Printing With Impressario,” for information on saving the settings for a particular printer.

The Settings File

When you save printer settings, the configuration information is saved in the directory `/var/spool/lp/settings`. Within this directory are directories named after each printer on your system. For example, the settings files for the printer named “speedy” are located in the directory `/var/spool/lp/settings/speedy`. The settings files are named after the user who saved printer configuration information from the PrintPanel. Thus, if the users named “joe” and “peg” saved settings for the printer “speedy,” there will be settings files named `/var/spool/settings/speedy/joe` and `/var/spool/settings/speedy/peg`.

Creating Multiple Configurations for a Single Printer

You may find it convenient to save useful groups of settings for a single printer. For example, say you have a printer named "speedy" that can print single-sided or double-sided pages. Whenever you print presentations, you want them single-sided; when you print long documents, you want them double-sided.

Rather than change speedy's settings when you change the type of document you're printing, you can create two instances of speedy, say "speedysingle" and "speedydouble." Set one to print single-sided and the other to print double-sided. You can print to these new printer queues directly from an application, by dragging and dropping the file (see "Dragging and Dropping Files to Print" on page 15), or by opening PrintPanel and selecting the file you want to print (see "Opening Impressario Tools" on page 2).

To create a copy of speedy with new printer options, use the Printer Manager to add a new printer queue (adapt this example as needed):

1. Open the Printer Manager from your System *toolchest*.
2. Type in the new printer name. For example, **speedydouble**.
3. Choose Remote Host.

Note: Even if the printer is connected directly to your workstation, choose Remote Host instead of Local Host.

4. Type in the name of the SGI system that administers "speedy."
5. Click on **List Printers**. A list of printers appears, including *speedy*.
6. Choose *speedy* from the Printer List, and click **OK** to exit this window. A printer icon called *speedydouble* now appears in the Printer Manager.
7. Click once on the *speedydouble* icon to select it.
8. Click **Options**. Change the paper to double-sided, and click **OK** to exit this window and save the new settings.

Client/Server Scanning

You can use the Scanner Manager to access a scanner that is connected to another system on the network (see “Setting Up Scanner Software” on page 7) and use `gscan` to scan from the scanner (see “Choosing to Scan From a Scanner” on page 29) as long as both systems have Impressario installed.

When you set up a new scanner or access it for scanning, the client system contacts the server system and requests that it start the `scannerd` daemon. Since scanners cannot queue scan jobs, only one user can use the scanner at a time.

Viewing a Document Online

The Impressario Server printing software can recognize many different types of files. Once a file type is identified, the printing software uses a set of rules to convert the file from its original type into a printable format.

Included with Impressario is the file viewing program `vstiff`. `vstiff` uses the same set of rules as the printing software and is able to convert virtually any type of file into a format that can be viewed on your display. You can use `vstiff` as a debugging tool; if a print job does not print or prints incorrectly, run `vstiff` on the file you want to print and note any error messages it displays.

Note: `vstiff` uses the PostScript interpreter `psrip` to display some file types. `psrip` is included with the Impressario software; however, an optional license must be purchased if you wish to use `psrip`. If the optional license has not been purchased then you can use the `showps` command to display PostScript files.

See Chapter 4, “Viewing Files With `vstiff`” and the `vstiff(1)` reference page for information on using `vstiff`.

Note: The rule set and filters exist only on an Impressario server. `vstiff` cannot convert all printable files into a viewable format on systems that do not have Impressario installed.

Troubleshooting Printing Problems

Once you've used the Printer Manager to set up the printers that you want to access (see "Setting Up an Impressario Printer" on page 4), printing files is usually very straightforward—you ask an application to print a file, then pick up your completed job from the printer.

The work that the system does to make files print, however, is fairly involved—especially when you are sending files over a network to printers that are not directly connected to your workstation. If printing problems do arise, the information in this section should help you correct them quickly.

The information applies to you only if you are printing from within an application or from the desktop.

This section covers two main topics:

- "A Troubleshooting Roadmap" on page 48 gives you a brief overview of the printing process, plus step-by-step information to isolate and resolve printing problems. You'll get more out of this section if you also read "Understanding the Printing Process", but, if you're anxious to resolve a problem without reading through background information, start with this section.
- "Understanding the Printing Process" on page 58 describes the process in detail, outlines how and when the process may fail, and describes the troubleshooting tools that are available to you.

A Troubleshooting Roadmap

A successful printing process includes these four basic steps:

- You must issue a print command and specify a printer that is set up to work with your system.
- Your system (the local system) must correctly process the request and send it to the system to which the printer is physically attached (the printing system).

Note: If the printer is physically attached to your system, the local system is also the printing system; if the printer is attached to another system on the network, that system is the remote printing system.

- The printing system must process the print request and send it to the printer.
- The printer must be in working order; if it's out of paper or toner, it cannot print.

See "Understanding the Printing Process" on page 58 for a more detailed description of what the system does at each step.

The troubleshooting steps below show you how to determine which part of this process is failing. Be sure you know the administrator's password; various steps require that you become the *administrator*.

1. If you sent your job to the printer more than 30 minutes ago, send it again. This way you can monitor its progress from the start.
2. Start the Printer Manager by choosing "Printer Manager" from the System *toolbox*.
3. Find the icon for the printer to which you sent your job.

- If the icon is there, double-click it to open it.
- If you don't see the icon, that printer has not been set up to work with your system. See "Setting Up an Impressario Printer" on page 4.

4. Find your print job in the queue.

The entries in this window are jobs that have already reached the printer's queue.

- If you see your job in the queue and the printer is attached to the *local system*, skip ahead to step 6.
- If you see your job in the queue and the printer is attached to a *remote system*, go on to step 5.
- If you don't see your job, see "Job Never Appears in the Local Queue" on page 51.

Note: Your job may not appear in the queue immediately after you issue the print command; either it printed so quickly that the system didn't have time to display it in the queue, or there is a problem. If the printer did not print the job, wait several minutes before assuming it's not going to appear in the queue.

5. Physically go to the system to which the printer is connected. Its queue contains all print jobs that have actually reached the system. Find your print job in the remote queue.

Your job is labeled with your login name and is the same size as it is in the local queue. It does *not* have the same job number.

- If you see your job in the remote queue, go on to step 6.
 - If you don't see your job, see "Job Never Appears in the Remote Queue" on page 53.
6. Watch the queue of the printing system (the system to which the printer is attached).
 - If your job disappears from the queue, skip ahead to step 9.
 - If after several minutes no jobs disappear from the queue, go on to step 7.
 - If all the jobs ahead of yours disappear, and jobs behind yours disappear while yours remains at the top of the queue, delete your job and try to print it again.
 7. Make sure the printer is printing requests. Physically go to the system to which the printer is attached, open the printer's queue window, and choose "Printer Printing Your Queued Jobs" from the Queue menu.
 - If your job disappears from the queue, skip ahead to step 9.
 - If no jobs disappear from the queue, go on to step 8.
 8. Check whether `lpsched`, the print spooler that controls the flow of jobs out of the queue, is running. On the printing system, open a shell window and type:

```
lpstat -r
```

Then press **Enter**.

- If the `lpsched` spooler is running, you see this message:

```
scheduler is running
```

Go on to step 9.
 - If the `lpsched` spooler is not running, you see this message:

```
scheduler is not running
```

See "Checking and Restarting `lpsched`" on page 57 to turn it on.
9. Check the physical state of the printer; for example:
 - Turn the printer off and on.
 - Make sure the paper or transparencies are properly loaded, there is enough toner, and the printer isn't physically jammed.
 - Check all status lights and panels on the printer for error messages.

- Make sure the cable is securely connected to the correct ports on both the system and the printer.
 - If you find a physical problem, correct it and try printing again.
 - If you find no physical problem and no jobs disappear from the queue, the job's owner (possibly you) should cancel the job and try to print it again. If the next job in the queue does not disappear, go on to step 10.
 - If you find no physical problem and your job disappears from the queue but does not print, see "Job Disappears From a Queue but Never Prints" on page 55.
10. Remove all jobs from the queue and choose "Send Test Page" from the Printer menu to send a test page.
- If the test page prints, try printing your job again.
 - If the test page doesn't print, contact your local support organization.

Job Never Appears in the Local Queue

Use this section if the printer icon to which you sent your print job appears in the Printer Manager, but your job does not appear in the local queue. You should be looking at the printer's queue window.

1. Choose "Send Test Page" from the Printer menu to test the printer setup.
 - If the test job appears in the queue, try printing your job again. If your job still doesn't appear, go on to step 2.
 - If the test job does not appear in the queue, make sure both "Printer Accepting Your Jobs" and "Printer Printing Your Queued Jobs" are chosen in the Queue menu. Send another test job. If it still doesn't appear, contact your local support organization.
2. Make sure you followed the correct steps to specify a particular printer for your job.
 - If you chose from a list of available printers and the job doesn't appear in the queue, go on to step 3.
 - If you typed the printer name into a field, or if the application filled in the field for you, make sure the name exactly matches that of a printer that appears in the Printer Manager; then try printing again. Remember that names are case-sensitive; "Printer1" is not the same as "printer1". If the printer still doesn't appear, go on to step 3.

- If you didn't explicitly specify a printer when you made the print request, either you or the application previously specified a *default printer*; the job may be in another printer's queue.

See the user's guide that came with the application to find out how it specifies a default printer and how you can change it. (For example, when you select a file and choose "Print" from the Selected *toolchest* or menu, the file is automatically sent to the printer that you specified as the default in the Printer Manager.) Change the default and try printing again. If it still doesn't appear, go on to step 3.

3. Make sure you gave the application all the printing information it needs.

Some applications have both a print command and a print dialog box. If a dialog box appeared and you didn't notice it, didn't fill it out correctly, or didn't confirm your information (that is, click an *Accept* or *OK* button), the job will not go to the queue.

- If there is a dialog box, fill it out completely, then try printing again. If the job still doesn't appear in the queue, go on to step 4.
- If there is no dialog box, go on to step 4.

4. Open the console window and check for error messages.

Note: You must look in the console; error messages will not be reported to any other shell window.

- If there are no error messages, contact your local support organization.
 - If a message states that you're out of disk space, then there isn't enough space for the system to create a version of the file that is in the correct format for the printer. Remove files or directories that you no longer need and try to print your job again. You could also try just printing a range of pages rather than the entire file.
 - If a message specific to the application from which you are printing appears, for example, a message stating that the application couldn't find a necessary file, refer to the documentation that came with the application.
5. Look in the file `/var/spool/lp/log` for error messages.

Job Never Appears in the Remote Queue

Use this section if your print job appears in your local queue, but does not appear in the queue when you view it on the system that's connected to the printer. You should be looking at the printer's queue window.

1. See if there is already a different job in the remote queue that was sent from your local queue (that is, a job that belongs to you or to another user on your *local system*).
 - If no jobs from your local queue appear in the remote queue, go on to step 2.
 - If your local queue has already sent one job to the remote queue, it will not send another job to the remote queue until the first one prints. Wait until the first job disappears and, if your next job still does not appear in the remote queue, go on to step 2.
2. Make sure the local printer queue is sending print requests to the *remote system*.
 - Make sure "Printer Printing Your Queued Jobs" is chosen in the Queue menu. If no jobs from your local queue appear in the remote queue, go on to step 3.
3. Make sure the information about the *remote system* and remote printer that is shown in the printer's queue window is accurate.
 - If someone changed the name of the printer or physically moved the printer and connected it to another workstation, your jobs cannot reach it. See "Changing the Setup of a Printer" in Chapter 3 of your *Personal System Administration Guide* to give the system the new information. Then try printing again.
 - If the information about the remote system and printer is accurate, go on to step 4.
4. Check whether `lp sched`, the print spooler that controls the flow of jobs from the local queue to the *remote system*, is running. On your own system, open a shell window and type:

```
lpstat -r
```

Then press **Enter**.

- If the `lp sched` spooler is running you see this message:
scheduler is running
Go on to step 5.
- If the `lp sched` spooler is not running you see this message:
scheduler is not running

See “Checking and Restarting lpsched” on page 57 to turn it on.

5. Test the network connection by opening a shell window and using the `/usr/etc/ping` command with the *remote system*'s hostname. For example, if the remote hostname is *mars*, type:

```
/usr/etc/ping mars
```

Then press **Enter**. You see some messages that will repeat indefinitely; to stop the messages, press **Ctrl-C**. You see a summary of the connection. Look for these lines:

```
mars PING statistics
```

```
<#>packets transmitted,<#> packets received,0% packet loss
```

- If this line reports 0% packet loss, your connection to the *remote system* is working. Go on to step 6.
- If this line reports between 1% and 100% packet loss, your connection to the *remote system* is not stable. Physically go to the remote system to make sure both the printer and the system are turned on. If they were off, turn them on, and try to print again.

If they were already turned on, make sure the *remote system* is communicating with the network; use the `/usr/etc/ping` command on the remote system to try to reach a system on the network other than your system.

If the remote system can communicate with any other system on the network, your system may not be connected to the network properly. On your own system, try the `/usr/etc/ping` command with another hostname; also make sure your network cable is properly connected to your workstation. If you cannot communicate with any system over the network, or if a high percent packet loss continues, contact your network administrator. Either your network connection or the network itself has a problem.

6. Check the access permissions on the *remote system* by trying to copy a file to the remote system using the same login account that `lpsched` uses to copy over your job. For example, use `jot` to create a small text file named `testit`, then copy it to the remote system (*mars*) using the `lp` account; type:

```
su lp
```

```
rcp testit lp@mars:/usr/tmp
```

- If you see no error messages, the file successfully reached the *remote system*. Go on to step 7.

- If you see an error message saying that the login was incorrect or that permissions were denied, contact the *Administrator* of the remote system; the Administrator needs to make changes to the `lp` account.
7. Choose “Send Test Page” from the Printer menu on your own system to test the printer setup.
 - If the test job appears in the remote queue, go on to step 8.
 - If the test job does not appear in the remote queue, physically go to the *remote system*, open the queue window for the printer, and turn off and on “Printer Printing Your Queued Jobs” and “Printer Accepting Your Jobs” in the Queue menu. Go back to your own system and send another test job. If the test job appears, try to print your job again.
 8. Physically go to the *remote system* and open the console window to check for error messages.

Note: You must look in the console on the remote system; error messages will not be reported to any other shell window.

- If a message states that the system is out of disk space, then there isn’t enough space for the system to accept the file or to make a copy of the file to print. Have the *Administrator* of the *remote system* remove files or directories that are no longer needed and try to print your job again.
- If a message specific to the application from which you are printing appears, for example, a message stating that the application couldn’t find a necessary file, refer to the documentation included with the application.
- If there are no error messages, try to print your job again. If your job still does not appear in the remote queue, contact your local support organization.

Job Disappears From a Queue but Never Prints

Use this section if your print job disappears from a *local* or *remote* queue but the printer never prints it out.

1. Check your mail messages.
 - If the *administrator* of the printing system deletes your job, you receive a mail message to that effect. Contact the administrator to make sure you may try to print the job again.

- If there is no such mail message, go on to step 2.
2. Check whether the printer is printing any jobs.
 - If the printer prints the next job in the queue, there is something wrong with your particular job; go on to step 3.
 - If all jobs are disappearing from the queue but the printer does not print them, skip ahead to step 4.
 3. Send the job again, and check whether the printer receives it.

Most printers have a status mechanism (a blinking light or digital message) that shows that the printer has received a job and is trying to print it.

- If the status mechanism shows that it is trying to print your job but never does, the job is too complex; the printer either gave up after a specified period of time (that is, it “timed out”), or the printer does not have enough memory to hold the job. If possible, break it up into smaller jobs and try printing it again (for example, send only two pages of a ten-page document). If it still doesn’t print, go on to step 4.
 - If the status mechanism doesn’t show that it is trying to print a job, the printer didn’t receive data that it could understand. This means the initial processing that your application or other *filter* did to prepare the file for printing did not produce a file in the correct format for this printer. You may be missing some filtering software. Try printing the file on a different type of printer. For example, if you initially sent your job to a color image printer connected to a parallel port, now send it to a black and white PostScript printer connected to a serial port. If it still doesn’t print, go on to step 4.
4. Remove all jobs from the queue on the printing system and choose “Send Test Page” from the Printer menu to send a test page.
 - If the test page prints, the printer is set up correctly, but cannot print the types of files you are sending it. Contact your local support organization.
 - If the test job disappears from the queue but doesn’t print, contact your local support organization.

Checking and Restarting *lpsched*

Use this section to check whether *lpsched* is running, and to restart it if necessary.

1. Check whether *lpsched* is running by typing:

```
lpstat -r
```

Then press **Enter**.

- If the *lpsched* spooler is not running, you see this message:

```
scheduler is not running
```

Go to step 2 to turn it on.

- If the *lpsched* spooler is running, you see this message:

```
scheduler is running
```

2. Turn on *lpsched* if it is not running.

- Open a shell window on the system where it is not running, then log in as root by typing:

```
su
```

Then press **Enter**.

If a prompt for a password appears, type the password, then press **Enter**. If a prompt appears but the root account has no password, just press **Enter**.

- Start *lpsched* by typing:

```
/etc/init.d/lp start
```

Then press **Enter**.

- Log out of the root account by typing:

```
exit
```

Then press **Enter**.

3. Make sure *lpsched* is now running by typing:

```
lpstat -r
```

Then press **Enter**.

- If the *lpsched* spooler is running, you see this message:

```
scheduler is running
```

Jobs that were not reaching a remote queue because `lpsched` was not running on the *local system* should now reach that queue; jobs that were not disappearing from the printing queue because `lpsched` was not running on the printing system should now print out.

- If you do not see this message, contact your local support organization.

Understanding the Printing Process

This sequence of steps describes the process that your system uses to print files. The details (such as system name, application name, and job IDs) are only examples.

1. On your own system (*saturn*), you ask an application (IRIS Showcase™) to print a file (`slide1`), and explicitly or implicitly request a particular printer (`color-seiko`).
2. IRIS Showcase (or another filter program) creates a new version of `slide1` (a new file) that is in the correct format for `color-seiko`.
3. IRIS Showcase runs the `lp` command on the file on *saturn*. `lp` assigns the file a job ID number (10), sends it to `color-seiko`'s queue, and alerts `lpsched` (the spooler that controls the flow of jobs out of the queue) that the file (job #10) is ready to be printed. The printer's queue displays job #10 in the local queue for `color-seiko`.
4. `color-seiko` is actually connected to another system on the network (*mars*) where it is named `seiko1`. When job #10 reaches the top of `color-seiko`'s queue, `lpsched` copies it across the network to the `/usr/tmp` directory on *mars*.
5. `lp` on *mars* makes a copy of job #10 in `/var/spool/lp/request`. It then assigns it a new ID number (20) that doesn't conflict with other IDs on *mars*, sends it to `seiko1`'s queue, and alerts `lpsched` on *mars* that job #20 is ready to print. The Printer Manager on *mars* shows job #20 in `seiko1`'s local queue; the Printer Manager on *saturn* continues to show job #10 in `color-seiko`'s queue.
6. When job #20 reaches the top of the queue, `lpsched` sends the job over a cable to `seiko1`.
7. `seiko1` receives job #20 and prints out `slide1` on paper or a transparency.
8. Job #10 disappears from `color-seiko`'s queue; job #20 disappears from `seiko1`'s local queue. `lpsched` sends the next job in `color-seiko`'s local queue to *mars*.

Where the Printing Process May Fail

This section shows how the printing process may fail at each step shown in “Understanding the Printing Process”; it does not describe how to correct the failure. See “A Troubleshooting Roadmap” on page 48 for a step-by-step approach to isolate and correct failures in the printing process.

1. When you ask an application to print a file on a certain printer:
 - The file may go to a printer other than the one you expect because a hidden default is set.
 - You may specify a printer that’s not currently set up on your system.
 - You may not actually complete the print request.
2. When the application or filter tries to create a new version of the file:
 - There may not be enough memory or disk space in the system for the new file. If this is the problem, you see an error message in the console window.
 - The new file it creates may not be in the correct format for the printer (usually due to missing filter software). You will not find out that this has happened until the printer fails to print it. An error message appears in the `/var/spool/lp/log` file.
3. When the application runs `lp` on the file:
 - The printer may not be allowing new jobs to enter its queue, that is, “Printer Accepting Your Jobs” is not chosen in the printer’s Queue menu.
 - If `lp` tries to make a copy of the file in `/var/spool/lp/request`, there may not be enough memory or disk space in the system for the new file. If this is the problem, you see an error message in the console window.
 - `lp` may not be able to find the printer you specified. If you typed in a printer name that does not exist, `lp` cannot submit your job to that printer’s queue.
 - The permissions on the file may not be set up to allow others to read it; in this case `lp` cannot process it. If this is the problem, you see a message in the console window saying permissions were denied.
4. When `lpsched` tries to copy the file to the *remote system*:
 - If `lpsched` is not running, it cannot direct the file to a printer or remote system. Typing `lpstat -r` determines whether `lpsched` is running.

- The remote queue may already contain a job that came from your local queue. `lpsched` on your system waits until the job that is already in the remote queue disappears from that queue before it sends the next job.
 - The printer may not be allowing jobs to exit from its queue, that is, “Printer Printing Your Queued Jobs” is not chosen in the printer’s Queue menu.
 - The network may be down.
 - Your system may not be communicating with the network; for example, your networking software is not working or your network cable is loose.
 - The remote system may not be communicating with the network; for example, it may be turned off.
 - The remote system may not allow your system to use the printer. See Chapter 2, “Printers” in the optional *IRIX Admin: Peripheral Devices* guide for information on using the `addclient` command.
 - The remote system may not have enough disk space to accept the file.
5. When `lp` on the remote system tries to process the file:
- When `lp` tries to make a copy of the file in `/var/spool/lp/request`, there may not be enough memory or disk space in the remote system for the new file.
 - The remote printer may not be allowing new jobs to enter its queue, that is, “Printer Accepting Your Jobs” is not chosen in the printer’s Queue menu.
 - The printer on the remote system may be gone or renamed. For example, if someone changed the name of `seiko1` to `seiko2`, `lp` on the remote system cannot find `seiko1`. `lp` does not report this back to your system, so your job remains in the local queue as if it were printing, but never appears in the remote queue. `lp` does record the problem in the `/var/spool/lp/log` file on the remote system.
6. When `lpsched` sends the job over the cable to the printer:
- If `lpsched` is not running, the file will never be directed to a printer. Use the `lpstat -r` command on the remote (printing) system to check `lpsched`.
 - The printer may not be allowing jobs to exit from its queue, that is, “Printer Printing Your Queued Jobs” is not chosen in the printer’s Queue menu on the remote (printing) system.
 - The cable may be loose or disconnected.
 - The cable may be broken or frayed.

- The cable may not have the correct pinouts to match the printer or the system.
 - The printer may be turned off.
7. When the printer receives the job and tries to print it:
- The printer may be jammed or out of supplies such as paper or toner.
 - The printer may not have enough memory to print a complex job. In this case, the printer's status mechanism shows it is trying to print, but then the printer gives up after a specified period of time, removes the job from the queue, and prints nothing.
 - The printer may not understand the format of the job because the application or filter did not convert the file correctly. In this case, the printer's status mechanism never shows that it is trying to print, and the printer removes the job from the queue but never prints it.
8. When jobs disappear from the queue:
- Jobs may disappear from the queue but never actually print as described above.
 - Jobs may never disappear from the queue if the physical printer is not working correctly.
 - If jobs ahead of yours in the queue disappear, then jobs behind yours disappear while yours remains at the top of the queue, there is something wrong with your job; cancel it and try to print it again.

Troubleshooting Tools

When you troubleshoot printing problems using "A Troubleshooting Roadmap" on page 48, you use a number of different tools and techniques. This section summarizes the tools, and suggests other sources of information on isolating and correcting problems.

"Send Test Page"

This choice appears in the Printer menu in the Printer Manager window and in each individual printer's queue window. When you choose "Send Test Page," you run the `lp` command on a sample file that is already in the correct format for that printer; in other words, you bypass steps 1 and 2 of the printing process described in "Understanding the Printing Process" on page 58.

`lpstat` This IRIX™ command provides an alternate view of the queues that the Printer Manager displays; it also reports whether `lpsched` is running. To see a full `lpstat` listing that includes queues for every printer on the system plus the status of `lpsched`, you would type: `lpstat -t`

`/var/spool/lp/log`

This file contains a history of all printing activity and errors. Its messages are often difficult to understand, but you may find some useful error information that you can use for troubleshooting. For example, a “login incorrect” message that has a timestamp near a time when your job could not reach a remote queue may make you suspect that there is a password on the `lp` account on the remote system.

`/etc/init.d/lp start`

This IRIX command restarts the scheduler, `lpsched`.

Other documentation

Appendix A in the optional *IRIX Admin: Peripheral Devices* guide contains a detailed table of printing error messages and Chapter 2 describes how to use the `lp` system from an IRIX shell; the `lp` reference page gives a complete listing of all the command line options for `lp`.

Glossary

administrator

The person who can use the most privileged account, root. This person must have his or her own personal login account for daily use, but, when there are serious system problems to correct, the person logs in to the root account to change system information using the graphical tools or using the IRIX shell.

The administrator has all the capabilities of a privileged user, plus the capability to change information in the root account (such as the password) and to log into an IRIX shell as root. Because there is only one root account, there is only one administrator per system. The Information Panel for a particular system includes the name of the system's administrator so other users know who to contact for help.

ASCII text

An ASCII file contains text only. When you save a file as ASCII text, you save only the characters, not the size, the font, the style, the color, or the format.

bits per pixel

8-bit color uses 8 bits to describe the intensity of each color channel. If a pixel is composed of Red, Green and Blue (RGB) with 8 bits per color (3 color channels), you have 24-bit color. 16 bits per color channel results in 48-bit color (again, for a pixel with 3 color channels).

default printer

The printer to which the system directs a print request if you do not specify a printer when you make the request. You set the default printer using the Printer Manager.

default scanner

The scanner from which `gs` can automatically scans images unless you specify a different scanner. You set the default scanner using the Scanner Manager.

driver

Software that lets a peripheral like a printer or scanner interact with your workstation or server.

generic printer

A generic printer is one that does not have drivers for Impressario software. You can set only a few basic printing options for generic printers.

icon catalog

A window that contains pages for groups of your applications. To see your icon catalog, choose "Applications" from the Find toolchest. Figure 1-1 shows a sample icon catalog. Figure 1-2 shows a sample toolchest.

image source

The location of the image that you want to scan. The image can be located in a scanner, in an image file, or on another system's screen.

impressario printer

A printer that has pre-installed drivers in the Impressario software. These drivers let you access all of the printer's capabilities.

launch icon

An arrow-shaped icon that appears in the left margin of the IRIS InSight™ viewer and the Help viewer. Double-click this icon to run an application.

local system

The workstation which you are currently using.

peripheral

A hardware device that adds more functionality to the basic workstation, such as a tape drive.

PPD

Abbreviation for PostScript Printer Description. PPD files are human-readable text files that describe the features of a specific PostScript capable printer. A PPD file describes printer features in such a way that a graphical user interface (GUI) can be built to present the user with a list of printer features to choose from. Impressario includes a PPD based driver. See the `ppd(1M)` reference page for details.

prescan

To scan an image at a very low resolution and display it in `gscan`'s window. You use the prescanned image to view and crop the image before scanning the final image.

print server

A workstation or server that accepts and spools print jobs for a printer. The printer is usually directly connected to the print server.

queue

A list of print jobs waiting to be printed on a particular printer. Also the space on a system that spools the print jobs. Double-click a printer's icon to see its queue. Use the Printer Manager to add a printer and set options for its queue.

remote system, drive, disk, file system, or printer

A hardware device or the information or media it contains that you can access across the network; they are not physically connected to your workstation.

resolution

The number of dots per inch (dpi) that an image contains. Screen resolution is the number of pixels per inch that the screen can use to display an image. Printer resolution is the number of dots of ink per inch that the printer can print. Scanner resolution is the number of dots per inch of the image that the scanner can recognize. In general, if the printing or scanning resolution is too low, image quality will suffer.

scanning destination

The location to which `gs` should send the final scanned image. It can place the image in an image file, display it on another system's screen, or send the image directly to a printer.

server

A system that other systems on the network access to use its disk space, software, or services.

supported printers

Impressario software has drivers for its supported printers. See also *impressario printer*.

supported scanners

Impressario software has drivers for its supported scanners that let you access all of the scanners features.

toolchest

The toolchest is found on your desktop. Use its menus to access various desktop tools. See Figure 1-2 for a sample toolchest.

