
HP LaserJet 5Si and 5Si MX Printers

User's Guide

© Copyright Hewlett-Packard Company 1995

All Rights Reserved.
Reproduction, adaptation, or translation without prior written permission is prohibited, except as allowed under the copyright laws.

Publication number
C3166-90901

First edition, October 1995
Second edition, January 1996

Warranty

The information contained in this document is subject to change without notice.

Hewlett-Packard makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Hewlett-Packard shall not be liable for errors contained herein or for incidental or consequential damage in connection with the furnishing, performance, or use of this material.

Trademark Credits

Adobe[™], *PostScript*[™], *PostScript II*[™], and the *PostScript Logo*[™] are trademarks of Adobe Systems Incorporated which may be registered in certain jurisdictions. *Arial*, *Times New Roman*, and *Monotype* are registered trademarks of the Monotype Corporation. *Bi-Tronics*[™], *PCL5*[™], and *REt*[™] are trademarks of Hewlett-Packard Company. *Helvetica* and *Univers* are trademarks of Linotype AG and/or its subsidiaries in the U.S. and other countries. *Macintosh* computer is a product of Apple Computer, Inc. *Microsoft*® is a U.S. registered trademark of Microsoft Corporation; *Windows*[™] and *LAN Manager*[™] are trademarks of Microsoft Corporation. *Novell*[™] is a trademark of Novell, Incorporated. *TrueType*[™] is a trademark of Apple Computer, Inc. *WordPerfect* is a registered trademark of WordPerfect Corporation.

Conventions

This manual uses the following conventions:

Italics are used for emphasis or to refer to another document.

COMPUTER FONT indicates text visible on a computer screen.

DISPLAY FONT indicates text visible on the printer control panel display.

The cursive letter *ℓ* is used in examples to distinguish the letter **l** from the numeral **1** (one). The character *ø* is used in examples to distinguish the numeral **0** from the letter **O**.

Key Face indicates keys (such as **On Line**) on the printer control panel.

Key Face indicates keys (such as **Insert**) on your computer keyboard.

Note

Notes contain important information about a topic in the text.

CAUTION

Caution messages appear before procedures which, if not observed, could result in loss of data or in damage to equipment.

WARNING

Warning messages alert you to a specific procedure or practice which, if not followed correctly, could cause serious personal injury.

Supplementary Documents

The technical reference guides listed below are designed for programmers. The *Paper Specification Guide* is useful for purchasing agents and paper buyers. These documents are available in English only.

You can order these documents through HP Direct Distribution or by contacting your authorized HP dealer. (See Appendix E for a list of HP sales and service offices.) There is a charge for some documents.

Documentation Available for the HP LaserJet 5Si and 5Si MX Printers

Title	Part Number
The <i>PCL/PJL Technical Reference Package</i> contains the following documents: <ul style="list-style-type: none">• <i>PCL 5 Printer Language Technical Reference Manual</i> Explains the PCL 5 printer language for experienced users and programmers.• <i>Printer Job Language Technical Reference Manual</i> Explains HP's Printer Job Language (PJL) for experienced users and programmers.• <i>PCL/PJL Technical Quick Reference Guide</i>• <i>PCL Comparison Guide</i> Describes the different implementation of commands and extensions across the printer family supporting PJL and PCL 5.	5010-3997
<i>HP LaserJet Printer Family Paper Specification Guide</i>	5002-1801
<i>HP JetDirect Print Server Software Installation Guide</i>	J2552-90051

The following related documents provide further information about the PostScript printer language:

- *The PostScript Language Reference Manual* (Adobe)
- *PostScript Language Supplements* (Adobe)

Also check the README files that come with the software.

Contents

1 About Your Printer

Standard Features of the HP LaserJet 5Si/5Si MX Printer	1-2
Paper Handling	1-2
Memory Management	1-3
Software and Printer Drivers	1-3
Input/Output	1-3
Energy Efficiency	1-4
EconoMode	1-4
Printer Fonts	1-4
Special Features of the HP LaserJet 5Si MX Printer	1-6
Additional Memory	1-6
Networking Capabilities	1-6
PostScript	1-7
Printer Parts	1-8
Accessories and Options	1-10
The Optional Printer Hard Disk	1-11

2 Memory and Memory Management

Storing Print Data	2-2
Saving Resources in PCL or PostScript Printers	2-2
Determining Memory Requirements	2-3
Improving Performance with I/O Buffering	2-4

3 Software and Printer Drivers

Printer Drivers	3-1
Software for the HP LaserJet 5Si/5Si MX Printer	3-2
Additional Software for the HP LaserJet 5Si MX Printer	3-3
Microsoft Windows Applications	3-4
Windows PCL Printer Driver	3-4
HP FontSmart	3-4
Windows PostScript Printer Driver	3-5
Macintosh Applications	3-6
HP LaserJet Printer Driver	3-6
Bitmapped Screen Fonts	3-6
HP LaserJet Utility	3-6
Networking Software	3-7
Novell NetWare Software	3-7
Microsoft LAN Manager and IBM LAN Server	3-7
Optional Printer Software	3-8
OS/2 Applications	3-8
Networking Software	3-8
DOS Symbol Sets Utility	3-9

Printing the Symbol Sets	3-9
------------------------------------	-----

4 Printer Control Panel

Control Panel Layout	4-2
Indicator Lights	4-2
Control Panel Keys	4-3
Control Panel Display	4-4
Settings and Defaults	4-5
Control Panel Menus	4-7
Selecting a Menu Item	4-7
Tray Menu	4-8
JobControl Menu	4-9
Test Menu	4-10
Configuration Menu	4-24
Print Quality Menu	4-26
PostScript Menu	4-27
Input/Output (IO) Menu	4-28

5 Print Tasks

Print Source and Media Options	5-2
Media Selection Guidelines	5-4
Media Use Guidelines	5-6
Paper Trays 1, 2, and 3	5-8
Loading Media Into Tray 1	5-9
Loading Paper into Tray 2 or Tray 3	5-11
Optional 2000-Sheet Input Tray (Tray 4)	5-13
Loading Paper into Tray 4	5-14
Envelopes in Tray 1	5-16
Loading Envelopes into Tray 1	5-17
Printing Envelopes from Your Software Application	5-18
Optional Envelope Feeder	5-19
Printing from the Optional Envelope Feeder	5-19
Changing Paper Type and Size from the Control Panel	5-21
Paper Output Bins	5-22
Selecting the Left Output Bin	5-23
Adjusting the Paper Stop	5-24
Optional Multi-Bin Mailbox	5-25
Printing to the Multi-Bin Mailbox	5-26
Different First Page	5-27
Custom-Size Paper in Tray 1	5-28
Printing on the Smallest-Sized Paper	5-28
Printing Tabloid Bleeds	5-29
Two-Sided Printing with the Optional Duplex Unit	5-30
Binding Options	5-31
Selecting Two-Sided Printing from the Control Panel	5-31
Stopping a Print Request	5-32

6 Print Quality	
Print Resolution	6-2
Changing the Print Resolution Setting from the Control Panel	6-2
Print Density	6-3
Adjusting Print Density from the Control Panel	6-3
Resolution	6-4
Activating REt from the Control Panel	6-4
Print Quality Solutions	6-5
EconoMode	6-9
Turning on EconoMode	6-10
7 Maintenance and Troubleshooting	
Cleaning Tasks	7-1
Cleaning the Printer	7-2
Toner Cartridge	7-3
Extending Toner Cartridge Life	7-3
Storing and Installing the Toner Cartridge	7-3
HP Policy on Use of Non-HP Toner Cartridges	7-3
Redistributing Toner in the Cartridge	7-4
Clearing the TONER LOW Message	7-5
Troubleshooting Check List	7-6
Printer Response Problems	7-6
Software, Computer, and Printer Interface Problems	7-8
Problems with Accessories	7-14
Paper Jams	7-19
Repeated Paper Jams	7-31
Printer Messages	7-32
Calling for Help	7-39
A Specifications	
Location Requirements	A-1
Printer Specifications	A-2
Regulatory Statements	A-3
FCC Regulations	A-3
Canadian DOC Regulations	A-3
VCCI Statement (Japan)	A-4
Safety Information	A-5
Laser Safety	A-5
Material Safety Data Sheet (MSDS)	A-5
Laser Statement for Finland	A-6
B PCL Printer Commands (Escape Sequences)	
PCL Printer Command Syntax	B-1
Escape Character	B-2
Setup Strings	B-3
PCL Font Selection	B-3

C Memory and Personality SIMM Installation

Installing a SIMM Board	C-2
Testing a SIMM Board	C-4
Verifying a Memory SIMM	C-4
Verifying a PostScript SIMM	C-5

D Warranty and Software License

HP Maintenance Agreements	D-1
On-Site Service Agreements	D-1
Warranty	D-2
One-Year On-Site Limited Warranty	D-2
Exclusions	D-2
Warranty Limitations	D-3
Service During the Warranty Period	D-3
Service After the Warranty Period	D-3
Repacking Guidelines	D-4
HP Software Product License	D-5

E HP Sales and Customer Service

HP Sales and Service Offices	E-1
----------------------------------------	-----

Index

About Your Printer

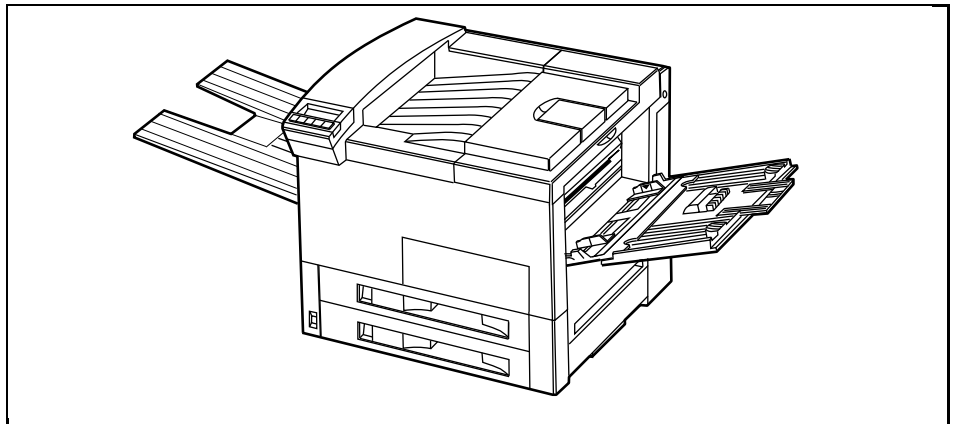
This chapter introduces the features of the HP LaserJet 5Si/5Si MX printer, shown in Figure 1-1. Printer features include:

- Paper handling
- Memory management
- Software and printer drivers
- Input/Output (I/O) buffering
- Energy efficiency
- EconoMode
- Printer fonts

The HP LaserJet 5Si MX printer comes with additional features, such as PostScript and networking capabilities.

Printer parts, accessories, and options are also introduced in this chapter. Each of these topics is explained in more detail in the following chapters of this manual.

Figure 1-1



HP LaserJet 5Si/5Si MX Printer

Standard Features of the HP LaserJet 5Si/5Si MX Printer

The HP LaserJet 5Si/5Si MX printer provides 24-ppm (page-per-minute) printing of Letter or ISO A4 paper at true 600-dpi (dots-per-inch) resolution. Your printer handles a wide variety of paper weights and sizes, including wide format paper 11 x 17 in (279 x 432 mm).

Paper Handling

Three input paper trays and two output bins handle a variety of print media. Table 1-1 identifies each tray and bin with the specific capacity and the media each supports.

Tray 1 is the multi-purpose tray. Use it for loading all media types and sizes.

Trays 2 and 3 are equipped with sensors that automatically detect the size of paper you have loaded. A level sensor detects the amount of paper in the tray.

Optional paper handling accessories are available through your HP dealer. They are described later in this chapter.

Table 1-1

Paper Handling

Tray or Bin	Capacity	Media
Tray 1 (multi-purpose)	up to 100 sheets	Paper: Letter, ISO A4, Executive, Legal, 11 x 17 in (279 x 432 mm), ISO A3, JIS B5, JIS B4, Maximum Minimum 3.9 x 7.5 in (99 x 191 mm), transparencies, labels Envelopes: Commercial #10, C5, DL, Monarch, B5
Tray 2	up to 500 sheets	Letter, ISO A4, Legal, JIS B4
Tray 3	up to 500 sheets	Letter, ISO A4, Legal, JIS B4, ISO A3, 11 x 17 in (279 x 432 mm)
Top Output Bin (face-down)	up to 500 sheets	all supported sizes
Left Output Bin (face-up)	up to 100 sheets	all supported sizes

Memory Management

The HP LaserJet 5Si printer comes with 4 MBytes of memory and can be expanded to 132 MBytes. The printer has four single inline memory module (SIMM) slots for additional memory or printer features. An optional 420-MByte Printer Hard Disk is available for storing downloaded fonts.

For more information about memory management, see Chapter 2, “Memory and Memory Management.”

HP Memory Enhancement Technology

Memory Enhancement technology (MEt), a standard Hewlett-Packard printer feature, allows most documents to print using the printer’s standard amount of memory. MEt automatically compresses data to print complex pages.

Software and Printer Drivers

Your printer comes with a software package that contains the HP LaserJet 5Si and 5Si MX Printing System for Microsoft Windows 3.1. This system includes 45 TrueType screen fonts.

In order to use your printer you must install a printer driver. For more information about software and printer drivers, see Chapter 3, “Software and Printer Drivers.”

Input/Output

The standard built-in Bi-Tronics parallel interface allows high-speed two-way communication between the printer and your computer. Your printer also comes with two Modular Input/Output (MIO) slots designed to support optional MIO cards.

Automatic I/O switching between all installed I/O ports allows you to connect multiple computers or even multiple networks to the printer simultaneously. If serial connection is required, contact an authorized HP dealer for information about an optional serial MIO card or serial-to-parallel converter.

Energy Efficiency



The HP LaserJet 5Si/5Si MX printer Power Save feature conserves electricity by substantially reducing power consumption when idle for a user-specified length of time. As an EPA Energy Star partner, Hewlett-Packard has determined that this product meets the Energy Star guidelines for energy efficiency.

You may change the `POWER SAVE DELAY` from the default of 1 hour. This item is located in the `CONFIGURATION MENU` on the printer's control panel.

EconoMode

EconoMode reduces the amount of toner applied to the printed page and is ideal for printing document drafts. When EconoMode is on, the print on the page appears significantly lighter but is still readable. (EconoMode has no effect on the speed of the printer or the amount of energy the printer uses—it only conserves toner.)

Printer Fonts

The HP LaserJet 5Si/5Si MX printer comes with 35 scalable fonts, as well as 10 TrueType fonts. You can scale TrueType fonts within the printer. You also receive matching TrueType screen fonts for true WYSIWYG, short for “what you see is what you get.” These internal printer fonts are part of the PCL language. Printer PCL font samples appear in Figure 1-2.






Intellifont	
Albertus	<i>Marigold</i>
Albertus Extrabold	CG Omega
Antique Olive	CG Omega <i>Italic</i>
<i>Antique Olive Italic</i>	CG Omega Bold
Antique Olive Bold	CG Omega Bold Italic
Clarendon Condensed	CG Times
<i>Coronet</i>	<i>CG Times Italic</i>
Courier	CG Times Bold
<i>Courier Italic</i>	CG Times Bold Italic
Courier Bold	Univers Medium
Courier Bold Italic	<i>Univers Medium Italic</i>
Garamond Antiqua	Univers Bold
<i>Garamond Kursiv</i>	Univers Bold Italic
Garamond Halbfett	Univers Medium Condensed
<i>Garamond Kursiv Halbfett</i>	<i>Univers Medium Condensed Italic</i>
Letter Gothic	Univers Bold Condensed
<i>Letter Gothic Italic</i>	Univers Bold Condensed Italic
Letter Gothic Bold	Line Printer (16.67 pitch, 8.5 point only)
TrueType	
Arial	Times New Roman
<i>Arial Italic</i>	<i>Times New Roman Italic</i>
Arial Bold	Times New Roman Bold
Arial Bold Italic	Times New Roman Bold Italic
Symbol αβχΔΕΦΓ	Wingdings     

Figure 1-2

PCL Fonts

Special Features of the HP LaserJet 5Si MX Printer

The HP LaserJet 5Si MX printer is configured with additional memory, Hewlett-Packard's PCL 5 language, Adobe's PostScript Level 2 language, and an HP JetDirect print server that allows you to connect your printer to Ethernet or LocalTalk networks.

Additional Memory

The HP LaserJet 5Si MX printer contains 12 MBytes of installed memory. By adding optional SIMMs with 2, 4, 8, 16, or 32 MBytes, you can increase memory to a total of 76 MBytes.

Networking Capabilities

The HP LaserJet 5Si MX printer's factory-installed HP JetDirect Print Server lets you connect your printer directly to your local area network (LAN). The HP JetDirect automatically switches among networked protocols, so a single printer can serve many networks at once or be moved to a new network with no additional hardware investment.

The HP JetDirect Print Server supports the following network operating systems:

- Novell NetWare 286 v. 2.15c and beyond; 386 v. 3.11, 3.12, 4.0, 4.01
- Microsoft LAN Manager for OS/2, v. 2.1
- IBM LAN Server for OS/2, v. 3.0
- Microsoft Windows for Workgroups, v. 3.1, 3.11
- Apple EtherTalk
- Apple LocalTalk
- Microsoft Windows NT, v. 1.0
- Microsoft Windows 95
- HP-UX v. 8.0, 9.0, 10
- SunOS v. 4.1.1, 4.1.2, 4.1.3
- SCO UNIX V/386 v. 3.2.2, 3.2.4
- Solaris v. 2.1, 2.2, 2.3, 2.4
- IBM/AIX v. 3.2.5

Clients can be DOS, Windows, OS/2, Macintosh, or UNIX. Refer to the HP JetDirect documentation to identify the clients most likely to work with the printer driver.

PostScript

The HP LaserJet 5Si MX printer is configured with Adobe’s PostScript Level 2 language and includes 35 scalable PostScript fonts. Adobe’s PostScript Level 2 is compatible with earlier versions of the language. PostScript font samples are shown in Figure 1-3.

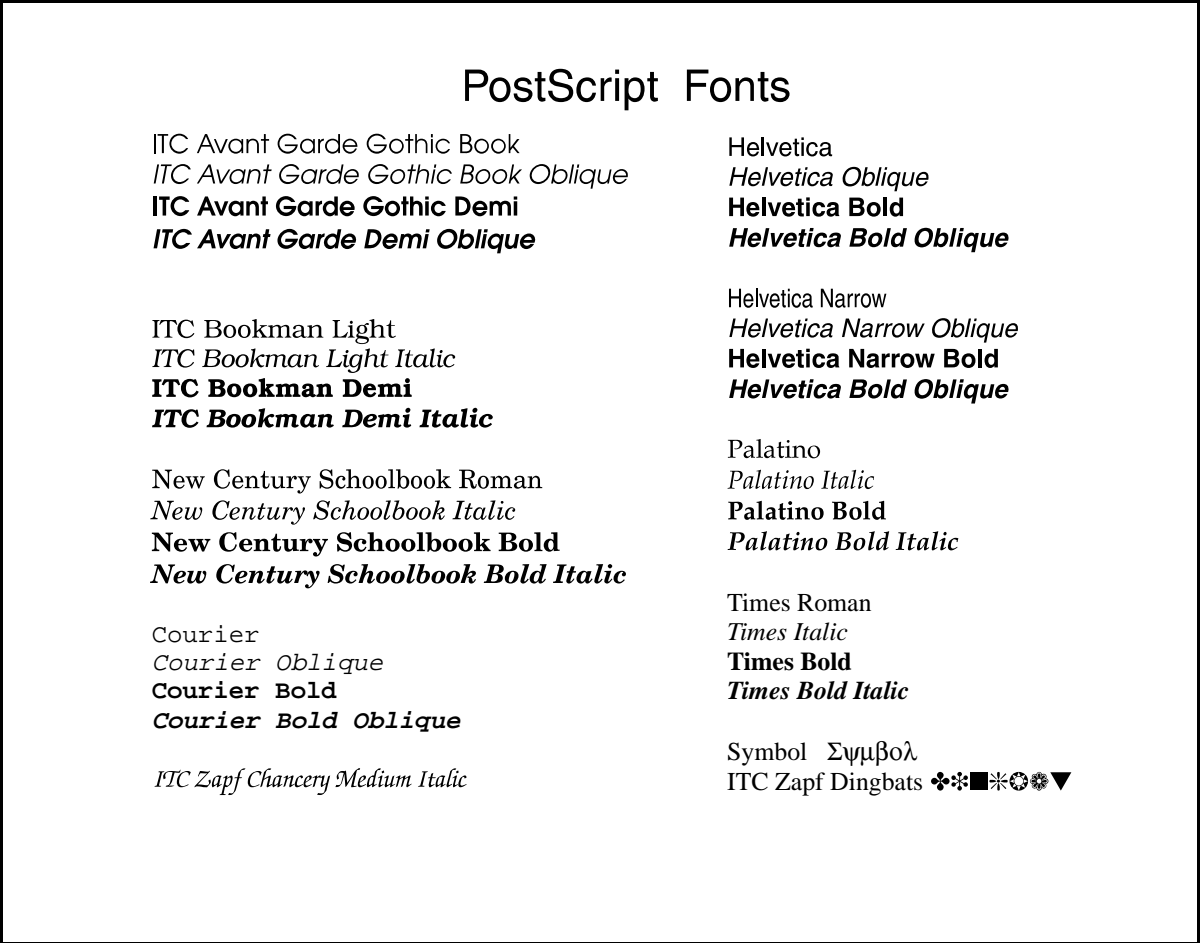


Figure 1-3 PostScript Fonts

Printer Parts

Figures 1-4 and 1-5 show the locations and names of key printer parts.

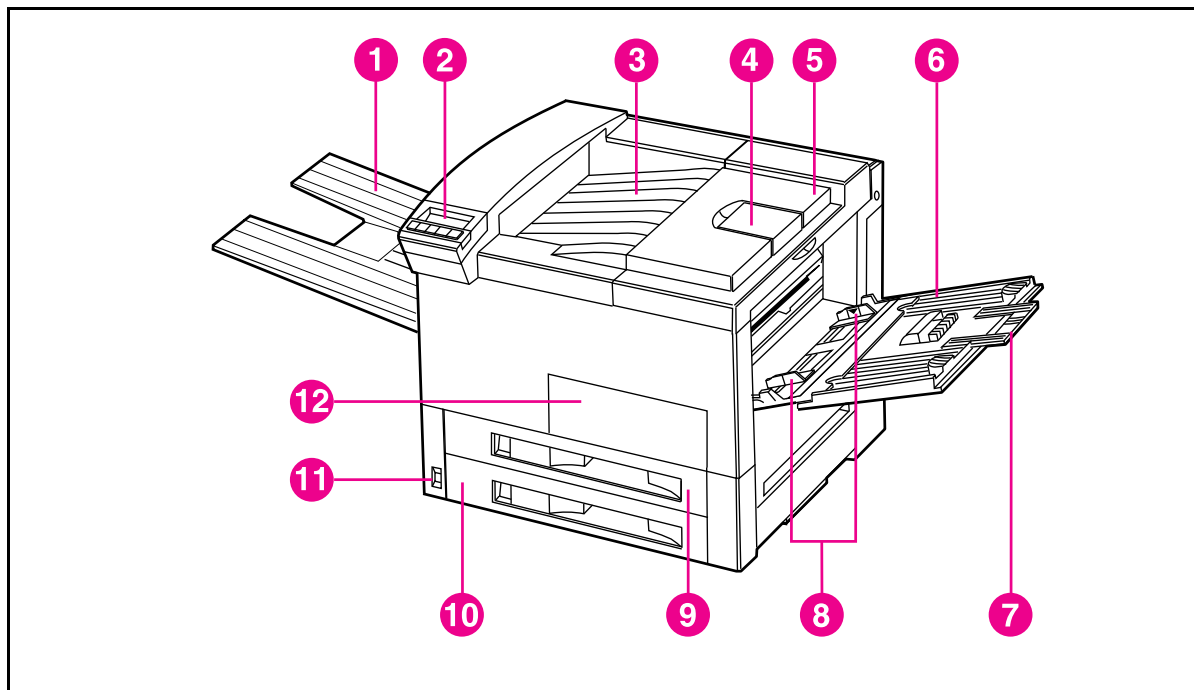


Figure 1-4 Key Printer Parts: Front View

- | | |
|---------------------------|------------------------------|
| 1. Left Output Bin | 7. Tray 1 extensions |
| 2. Control panel | 8. Tray 1 paper width guides |
| 3. Top Output Bin | 9. Tray 2 |
| 4. Adjustable paper stop | 10. Tray 3 |
| 5. Top cover | 11. On/Off switch |
| 6. Tray 1 (multi-purpose) | 12. Front door |

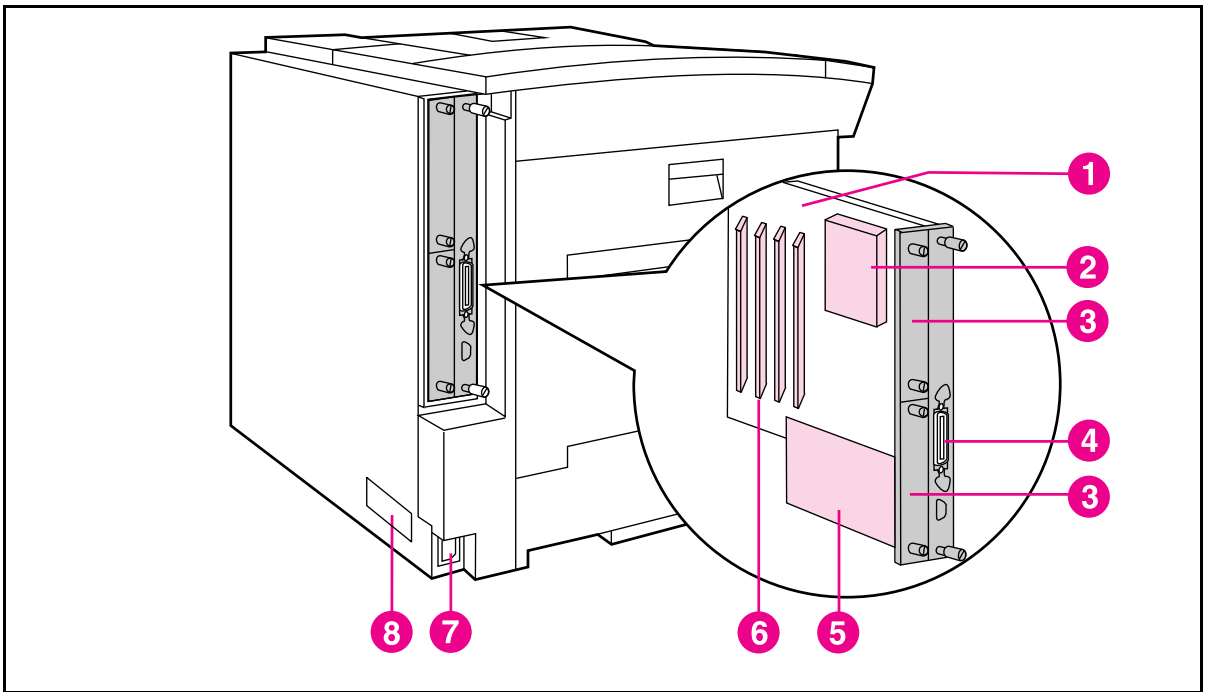


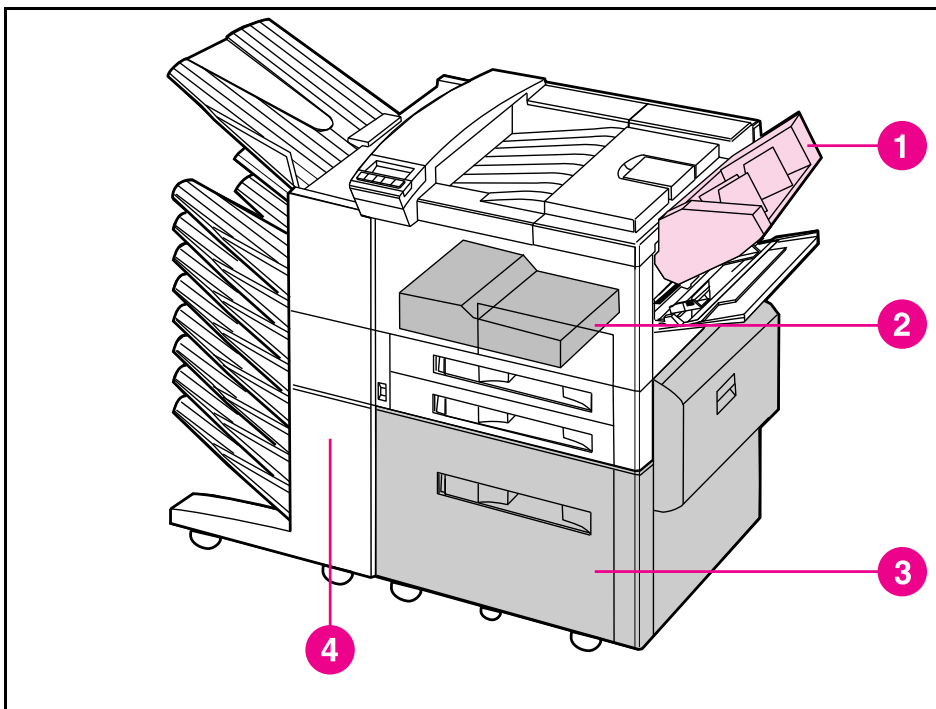
Figure 1-5 Key Printer Parts: Rear View

1. Printed Circuit Assembly (formatter board)
2. Optional Printer Hard Disk location
3. HP JetDirect Print Server location (optional on HP LaserJet 5Si printers)
4. Bi-Tronics parallel port
5. External Paper Handling Controller Board location
6. SIMM slots
7. Power outlet
8. Serial number

Accessories and Options

As your printing and networking needs grow, you can increase your printer's capabilities by adding accessories and options. Figure 1-6 shows the paper handling options available. These options are described in Table 1-2, along with other available options. Ordering information can be found in Appendix E, "HP Sales and Customer Service." Look for information about using the accessories in Chapter 5, "Print Tasks."

Figure 1-6



Paper Handling Accessories and Options

1. Envelope Feeder
2. Duplex Unit
3. 2000-Sheet Input Tray (Tray 4)
4. Multi-Bin Mailbox (works in mailbox, job separation, or stacking mode)

The Optional Printer Hard Disk

The Printer Hard Disk accessory can be used to permanently store downloaded fonts and forms in the printer. Unlike the standard printer memory, permanently downloaded items remain in the printer even when the printer is powered off.

Fonts downloaded to the hard disk are available to all users of the printer.

Macintosh users can use the HP LaserJet Utility, and Windows users can use the HP printer driver to download fonts. The Printer Hard Disk can also be write-protected through software for additional security. Refer to the online help associated with your HP software for more information.

If you are a PostScript language programmer, refer to Adobe's *PostScript Language Reference Manual* for information about downloading forms and patterns to the disk. For the Macintosh environment, refer to the HP LaserJet Utility Guide online help included with the HP LaserJet Utility software. For the Windows environment, refer to your HP Windows driver online help.

Table 1-2

Accessories and Options

Option	Part Number	Description
Toner Cartridge	C3909A	Replacement toner cartridge
Memory upgrades	2 MByte—C3131A 4 MByte—C3132A 8 MByte—C3133A 16 MByte—C3146A	Upgrade to a total of 132 MBytes of memory in the HP LaserJet 5Si or to 76 MBytes in the HP LaserJet 5Si MX. Third-party 32-MByte memory SIMMs are also available.
Adobe's PostScript Level 2 printer language	C3169A	Add Adobe's PostScript Level 2 language by installing this SIMM in your printer. (Additional memory is recommended.) It is standard in the HP LaserJet 5Si MX printer.
Duplex Unit	C3762A	Provides the printer with two-sided printing capability.
Envelope Feeder	C3765A	Attaches to printer above Tray 1; holds up to 100 envelopes. Supports Commercial #10, C5, DL, Monarch, ISO B5.
2000-Sheet Input Tray (Tray 4)	C3763A	Adjustable for Letter, Legal, 11x17, ISO A4, ISO A3, JIS B4.
Multi-Bin Mailbox	C3764A	Features eight bins holding 250 sheets of paper each. Supports all paper sizes. Envelopes must be sent to the Left Output Bin (face-up).
500-Sheet Input Tray 2	C2930A	Holds 500 sheets; adjustable for Letter, Legal, ISO A4.
500-Sheet Input Tray 3	C2931A	Holds 500 sheets; adjustable for Letter, Legal, 11 in x 17 in, ISO A4, ISO A3, JIS B4.
HP parallel printer cable (2 meter)	C2950A	HP-recommended IEEE-1284 Cable, with A and B connectors
HP parallel printer cable (3 meter)	C2951A	HP-recommended IEEE-1284 Cable, with A and B connectors

Continued on the next page.

Table 1-2

Accessories and Options, *continued*

Option	Part Number	Description
Modular I/O and Network Cards	J2550A	HP JetDirect Multi-protocol Network Card with Ethernet/IEEE802.3 10Base-T
	J2552A	HP JetDirect Multi-protocol Network Card with LocalTalk, DIN-8 and Ethernet/IEEE802.3 10Base-T, BNC (standard in HP LaserJet 5Si MX printers)
	J2555A	HP JetDirect Multi-protocol Network Card with Token Ring (DB9 and RJ45)
UNIX Interface Software	J2374B	HP JetDirect interface software for HP-UX systems
	J2375B	HP JetDirect interface software for SunOS and Solaris UNIX systems
Printer Hard Disk	C2965A	420-MByte disk drive for both PCL and PostScript
Printer Stand	C2975A	Stand 16.42 in (417 mm) tall for the HP LaserJet 5Si/5Si MX printers
110V Maintenance Kit	C3971A	Maintenance kit that contains replacement rollers and fuser for 110V printers. May be purchased through an HP authorized dealer.
220V Maintenance Kit	C3972A	Maintenance kit that contains replacement rollers and fuser for 220V printers. May be purchased through an HP authorized dealer.
External Paper-Handling Controller Board	C3768-60001	Controller board for optional paper handling input and output devices. Not needed for the Envelope Feeder or Duplex Unit.

Memory and Memory Management

The HP LaserJet 5Si printer comes with 4 MBytes of memory and can be expanded to 132 MBytes. The printer has four single inline memory module (SIMM) slots for additional memory. Memory is added in increments of 2, 4, 8, 16, or 32 MBytes. (Note that 32-MByte SIMMs are *not* available from HP; contact third-party providers.) The SIMM slots can also hold optional languages (such as PostScript), fonts, and other SIMM-based products.

The HP LaserJet 5Si MX comes with 4 MBytes of internal memory and a pre-installed 8-MByte memory SIMM for a total of 12 MBytes. You can add up to 64 MBytes of additional memory for a total of 76 MBytes.

Memory Enhancement technology (MEt), a standard HP LaserJet printer feature, allows most documents to print using the printer's standard amount of memory. MEt automatically compresses data to print complex pages.

Storing Print Data

The printer memory receives, holds, and processes data from incoming print jobs. It manages downloaded resources, including PCL language, soft fonts, symbol sets, macros, and patterns. When the PostScript option is installed, the printer also stores PostScript fonts, forms, patterns, and dictionaries.

If you download a large number of fonts, the addition of the optional 420-MByte Printer Hard Disk optimizes the functionality of your printer.

When two or more personalities are installed, the printer reserves a portion of memory for each personality's resources. This feature is called Resource Saving. It enables the printer to keep downloaded resources (such as fonts, forms, and macros) in memory under most conditions.

Saving Resources in PCL or PostScript Printers

In a PCL-only printer, available memory is automatically allocated to keep downloaded resources in memory. When you add memory to the printer, more memory automatically becomes available for Resource Saving. You need not change the amount of memory available for Resource Saving in a PCL-only printer.

When only the PCL personality is installed, the printer uses all available memory to maintain downloaded resources. When the PostScript option is installed, Resource Saving automatically becomes available when at least 12 MBytes of memory is installed. By default, the printer allocates resources to each printer personality, based on the amount of memory each personality needs. Most users do not need to customize the Resource Saving configuration, but you can change the amount of memory allocated to each printer personality.

See Chapter 4, "Printer Control Panel," to learn how to configure memory for your printer.

Determining Memory Requirements

The amount of memory you need depends on the types of documents you print. With the PCL printer language, your HP LaserJet 5Si printer can print most text and graphics at 300 or 600 dpi without additional memory.

Add memory to your printer if you:

- Commonly print complex graphics.
- Use many downloaded fonts.
- Print complex documents.
- Use advanced functions (such as I/O Buffering and Resource Saving).

For the HP LaserJet 5Si printer, you can add up to 128 MBytes of memory for a total of 132 MBytes. If you have the HP LaserJet 5Si MX printer, you can add up to 64 MBytes of additional memory for a total of 76 MBytes.

Table 2-1 presents the amount of memory required for the most common print jobs performed with the HP LaserJet 5Si/5Si MX printer using 600-dpi printing.

Table 2-1 Minimum Memory Requirements

Print Job	Paper Size	PCL Minimum Memory Requirements	PostScript Minimum Memory Requirements
single-sided printing	Letter, A4, Legal	4 MBytes	9 MBytes
	11 in x 17 in, A3	4 MBytes	12 MBytes
two-sided printing	Letter, A4	4 MBytes	12 MBytes
	Legal	4 MBytes	14 MBytes
	11 in x 17 in, A3	10 MBytes	22 MBytes

Improving Performance with I/O Buffering

When you select a Print command from your software application, the software sends your request to the printer. To help you get back to work more quickly, the printer reserves a portion of its memory to hold the file or page to be printed in an I/O buffer until it is the next to be printed.

For each MByte of memory you add to your printer, 10 KBytes is automatically reserved to hold print jobs in progress. The more memory reserved, however, the greater the number of files or pages that can be stored.

In most cases, it is to your advantage to let the printer automatically reserve memory for I/O buffering. However, you may change the amount of the I/O buffer by increments of 100 KBytes up to a maximum of 10,000 KBytes.

See Chapter 4 to learn how to change the I/O buffer.

Note

When you change the I/O buffer setting, all downloaded resources are deleted, unless they are stored on the optional Printer Hard Disk.

Software and Printer Drivers

Printer Drivers

This chapter discusses the software that comes with your printer. It tells you which software you need to install for your computing environment, and it also describes the special features of each driver or utility.

A printer driver is a software program that enables your software applications to access your printer's features. For example, when you print a document, the application sets up your job with formatting commands such as page breaks, font selections, paper tray selections, and number of copies. The printer driver takes these commands, translates them into a printer language (such as Hewlett-Packard's Printer Control Language (PCL) or PostScript) and then sends the job to the printer.

A printer driver must be installed on your computer for each software application you are using. For example, you install the Windows PCL driver when you use applications under Windows 3.1. If you have the HP LaserJet 5Si MX printer, or you have purchased the optional PostScript upgrade for the HP LaserJet 5Si printer, you must also install a PostScript driver.

Some applications allow you to access the printer driver through the Print, Print Setup, or Page Setup commands. Print job settings selected through your application always override settings made through the printer driver. Printer settings made in the application or printer driver always override the corresponding setting made on the printer control panel.

In some environments the printer can send status information back to the computer. This is called bi-directional since information is sent to and from the printer. In *non-bidirectional* environments you need to identify for your printer driver the accessories installed in your printer. For example, if you have installed the Duplex Unit or Envelope Feeder, you must enable these accessories in the printer driver.

Software for the HP LaserJet 5Si/5Si MX Printer

The HP LaserJet 5Si and 5Si MX printers come with the following Microsoft Windows applications:

- PCL printer driver for applications running under Microsoft Windows 3.1 or 3.11
- HP FontSmart utility for screen fonts

The printers also come with Novell NetWare network software:

- HP JetAdmin and JetPrint printer management software for Novell NetWare networks

The software for Microsoft Windows applications and utilities for Novell NetWare networks are on the *HP LaserJet 5Si and 5Si MX Printing System for Microsoft Windows 3.1* set of disks. The software for DOS applications is on the *Drivers for DOS Applications* disk.

Install the software by following the procedures listed on the disk labels. Software application notes are available by calling HP First. See Chapter 7, "Calling for Help," for the HP First phone number.

Additional Software for the HP LaserJet 5Si MX Printer

The HP LaserJet 5Si MX printer comes with the following additional software:

- Microsoft Windows PostScript printer driver for applications running under Microsoft Windows 3.1 or 3.11
- Macintosh Adobe PostScript Level 2 driver and HP LaserJet Utility for administrator access to printer features
- HP JetAdmin and JetPrint utilities for Novell NetWare networks
- HP Symbol Set utility for printing supported symbol sets in DOS

The software for Microsoft Windows applications using PostScript is on the *Windows 3.1 PostScript Driver* disk. The software for Apple Macintosh applications is on the *Printing Software for the Macintosh* disk.

Install the software by following the procedures listed on the disk labels. Software application notes are available by calling HP First. See Chapter 7, "Calling for Help," for the HP FIRST phone number.

Note

If a driver is not yet available for your software application, you can use an older HP LaserJet printer driver (such as the HP LaserJet 4Si or 4V printer driver) until a newer driver becomes available. However, you may not be able to access all of the advanced features of your new printer.

See Chapter 1, "About Your Printer," for optional accessory information.

Microsoft Windows Applications

Windows PCL Printer Driver

The Windows PCL printer driver for the HP LaserJet 5Si/5Si MX printers has an enhanced user interface. The driver allows you to:

- Print special watermarks.
- Print multiple page images on a single page (*n*-Up).
- Print the first page of a document on one type of media and the remaining pages on another type of media.
- Select which paper on which to print (by source or type)
- Select which output bin(s) to use.

You may also permanently download fonts to the optional Printer Hard Disk.

Once you load the Windows driver, you can change printer settings or access features. From the Windows File menu, choose the Print Setup command. You can also choose the Printers icon in the Control Panel program group.

You select items in the printer driver to enable different features of the printer. You can do this in the Print Setup dialog of your application, or through the Windows Control Panel and the Printers icon. For example, if you have installed the Duplex Unit or Envelope Feeder, you need to make sure that accessory appears in the installed list on the Accessories tab. If you have the Multi-Bin Mailbox installed, you need to select the operating mode that was chosen by the administrator. To do this, add the mailbox on the Accessories tab, and then click the Configure button to select the correct mode. The modes include mailbox, job separation, and stacking.

Note

If you cannot access an installed accessory in your driver, click the Accessories tab and make sure the accessory appears in the installed accessories list.

HP FontSmart

The HP FontSmart utility includes font management tools and files that allow you to display on your computer screen the 45 fonts included in your printer. This approximation of screen display to printed result is known as WYSIWYG, short for “what you see is what you get.” These fonts are automatically loaded and configured when you install the *HP LaserJet 5Si and 5Si MX Printing System for Microsoft Windows 3.1*. Samples of the fonts available to you are located in Chapter 1.

Windows PostScript Printer Driver

Once you install the PostScript driver for Windows 3.1, which accesses Adobe's PostScript Level 2 language, most of your printer's features are available from the Print Setup dialog within your Windows applications. You can also use this software to permanently download fonts to the optional Printer Hard Disk. This accessory is discussed later in this chapter. See Chapter 4 to learn how to select PostScript printing from the control panel.

You need to select items in the printer driver to enable different features of the printer or installed accessories. Access the driver through the application's Print Setup command, or through the Printers icon in the Windows Control Panel program group. If you have the Multi-Bin Mailbox installed, you need to select the operating mode that was chosen by the administrator. To do this, select Printer Config on the Config tab, and then click the Configure button to select the correct mode. The modes include mailbox, job separation, and stacking.

Note

If you cannot use an installed accessory in your driver, click the Config tab, and then Printer Config to make sure the accessory appears in the installed accessories list.

Macintosh Applications

When software for the Macintosh is installed on your computer's hard disk, you can access the HP LaserJet Printer Driver, bitmapped screen fonts, and the HP LaserJet Utility. The driver allows you to print four page images on a single page or select media by type or source.

HP LaserJet Printer Driver

The auto-installation HP LaserJet printer driver utility and online printing guide gives you access to the printer from the Print and Print Options dialog boxes.

Bitmapped Screen Fonts

The bitmapped screen fonts match your printer's 35 internal PostScript fonts, allowing you to see on screen how your printed page will look.

HP LaserJet Utility

The HP LaserJet Utility allows the network administrator to control many printer features from the computer. This is especially helpful in a network environment when the printer is not near your desktop. With this utility you can:

- Name the printer, assign it to a zone on your network, download files and fonts, and change many of the default settings.
- Permanently download fonts to the optional Printer Hard Disk.
- Set the printer password.
- Lock out the control panel without leaving your computer.

Networking Software

Your printer arrives with Novell Netware software for Windows platforms, and Microsoft LAN Manager and IBM LanServer for the OS/2 platform.

Novell NetWare Software

The HP LaserJet 5Si MX printer comes with the following network utilities.

HP JetAdmin for NetWare

HP JetAdmin is printer management software for network administrators. It helps you set up and manage your printer in a Novell networked environment. HP JetAdmin provides simple installation, configuration, troubleshooting, and management of HP JetDirect-connected printers. The HP JetAdmin utility allows you to remotely configure, troubleshoot, and manage all the HP network printers and plotters on a Novell network from a computer running Windows. You can also set passwords for the printer control panel using HP JetAdmin.

HP JetPrint for Netware

The HP JetPrint printer management software allows you to view, select, and print to all HP printers on the network from one screen. You can view control panel messages and check the status and progress of print jobs. HP JetPrint works only in Windows 3.1.

Microsoft LAN Manager and IBM LAN Server

This software helps network administrators set up HP LaserJet printers through an OS/2 server. Along with an installer, there are two software components. The Redirector component allows the redirection of print data from a spooler directly to the HP LaserJet printer. The Setup component allows the network administrator to specify which printer receives print data and provides seamless integration between the Redirector and the LAN Manager or LAN Server print system.

Optional Printer Software

OS/2 Applications

You can order the following optional printer drivers from HP Distribution or an authorized HP dealer:

- OS/2 PCL printer driver
- OS/2 PostScript printer driver
- HP JetAdmin for OS/2 LAN Server 4.X

Note

If your software is not listed here or earlier in this chapter, contact your software manufacturer or distributor and request a driver for the HP LaserJet 5Si printer or the HP LaserJet 5Si MX printer.

Networking Software

The following optional networking software is available from HP Distribution or your authorized HP dealer:

- HP Print Server NLM (A NLM that enables printer management of HP printers connected to NetWare 3.X and 4.X servers.)
- Windows for Workgroups
- HP-UX
- SunOS
- Solaris

Note

To learn more about networking with the HP LaserJet 5Si MX printer, see the *HP JetDirect Print Server Software Installation Guide*.

DOS Symbol Sets Utility

An additional utility is included on the *Drivers for DOS Applications* disk. Use this utility to print the symbol sets for each of the printer's typefaces. Symbol sets are collections of unique characters for international languages, mathematical equations, legal citations, line drawings, and other special applications.

Printing the Symbol Sets

- 1 Insert the *Drivers for DOS Applications* disk into your floppy drive.
- 2 At the DOS command, switch to your floppy drive.
- 3 Type SYMSETS and press **Return** to start the utility.
- 4 At the DOS command, type SYMSETS *id number* LPT*x*, where *id number* is the PCL Symbol Set identification number and *x* is the number of the printer port.

Table 3–1 lists the symbol set names and identification numbers. This table also shows which symbol sets are available for each typeface.

Table 3-1

DOS Symbol Sets

PCL Symbol Set ID	Symbol Set	Typeface												
		Albertus	Antique Olive	Clarend. Cond.	Coronet	Courier	Garnd Antiqua	Letter Gothic	Line Printer	Marigold	CG Omega	CG Times	Univrs	Univrs Cond
8U	Roman-8	•	•	•	•	•	•	•	•	•	•	•	•	•
0N	ISO 8859-1 Latin 1 (previously called ECMA 94 Latin 1)	•	•	•	•	•	•	•	•	•	•	•	•	•
2N	ISO 8859-2 Latin 2					•		•				•	•	
5N	ISO 8859-9 Latin 5					•		•				•	•	
10U	PC-8 (Default)	•	•	•	•	•	•	•	•	•	•	•	•	•
11U	PC-8 D/N	•	•	•	•	•	•	•	•	•	•	•	•	•
12U	PC-850	•	•	•	•	•	•	•	•	•	•	•	•	•
17U	PC-852					•		•				•	•	
9T	PC-Turk					•		•				•	•	
19U	Windows 3.1 Latin 1 (Microsoft calls it ANSI)	•	•	•	•	•	•	•		•	•	•	•	•
9E	Windows 3.1 Latin 2	•	•	•	•	•	•	•	•	•	•	•	•	•
5T	Windows 3.1 Latin 5	•	•	•	•	•	•	•	•	•	•	•	•	•
7J	DeskTop	•	•	•	•	•	•	•		•	•	•	•	•
10J	PS Text	•	•	•	•	•	•	•		•	•	•	•	•
13J	Ventura International	•	•	•	•	•	•	•		•	•	•	•	•
14J	Ventura US	•	•	•	•	•	•	•		•	•	•	•	•
6J	Microsoft Publishing	•	•	•	•	•	•	•		•	•	•	•	•
8M	Math-8					•		•				•	•	
5M	PS Math					•		•				•	•	
6M	Ventura Math					•		•				•	•	
15U	Pi Font					•		•				•	•	
1U	Legal	•	•	•	•	•	•	•	•	•	•	•	•	•
1E	ISO United Kingdom*	•	•	•	•	•	•	•	•	•	•	•	•	•
0U	ASCII*	•	•	•	•	•	•	•	•	•	•	•	•	•
0S	ISO Swedish: names*	•	•	•	•	•	•	•	•	•	•	•	•	•
0I	ISO Italian*	•	•	•	•	•	•	•	•	•	•	•	•	•
2S	ISO Spanish*	•	•	•	•	•	•	•	•	•	•	•	•	•
1G	ISO German*	•	•	•	•	•	•	•	•	•	•	•	•	•
0D	ISO Norwegian*	•	•	•	•	•	•	•	•	•	•	•	•	•
1F	ISO French*	•	•	•	•	•	•	•	•	•	•	•	•	•
9U	Windows 3.0 Latin 1 (previously called Windows)	•	•	•	•	•	•	•		•	•	•	•	•
12J	MC Text	•	•	•	•	•	•	•		•	•	•	•	•
19M	Symbol													
579L	Wingdings													

* These symbol sets are variations of the Roman-8 symbol set.

Printer Control Panel

This chapter describes the printer control panel. The following sections:

- Introduce and explain how to use each of the control panel options.
- Describe how to print text pages that show the current printer settings, including the configurations for PCL and PostScript.
- Illustrate common messages displayed on the control panel.

The most convenient way to control your printer is through your software applications or the software that comes with your printer. In fact, commands in your software override control panel settings. Refer to the online help files associated with the software for more information.

Note

The following terms from the Windows and Macintosh interfaces have different meanings in this user's guide. *Control panel* refers to the control panel on the printer. *Menus* refer to the menus on the control panel display—not to menus on your computer screen. You reach the printer menus by pressing the **Menus** key.

Use the printer control panel for overall configuration requirements or to obtain printer status information. You also can use the control panel to access printer features not supported by your software applications.

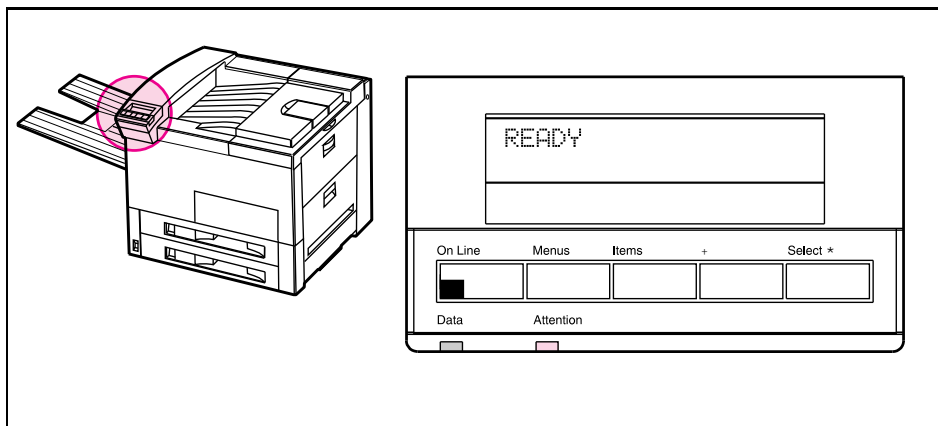
Note for Network Users

Refer to the *HP JetDirect Print Server Software Installation Guide* for information about controlling the printer in a network environment. Also refer to the online help files provided with the HP JetDirect print server and HP JetAdmin utility.

Control Panel Layout

The control panel includes three indicator lights, five keys, and a 2-line character display (20 characters per line).

Figure 4-1



Printer Control Panel

Indicator Lights

The control panel indicator lights are described in the following table.

Table 4-1

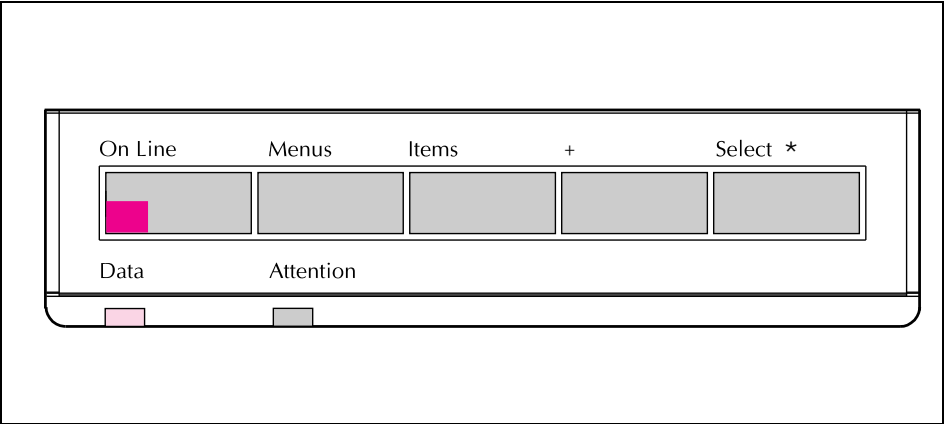
Indicator Lights

Indicator Light	Appearance	Meaning	Action Required
On Line	On	Ready to print	No action required
	Flashing	Going offline	No action required
	Off	Printer offline	Read and respond to control panel message.
Data	On	Data being received or processed; more data coming	No action required
	Flashing	Data being received or processed	No action required
	Off	No data being received or processed	No action required
Attention	On	Printer requires service	Note control panel message and call for service.
	Flashing	Printer needs attention	Read and respond to control panel message.
	Off	No messages or error conditions requiring attention	No action required

Control Panel Keys

The function of each of the five keys on the control panel is labeled above each key.

Figure 4-2



Control Panel Keys

The control panel arranges various printer options in a simple menu structure similar to the levels of an outline. Each menu contains several items. These items are operations the printer performs when you select them.

Table 4-2 summarizes the function of each control panel key (examples are provided later in this chapter).

Table 4-2

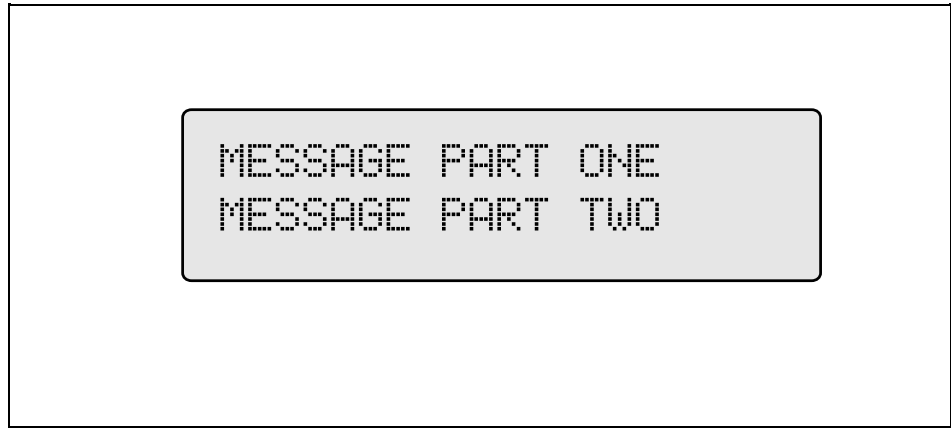
Control Panel Keys

Key	Function
On Line	Switches the state of communication between computer and printer to ON (online) or OFF (offline). Stops printing as soon as possible.
Menus	Provides a menu system for obtaining status information or changing the printer configuration.
Items	Cycles through the items on the selected menu. Menu items vary depending on the options installed and configuration of other menu choices.
+	Steps through the item choices.
Select *	Selects a desired menu item choice.

Control Panel Display

The control panel presents messages about the printer in one or two lines of the character display.

Figure 4-3



Control Panel Character Display

The control panel displays the following types of messages:

- *Ready status* messages mean the printer is ready to accept data.
- *Printer status* messages tell you what the printer is doing at a given time.
For example:
PROCESSING JOB
FROM TRAY 2
- *Printer attendance* messages tell you to perform some action, such as adding paper or clearing a paper jam.
- *Error* messages communicate data and print errors. The printer stops printing for ten seconds, displays a message, and then automatically attempts to return to the online state.
- *Service* messages communicate a printer failure. Some errors can be cleared by pressing the **Select *** key or by cycling power to the printer (turn power off and then back on). Others stop all printer operations and require service.

Settings and Defaults

The printer makes most printing decisions based on either temporary settings or permanent defaults.

Note

Settings you send from software applications override printer defaults.

Table 4-3

Settings and Defaults

Setting or Default	Explanation
Temporary setting	A value set for the current print job by your software application. For example, if your printer default is portrait, you can request your software to print pages with a landscape orientation. This temporary setting remains in effect until the current print job is finished.
Control panel default	A value set at the control panel by selecting a menu item and pressing Select * . An asterisk (*) next to the item name indicates that it is now the default. The printer retains this new value even when power is switched OFF.
Factory default	The value set for each menu item at the factory. Factory defaults (permanent default settings) are listed in Table 4-4.

Restoring Factory Settings

- 1 Press **On Line** and turn the printer on (push power ON).
- 2 Hold down **On Line** until this message appears:
COLD RESET
This message is followed by the power-on self test message. Then the following message appears:
RESTORING FACTORY
SETTINGS
until the printer system completes power-on initialization.

Factory defaults are listed in Table 4-4.

Note

By printing a PCL configuration page, you can see the current settings and all the choices available. Refer to Figures 4-4 and 4-5 later in this chapter.

Table 4-4

Factory Default Settings

Menu Item	Default Setting
DISPLAY LANGUAGE=	ENGLISH
PAPER DESTINATION=	TOP OUTPUT BIN
PAPER SIZE=	LETTER or A4
PAPER TYPE=	PLAIN
ENVELOPE FEEDER SIZE=	COM10
ORIENTATION=	PORTRAIT
PERSONALITY=	AUTO
RESOLUTION ENHANCEMENT=	ON
PRINT DENSITY=	3
ECONOMODE=	OFF
2-SIDED=	OFF
BINDING=	LONG EDGE
PRINT POSTSCRIPT ERRORS=	OFF
JAM RECOVERY=	OFF
PAGE PROTECT=	AUTO
RESOLUTION=	600 DOTS PER INCH
I/O TIMEOUT=	15 SECONDS
AUTO CONTINUE=	ON
TONER LOW=	STOP
POWER SAVE DELAY=	1 HOUR
RESOURCE SAVING=	AUTO
PARALLEL I/O SPEED SETTING=	HIGH
IO BUFFER=	AUTO
IO SIZE=	10K
COLD RESET PAPER=	LETTER
SERVICE MESSAGE=	OFF
DIAGNOSTICS=	OFF

Control Panel Menus

Pressing **Menus** gives you access to control panel menu options. Menus appear in the following order:

- Tray Menu
- Job Control Menu
- Test Menu
- Configuration Menu
- Print Quality Menu
- Input/Output (IO) Menu

These additional menus appear on the control panel when these optional items are installed:

- PostScript Menu
- HP MIO 1 Menu
- HP MIO 2 Menu

Each of these menus is described in a separate table later in this chapter.

Selecting a Menu Item

- 1 Press **Menus** repeatedly until the menu you want appears.
- 2 Press **Items** until the item you want appears.
- 3 Press **+** until the setting you want appears.
- 4 Press **Select *** to select and save your setting. An asterisk (*) appears next to your choice, indicating that it is now the default.
- 5 Press **Menus** or **On Line** to exit.

Note

In a menu mode, if no keys are pressed for approximately 30 seconds, the system automatically returns to the top level and displays **READY** (or an existing error or service message).

Tray Menu

This menu shows the paper status (type or size) of all available paper trays.

Press **Items** to see each tray size and type in turn.

Table 4-5 presents the messages that appear when you select each of the menu items.

Table 4-5

Tray Menu

Menu	Item	Explanation
TRAY MENU	ENVELOPE FEEDER TYPE=PLAIN	Note: Available only if you have the optional Envelope Feeder. Type of envelopes available in the optional Envelope Feeder. Provides selection of other types.
	ENVELOPE FEEDER SIZE=COM10	Note: Available only if you have the optional Envelope Feeder. Size of envelopes available in the optional Envelope Feeder. Provides selection of other sizes.
	TRAY 1 TYPE=LETTERHEAD	Type of media loaded in Tray 1 (multi-purpose). Provides selection of other types.
	TRAY 1 SIZE=LETTER	Size of media available in Tray 1. Provides selection of other sizes.
	TRAY 2 TYPE=PLAIN	Type of media available in Tray 2. Provides selection of other types.
	TRAY 3 TYPE=PLAIN	Type of media available in Tray 3. Provides selection of other types.
	TRAY 4 TYPE=PLAIN	Type of media available in optional 2000-Sheet Input Tray (Tray 4). Provides selection of other types.

Note

Paper size for Trays 2, 3, or 4 is automatically sensed. You do not have to set the size on the printer’s control panel.

Changing Paper Type from the Control Panel

- 1 Press **Menus** until TRAY MENU appears.
- 2 Press **Items** to scroll through the trays and their types.

Note Tray 1 and the Envelope Feeder do not have a sensor for identifying paper size. If either is being used, you will also have a menu item for media size. You must set the size of the paper loaded before continuing.

- 3 Press **+** to scroll through the paper type or size options.
- 4 Press **Select *** to save your choice.

Selecting media by type rather than source is similar to locking out the tray(s). If you have letterhead loaded in Tray 1, and you select to print on plain paper in your driver, the printer will not pull the letterhead paper from Tray 1. However, the printer will pull from either of the other trays if plain paper is loaded, and has been set on the printer’s control panel.

Note If you plan to select your media by type, and not by tray (source), you must set the type value for each tray on the printer’s control panel *and* in your printer driver. Refer to Chapter 3 for more information on accessing your printer driver.

JobControl Menu

Table 4-6 presents the messages that appear when you select each of the menu items.

Table 4-6

Job Control Menu

Menu	Item	Explanation
JOB CONTROL MENU	CANCEL JOB	Press Select * , STOPPING CHECK LAST PAGE appears until the last page currently being printed is placed in the output bin. PRESS SELECT TO CANCEL JOB is displayed. If you press Select * again, CANCELING JOB appears until the entire print job is removed or deleted. To ignore job cancellation, press On Line , Menus , or Items .
	PRESS SELECT TO FORMFEED	FORMFEEDING is displayed. The online indicator flashes until the page is delivered to the output bin.

Test Menu

Use selections from this menu to print configuration and font demonstration pages. Samples of the printouts are presented on the following pages with keys for interpreting the information. Table 4-7 presents the messages that appear when you select each of the menu items.

Table 4-7


Test Menu

Menu	Item	Explanation
TEST MENU	PCL CONFIGURATION PAGE	PRINTING CONFIGURATION PAGE appears on the control panel display. Two pages are printed. The first page presents variables and default information relating attributes such as paper, memory, and I/O channels. See Figure 4-4 and the key to Figure 4-4 for a sample and further explanation of the pages. This page is similar to the Self Test Page from other HP LaserJet printers. The second page is a simple layout of the menu structure with items and current default settings for those items.
	POSTSCRIPT CONFIGURATION PAGE	Note: Available only if you have the PostScript option. PRINTING CONFIGURATION PAGE appears on the display. See Figure 4-5 and the key to Figure 4-5 for a sample and further explanation of the page.
	PCL FONT LIST	PRINTING FONT LIST appears on the display. The page presents a list of fonts used by PCL. See Figure 4-6 for a sample list.
	POSTSCRIPT FONT LIST	Note: Available only if you have the PostScript option. PRINTING FONT LIST appears on the display. The PostScript Font List has samples of the 35 built-in PostScript language fonts plus fonts downloaded to the printer's memory and optional Printer Hard Disk. See Figure 4-7 for a sample list.

Continued on the next page.

Table 4-7

Test Menu, *continued*

Menu	Item	Explanation
TEST MENU	DISK DIRECTORY PAGE	Note: Available only if you have the optional Printer Hard Disk. PRINTING DISK DIRECTORY appears on the display. The directory shows all the resources stored on the printer disk (such as fonts and forms) and their directories. See Figure 4-9 for a sample list.
	DEMO PAGES	PRINTING DEMO PAGES appears on the display. See Figure 4-8 for a sample.
	PRINT ERROR LOG	PRINTING ERROR LOG appears on the display. This log tracks the last 50 printer errors listed by the number of their occurrences. See Figure 4-10 for a sample list.
	SHOW ERROR LOG	You will see a list of errors on the display. Use  to scroll through the list.
	PAPER PATH TEST	A continuous test that checks the paper path of the printer.



HEWLETT®
PACKARD

LaserJet 5Si

Configuration
Page

1

Printer Information

Serial Number: AAXXY9999
Formatter Number: A99999
Firmware Datecode: 19950421 v4_7.
Processor Revision: 29040 D40
Page Count: 68
Pages Since Last Power Cycle: 0
Pages Since Last Maintenance: 68

2

Installed Personalities and Options

PCL (19950419)
POSTSCRIPT (19950403) *
* Adobe, PostScript, and the PostScript Logo are trademarks of Adobe Systems Incorporated which may be registered in certain jurisdictions.
Disk (HP C2965A)
SIMM Slot 1: Empty
SIMM Slot 2: 4 MByte ROM SIMM
SIMM Slot 3: 4 MByte ROM SIMM
SIMM Slot 4: 8 MByte RAM SIMM

3

Error Log

Number of Entries in Use: 3
Maximum Number of Entries: 50
Last Three Entries:
Number Error Page Count
3 18.00.00 28
2 18.00.00 28
1 68 0017 0

Memory

Total Memory: 12 MBytes
Available Memory: 6.88 MBytes
I/O Buffering:
Not Enabled - Need: 10 MBytes More Memory
Resource Saving:
Not Enabled - Need: 12 MBytes More Memory

Security

Control Panel Lock: DISABLED
Control Panel Password: DISABLED
Disk Lock: DISABLED

Paper Handling Options

Duplex Unit
PH Controller [00.21]
Device 1:
HEWLETT PACKARD 2000SHEET INPUT TRAY
Input Trays:
1: TRAY 4, 2000 Sheets

7

HP MIO 1				HP MIO 2			
HP JETDIRECT	3J550A	NOVELL STATUS:	16	HP ETHERNET MULTI-ENVIRONMENT	NOVELL STATUS:	READY	TCP/IP STATUS:
FIRMWARE REVISION:	010315	NOT CONFIGURED		FIRMWARE REVISION:	A 02 01		DISABLED
LAN HW ADDRESS:	08000930FAA3	MODE:	QUEUE SERVER	LAN HW ADDRESS:	08000971023F	MODE:	QUEUE SERVER
PORT SELECT:	10BASE-T	MODE NAME:		PORT SELECT:	10BASE-T	MODE NAME:	
MFG ID:	503400700220104	SERVER NAME:		NETWORK MODE:	MULTI-PROTOCOL	SERVER NAME:	NPR_LAB_HAL
I/O CARD READY				I/O CARD READY			
NOVELL RETRANS: 0				NOVELL RETRANS: 0			
NETWORK FRAME TYPE RCV0				NETWORK FRAME TYPE RCV0			
UNKNOWN EN_802.2 1483				46200B3 EN_802.3 350782			
UNKNOWN EN_SNAP 1421				UNKNOWN EN_802.2 1485			
46200B1 EN_11 87097				UNKNOWN EN_SNAP 1422			
NETWORK STATISTICS				NETWORK STATISTICS			
UNICAST PACKETS RCV0:	2528	SMIP GET ONLY NAME:	ALL	UNICAST PACKETS RCV0:	30331	46200B1 EN_11	88127
TOTAL PACKETS RCV0:	495032	SMIP SET ONLY NAME:	NONE	TOTAL PACKETS RCV0:	544366	ETHERTALK STATUS:	DISABLED
BAD PACKETS RCV0:	100	BOOTP SERVER:	15.8.36.35	BAD PACKETS RCV0:	119		
FRAMING ERRORS RCV0:	100	CONFIG FILE:		FRAMING ERRORS RCV0:	119		
PACKETS TRANSMITTED:	4601			PACKETS TRANSMITTED:	31663		
UNSENDABLE PACKETS:	0			UNSENDABLE PACKETS:	0		
XMIT COLLISIONS:	0	ETALK ZONE:	LabLab_Backbone	XMIT COLLISIONS:	0		
XMIT LATE COLLISIONS:	0	DLC/LLC STATUS:	READY	XMIT LATE COLLISIONS:	0		

Figure 4-4a

PCL Configuration Page

1. **Printer Information** lists printer specific statistics.
 - Serial Number** shows the version number of the internal code.
 - Formatter Number** shows the number of the formatter board.
 - Firmware Datecode** is an eight-digit date (YYYYMMDD) of the internal code.
 - Processor Revision** the revision number of the firmware processor.
 - Page Count** shows the number of pages the printer has printed.
 - Pages Since Last Power Cycle** shows the number of pages the printer has printed since the last time it was turned off.
 - Pages Since Last Maintenance** shows the number of pages the printer has printed since the time a maintenance kit was installed.
2. **Installed Personalities and Options** lists printer languages and all accessories that are installed.
3. **Error Log** shows the number of errors currently in the error log and the last three errors that occurred.
4. **Memory** shows the total amount of installed memory., and indicates the amount of available memory for PCL applications (such as font downloading software). Information about the current I/O Buffering and Resource Saving configuration appears here. If the printer does not have enough memory installed to enable these two features, the amount of additional memory needed appears.
5. **Security** lists whether the control panel is locked, whether the control panel has a security password, and if the optional Printer Hard Disk has been write-protected.
6. **Paper Handling Options** lists the installed paper handling accessories. These accessories may include the Duplex Unit, Envelope Feeder, 2000-Sheet Input Tray, or Multi-Bin Mailbox.
7. **HP MIO** information is reserved for the HP MIO and network statistics. For some installed MIO options, this block of information can be as long as 20 lines and three columns.

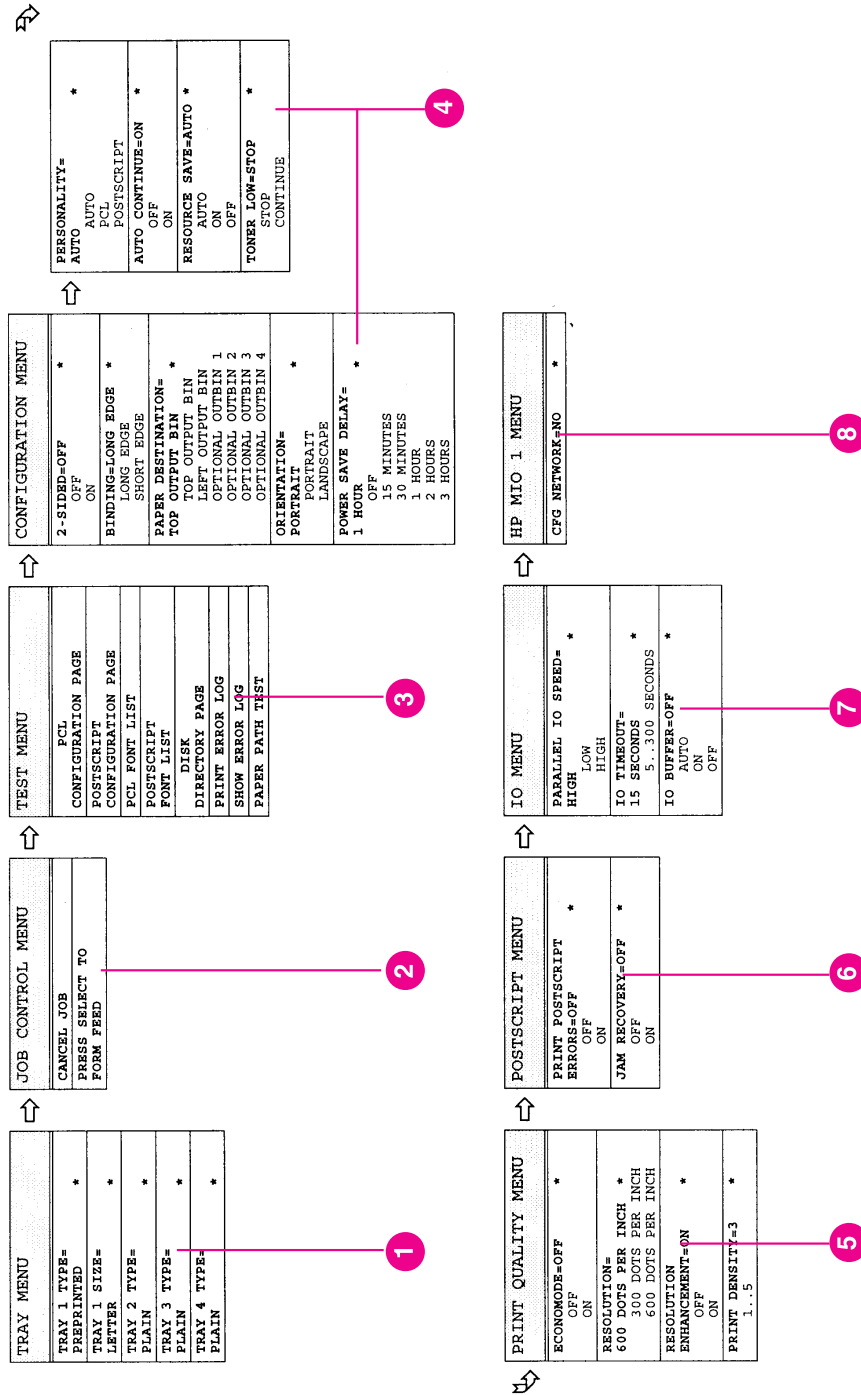


Figure 4-4b

PCL Menu Map Page

1. **Tray Menu** lists the current media types settings, and for Tray 1 or the Envelope Feeder, the media size.
2. **Job Control Menu** shows the Cancel Job and Form Feed items.
3. **Test Menu** lists the different available printer tests.
4. **Configuration Menu** lists the current settings for the configuration items.
5. **Print Quality Menu** lists the current settings for the different print quality items.
6. **PostScript Menu** appears if the PostScript option is installed. This menu lists the current settings for the two PostScript menu items.
7. **IO Menu** lists the current settings for the Parallel IO Speed, IO Timeout, and IO Buffer.
8. **HP MIO Menu(s)** list the current settings for the HP MIO option.



HEWLETT®
PACKARD

LaserJet™

**5Si
MX**

1

PostScript™ Configuration Page

2

Settings

Printer Name: Jupiter
Product Name: HP LaserJet 5Si MX
PostScript Version: 2014.103
Copies: 1
Resolution: 600 dpi
Resolution Enhancement: On
Halftone Type: 9 - Enhanced Halftone
Economode: Off
Wait Time-out: 40 seconds
Print Errors: ?
Jam Recovery: On
Manual Feed: ?

Tray 1: Letter
Tray 2: Letter
Tray 3: Letter
Envelope Feeder: Com10

Memory

Total Memory Installed: 12288.0 Kbytes

Printable Area

	Width (inches) / (cm)		Height (inches) / (cm)	
Letter	8.17	20.8	10.67	27.1
Legal	8.21	20.8	13.67	34.7
Ledger	10.67	27.1	16.67	42.3
A3	11.41	29.0	16.20	41.1
A4	7.93	20.1	11.41	29.0
Exec	6.92	17.6	10.24	26.0
JIS B5	6.83	17.3	9.81	17.3
JIS B4	9.81	24.9	14.00	35.6
Custom	11.41	29.0	17.37	44.1
Com10	3.84	9.8	9.17	23.3
Monarch	3.63	9.2	7.17	18.2
C5	6.08	15.4	8.68	22.0
DL	4.05	10.3	8.33	21.2
B5 Env	6.61	16.8	9.51	24.2
JPostD	5.55	14.1	7.54	19.2
Maximum	11.41	29.0	17.37	44.1

3

4

Disk Accessory

Disk Installed: Yes
Disk Capacity: 41820.0 Kbytes
Bytes Available: 41724.0 Kbytes
Writeable: Yes

5



Page Count



Adobe, Postscript, and the PostScript Logo are trademarks of Adobe Systems Incorporated which may be registered in certain jurisdictions.

Figure 4-5 PostScript Configuration Page

1. **Settings** (current printer control panel default settings and product-specific information):
 - Printer Name** is the name set by the user (a network name, for instance).
 - Product Name** is the HP LaserJet printer model.
 - PostScript Version** refers to the version of PostScript installed.
 - Copies** indicates the default number of copies to be printed.
 - Resolution** is either 600 or 300 dpi.
 - Resolution Enhancement** (see Chapter 6).
 - Halftone Type** indicates the current halftone type.
 - EconoMode** indicates whether EconoMode is ON or OFF. See Chapter 6.
 - Wait Timeout** shows how long PostScript waits for additional data.
 - Print Errors** indicates a value set through the printer control panel PS Menu.
 - Jam Recovery** indicates whether Jam Recovery is ON or OFF.
 - Paper Cassette** indicates the size of paper in the cassette.
 - Manual Feed** indicates whether Manual Feed is ON or OFF.
2. **Memory** gives values showing how PostScript uses printer memory. This may be useful for more experienced users, since PostScript Level 2 allows users to configure memory parameters. (See Adobe's *PostScript Language Reference Manual* for specific information about these values.)
3. **Printable Area** gives the dimensions within the margins of the image area. The current default is shown in the hollow box.
4. **Disk Accessory** shows whether the optional Printer Hard Disk is installed, the total capacity of the disk, and how many bytes are available for use.
5. **Page Count** shows how many pages have been printed by the printer in all printer languages. You can use the page count to track printer use.



HEWLETT®
PACKARD

LaserJet 5Si

PCL
Font Page

Internal Scalable and Bitmapped Fonts

Font	Pitch/Point	Escape Sequence	Font #	Font ID
Courier	Scale	<esc>{ [] <esc>{s0p [] h0s0b4099T	I 000	
CG Times	Scale	<esc>{ [] <esc>{s1p [] v0s0b4101T	I 001	
CG Times Bold	Scale	<esc>{ [] <esc>{s1p [] v0s3b4101T	I 002	
CG Times Italic	Scale	<esc>{ [] <esc>{s1p [] v1s0b4101T	I 003	
CG Times Bold Italic	Scale	<esc>{ [] <esc>{s1p [] v1s3b4101T	I 004	
Univers Medium	Scale	<esc>{ [] <esc>{s1p [] v0s0b4148T	I 005	
Univers Bold	Scale	<esc>{ [] <esc>{s1p [] v0s3b4148T	I 006	
Univers Medium Italic	Scale	<esc>{ [] <esc>{s1p [] v1s0b4148T	I 007	
Univers Bold Italic	Scale	<esc>{ [] <esc>{s1p [] v1s3b4148T	I 008	
Courier Bold	Scale	<esc>{ [] <esc>{s0p [] h0s3b4099T	I 009	
Courier Italic	Scale	<esc>{ [] <esc>{s0p [] h1s0b4099T	I 010	
Courier Bold Italic	Scale	<esc>{ [] <esc>{s0p [] h1s3b4099T	I 011	
Letter Gothic	Scale	<esc>{ [] <esc>{s0p [] h0s0b4102T	I 012	
Letter Gothic Bold	Scale	<esc>{ [] <esc>{s0p [] h0s3b4102T	I 013	
Letter Gothic Italic	Scale	<esc>{ [] <esc>{s0p [] h1s0b4102T	I 014	
ABCDEFghijA~t's,št~Å#søt~~()~12 Line Printer	16.67/8.5	<esc>{2N<esc>{s0p16.67h8.5v0s0b0T	I 015	
ABCDEFghijjç'¶,.'»Å#sø«~~()~12 Line Printer	16.67/8.5	<esc>{5N<esc>{s0p16.67h8.5v0s0b0T	I 016	
ABCDEFghijjAA°ÇñizEšø#sø«~~()~12 Line Printer	16.67/8.5	<esc>{8U<esc>{s0p16.67h8.5v0s0b0T	I 017	
ABCDEFghijjç'¶,.'»Å#sø«~~()~12 Line Printer	16.67/8.5	<esc>{0N<esc>{s0p16.67h8.5v0s0b0T	I 018	
ABCDEFghijjô ¶¶¶¶#sø«~~()~12 Line Printer	16.67/8.5	<esc>{10U<esc>{s0p16.67h8.5v0s0b0T	I 019	
ABCDEFghijjô ¶¶¶¶#sø«~~()~12 Line Printer	16.67/8.5	<esc>{11U<esc>{s0p16.67h8.5v0s0b0T	I 020	
ABCDEFghijjô Ä¶¶¶¶#sø«~~()~12 Line Printer	16.67/8.5	<esc>{12U<esc>{s0p16.67h8.5v0s0b0T	I 021	
ABCDEFghijj #sø °°\$¶¶¶12 Line Printer	16.67/8.5	<esc>{1U<esc>{s0p16.67h8.5v0s0b0T	I 022	

[] Pitch: .10 - 576 [] Symbol set [] Point size: .25 - 999.75
See your HP LaserJet 5Si Printer User's Guide for more information.

Figure 4-6

PCL Font List

1. **Font** is the name of the font.
2. **Pitch/Point** indicates the specified pitch or point size of the font. "Scale" indicates a scalable font.
3. **Escape Sequence** (a PCL programming command) is used to select the designated font.
4. **Font #** is the number you use to select internal or downloaded soft fonts from the control panel. (Do not confuse the font number with the soft font ID, described next.) The letter preceding the font number shows the source of the font (I means Internal, and S means Permanent soft font, and M means SIMM - slot number follows).
5. **Font ID** is the number *you assign* to soft fonts when you download them through your software.

PostScript™ ROM Resident Fonts

[illegible]

PostScript is a trademark of Adobe Systems Incorporated which may be registered in certain jurisdictions. Helvetica, Palatino, and Times are registered trademarks of Linotype-Hell AG and/or its subsidiaries. ITC Avant Garde Gothic, ITC Bookman, ITC Zapf Chancery, and ITC Zapf Dingbats are registered trademarks of International Typeface Corporation.

Figure 4-7 PostScript Font List



HEWLETT®
PACKARD



HP LaserJet 5Si MX Printer

All the benefits of the HP LaserJet 5Si and more...

Track and manage print jobs from your desk

- Monitor the progress of your print jobs
- Completely cancel print jobs from your PC
- True end-of-job notification with output location

Printer status and control with HP JetAdmin software

- Easy printer setup
- Automatic driver installation and configuration
- Real-time remote printer status and diagnostics

Network ready for multiple environments

- 12 MB standard memory with HP Memory Enhancement technology
- Integrated HP JetDirect Print Server--supports all major network operating systems
- Standard Adobe PostScript™ Level 2 language
- Automatic language, interface, and network protocol switching
- Standard printer MIB compliant

Figure 4-8

Demonstration Page

Disk Model: ST9420AG
 Disk Serial Number: 00SV032510
 Disk Capacity: 420872192 bytes
 Disk Free Space: 420226560 bytes
 Disk Writes: ALLOWED

File Size	Directory/File Name
Directory	0:\
0	file1
30	PCLMacro1
Directory	0:\empty_dir\
Directory	0:\PostScript\
Directory	0:\PJL\
Directory	0:\files\
10	file01
10	file02
10	file03
10	file04
10	file05
10	file06
10	file07
10	file08
10	file09
10	file10
10	file11
10	file12
10	file13
10	file14
10	file15
10	file16
10	file17
10	file18
10	file19

Figure 4-9

Disk Directory Page

Key to Figure 4-9

1. **Disk Information** indicates the disk model number, serial number, capacity, available free space, and whether you may write to the disk.
2. **File Size** column lists the size of each file under the Directory/File Name column. If a directory is listed on the line, then Directory appears in this column and its path is listed in the Directory/File Name column.
3. **Directory/File Name** lists the name of the file. Files in a sub-directory are listed right after the directory line. The files are not necessarily listed in alphabetic order.

Error Log Printout Page Count: 8 Serial Number: BE3A3F7432

Number	Error	Page Count	Personality or Jam Cause
4	68 0011	102	PS
3	68 0000	61	PS
2	68 0000	47	PCL
1	68 0200	13	PCL

Figure 4-10

Error Log Page

Key to Figure 4-10

1. **Page Count** lists the number of printed pages from the printer.
2. **Serial Number** shows the serial number of the printer.
3. **Number** indicates the order in which the errors occurred. The last error to occur has the highest number.
4. **Error** lists the internal error code for each error.
5. **Page Count** indicates the number of printed pages from the printer when the error occurred.
6. **Personality or Jam Cause** indicates whether the error occurred due to a problem within a printer personality or a printer jam.

Configuration Menu

The items on the Configuration Menu allow you to customize your documents for two-sided copying and binding. These menu items also help you select the output bin, printing personality, auto continue, power saving, resource saving, and page protection. They notify you when the toner supply is low or service is needed. Table 4-8 presents the messages that appear when you select each of these menu items.

Table 4-8

Configuration Menu


Menu	Item	Explanation
CONFIGURATION MENU	SERVICE MESSAGE= [ON, OFF]	Appears at approximately 350,000-image intervals, when the PERFORM USER MAINTENANCE message appears.
	2-SIDED= [OFF*, ON]	Appears only if the optional Duplex Unit is installed in the printer.
	BINDING= [LONG EDGE*, SHORT EDGE]	Appears if the optional Duplex Unit is installed in the printer and two-sided printing is selected. More information about binding options is located in Chapter 5, "Print Tasks."
	PAPER DESTINATION= [TOP OUTPUT BIN*, LEFT OUTPUT BIN, OPTIONAL OUTBIN]	Allows you to select the default output bin. More information about the output bins is located in Chapter 5. When an output bin is full of paper, printing is stopped and the message REMOVE PAPER FROM TOP OUTPUT BIN is displayed. Empty the bin to resume printing. Note: The Left Output Bin does not cause the bin full message to be displayed.
	ORIENTATION= [PORTRAIT*, LANDSCAPE]	Allows you to specify the orientation of the printed page. The orientation setting in your software application overrides the control panel setting.
	POWER SAVE DELAY= [1 HR* 2 HRS 3 HRS OFF 15 MINUTES 30 MINUTES]	Allows you to change the setting for the time interval the printer remains inactive prior to entering Power Save mode. Warm up time for the printer after the power save delay is approximately 60 seconds.

* Factory default.

Continued on the next page

Table 4-8

Configuration Menu, *continued*

Menu	Item	Explanation
CONFIGURATION MENU	PERSONALITY= [AUTO*, PCL, POSTSCRIPT]	Allows you to select the printer personality. The choices available depend on which personalities are installed in the printer. If the PostScript option is installed, AUTO is the default.
	AUTO CONTINUE= [ON*, OFF]	Allows the printer to resume printing after non-critical errors occur. If ON is selected, the printer goes offline and the error message is displayed for ten seconds. After ten seconds, the printer automatically returns to online.
	RESOURCE SAVE= [AUTO*, OFF, ON]	Sets resource saving to ON, OFF, or AUTO (which automatically determines how much memory to use for each installed personality). When set to ON, you can select a specific amount of memory for resource saving.
	PCL MEM=nnnnnK or POSTSCRIPT MEM= nnnnnK	This item only becomes visible if Resource Save is set to ON. The value <i>nnnnnK</i> indicates the number of KBytes of memory reserved for that personality. The choices for this item range from 0 to the total amount of available memory in the printer in 100-KByte increments. Press  repeatedly to increase reserved memory.
	TONER LOW= [STOP*, CONTINUE]	This item allows you to make the choice to stop or continue printing after you are notified toner is low. When toner runs out, the printed page may be blank.
	PAGE PROTECT= [ON, AUTO*]	PAGE PROTECT appears after a 21 PRINT OVERRUN error has occurred. Try to simplify the format of the job. If you must print the job "as is," set PAGE PROTECT to ON, then later return it to AUTO. Do not leave PAGE PROTECT set to ON as it will degrade performance.

* Factory default.

Print Quality Menu

The Print Quality Menu allows you to change the physical characteristics of the printed page. All choices are saved until the current print job has ended, except for Print Density, which changes after a few pages. See Chapter 6, “Print Quality,” for more information.

Table 4-9 presents the messages that appear when you select each of the menu items.

Table 4-9

Print Quality Menu

Menu	Item	Explanation
PRINT QUALITY MENU	ECONOMODE= [OFF*, ON]	Reduces the amount of toner on the printed page; the result is similar to draft mode on some dot matrix printers. (See Chapter 6.) Choose ON to print EconoMode for text, and graphics, or OFF for both.
	RESOLUTION= (600*, 300) DOTS PER INCH	Prints at 300 or 600 dpi. If the printer is unable to print a job at 600 dpi, it falls back to 300 dpi.
	RESOLUTION ENHANCEMENT= [OFF, ON*]	Prints fine quality characters and graphics by smoothing the fine gradations along the angles and curves of the printed image.
	PRINT DENSITY= [1, 2, 3*, 4, 5]	<p>Varies the amount of toner applied to the paper while printing. The higher the setting (5 is highest) the darker the page; the lower the setting (1 is lowest) the lighter the page.</p> <p>Changes to this setting are effective during a printed job by stopping the receipt of new data, clearing the printer of pages, changing the density, and then resuming the print job.</p>

* Factory default

PostScript Menu

This menu is available only if you have an HP LaserJet 5Si MX printer or the PostScript accessory is installed on your HP LaserJet 5Si printer. Use this menu to print PostScript errors and to recover from paper jams.

Table 4-10 presents the messages that appear when you select each of the menu items.

Table 4-10 PostScript Menu

Menu	Item	Explanation
POSTSCRIPT MENU	PRINT POSTSCRIPT ERRORS= [OFF*,ON]	Allows you to decide whether PostScript error messages print.
	JAM RECOVERY= [OFF*,ON]	Allows you to decide whether PostScript attempts to recover automatically from paper jams. Jam recovery uses more memory and thus may affect performance.

* Factory default.

Input/Output (IO) Menu

This menu contains the items related to I/O buffering. See Chapter 2, “Memory and Memory Management” for additional information about the I/O functionality of your printer.

Table 4-11 presents the messages that will appear when you select each of the menu items.

Table 4-11

IO Menu

Menus	Item	Explanation
IO MENU	PARALLEL IO SPEED= [HIGH, LOW]	The rate at which data is transferred to print a page.
	IO TIMEOUT= [5 SEC, 10 SEC, 15 SEC*, 20 SEC, 30 SEC, 60 SEC, 120 SEC, 180 SEC, 240 SEC, 300 SEC]	The time, measured in seconds, that the printer waits before ending an incomplete print job. Once the item is selected, press + repeatedly to choose the desired setting for best performance.
	IO BUFFER= [AUTO*, OFF, ON]	The portion of the printer memory set aside to hold incoming data. When this item is set to AUTO, the memory set aside for I/O buffering is automatically determined by the printer based on available memory. When it is set to ON, the size can be manually adjusted. When it is set to OFF, no memory is set aside. This menu item will NOT appear in the menu until there is sufficient memory available to allow I/O buffering. For PCL, the standard 4 Mbytes of memory is sufficient. For PostScript it will take more than 12 Mbytes of memory. See Chapter 2 to learn how I/O buffering improves performance.
	IO SIZE= nnnK	Becomes visible only if IO BUFFER is set to ON. It is used to set the size of the buffer. Once the item is selected, press + repeatedly to reach the increment value desired. If you hold down the + key, the values speed the increments.

* Factory default.

Print Tasks

This chapter explains how to:

- Print media from the best source.
- Load media into Tray 1 (multi-purpose) and Trays 2 and 3.
- Print a variety of media from Tray 1, including labels and transparencies, custom-size paper, letterhead documents, preprinted forms, and special papers.
- Print paper from the optional 2000-Sheet Input Tray (Tray 4).
- Verify the correct size and type of media in the paper trays.
- Print envelopes from Tray 1, a software application, or the optional Envelope Feeder.
- Select and use paper and other print media and the paper output bins.
- Adjust the paper stop.
- Print to an optional Multi-Bin Mailbox.
- Print the first page of a document on a different size or type of paper.
- Select two-sided printing with the optional Duplex Unit.
- Stop a print request.

Print Source and Media Options

Your printer can print on the media identified in Figure 5-1 using the adjustable Trays 1, 2, and 3 (as shown). Note that Figure 5-1 shows only single-sided printing. The optional Duplex Unit provides two-sided printing. The trays hold the following:

- The Tray 1 (multi-purpose) holds up to 100 sheets of paper and up to 10 envelopes.
- Trays 2 and 3 hold up to 500 sheets of paper.

Paper or envelope holding capacities may vary depending on paper weight.

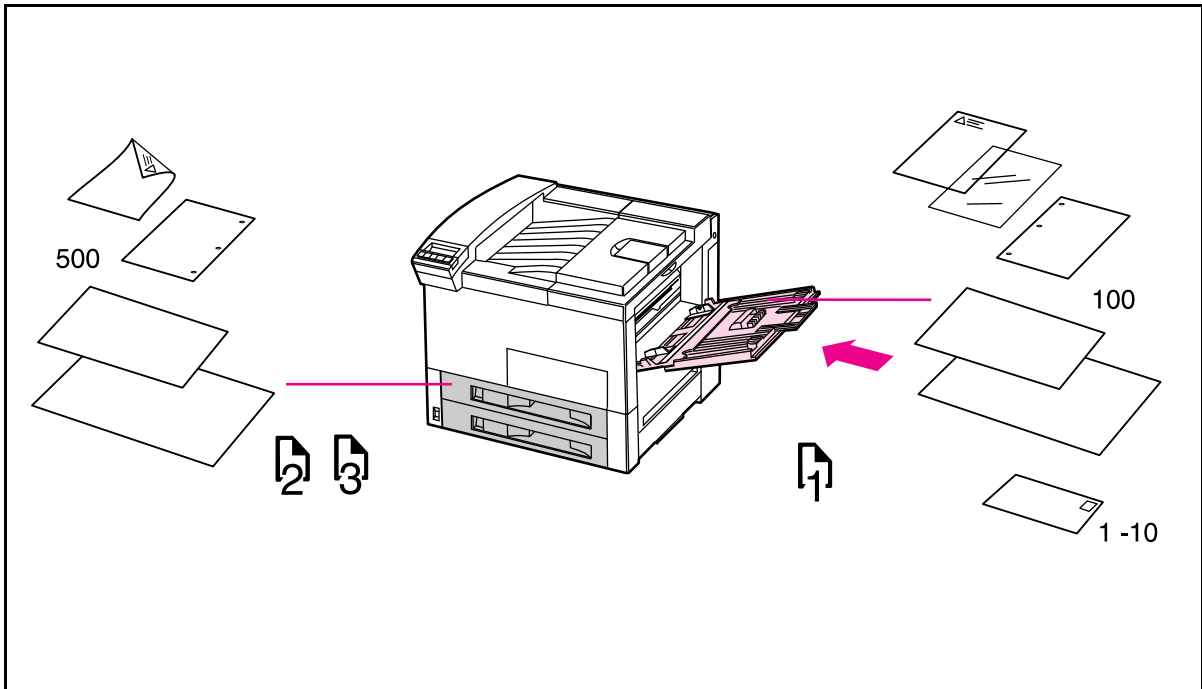


Figure 5-1 Paper Sources

CAUTION

Print *heavy-weight* papers, labels, maximum-size papers, and transparencies *only* from the Tray 1 (multi-purpose). Heavier papers should be printed using Manual Feed to ensure proper fusing of the toner. Load only one size of paper at a time in Tray 1.

Tables 5-1 and 5-2 list specifications and guidelines for each media type supported by the HP LaserJet 5Si/5Si MX printer.

The optional Envelope Feeder provides automatic feeding of up to 100 envelopes. An optional 2000-Sheet Input Tray (Tray 4) is available for holding up to 2000 sheets of paper.

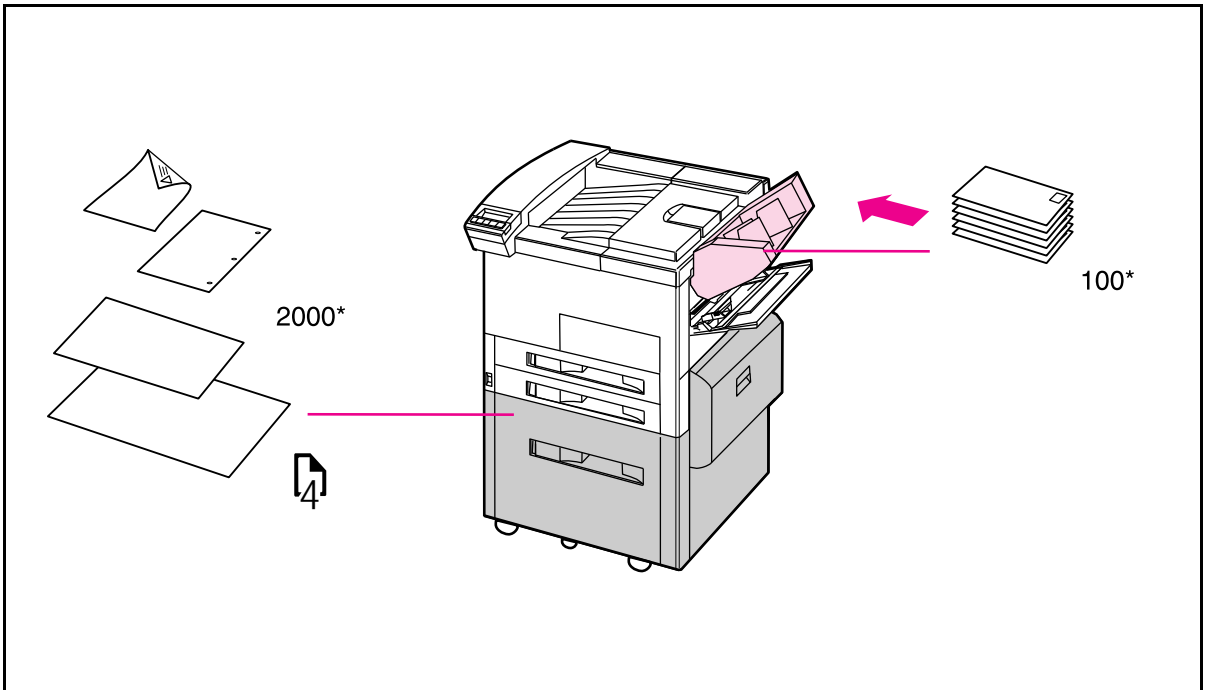


Figure 5-2

Paper or envelope holding capacities may vary depending on paper weight.

Tables 5-1 and 5-2 list specifications and guidelines for each media type supported by the HP LaserJet 5Si/5Si MX printer.

Media Selection Guidelines

Table 5-1 presents guidelines for selecting the most appropriate media to print from Trays 1, 2, and 3.

Table 5-1

Media Selection Guidelines

Tray 1	Dimensions	Weight	Capacity
Maximum paper size	11.7 x 17.7 in (297 x 450 mm)	Single-sided: 16-lb Bond to 110-lb Index (60 to 199 g/m ²) Two-sided: 16- to 28-lb Bond (60 to 105 g/m ²) Note: Paper weighing above 28-lb (105 g/m ²) should be manually fed from Tray 1 to ensure better toner fusing. Note: Two-sided printing is NOT available for Maximum sized paper or on media smaller than Executive size.	100 sheets of 20-lb Bond (75 g/m ²) paper (Do not load to more than a maximum height of 10 mm—the paperfill mark.)
Minimum paper size	3.9 x 7.5 in (100 x 191 mm)		
Paper, Letter	8.5 x 11 in (216 x 279 mm)		
Paper, ISO A4	8.3 x 11.7 in (210 x 297 mm)		
Paper, Executive	7.5 x 10.5 in (191 x 267 mm)		
Paper, Legal	8.5 x 14 in (216 x 356 mm)		
Paper, 11 in x 17 in	11 x 17 in (297 x 432 mm)		
Paper, ISO A3	11.7 x 16.5 in (279 x 420 mm)		
Paper, JIS B5	7.16 x 10.12 in (182 x 257 mm)		
Paper, JIS B4	10.12 x 14.33 in (257 x 364 mm)		
Transparency	See minimum and maximum paper sizes listed above.	0.0039 – 0.0045 in. thick (0.099 to 0.114 mm)	Limit to paperfill mark on paper width guides
Label		0.005 – 0.007 in. thick (0.127 to 0.178 mm)	

Continued on the next page.

Table 5-1**Media Selection Guidelines, *continued***

Tray 1, <i>continued</i>	Dimensions	Weight	Capacity
Envelope, Commercial #10 (Com 10)	4.1 x 9.5 in (105 x 241 mm)	Should not exceed 28-lb Bond (105 g/m ²)	Up to 10 at one time
Envelope, C5	6.4 x 9.0 in (163 x 231 mm)		
Envelope, DL	4.3 x 8.7 in (109 x 218 mm)		
Envelope, Monarch and B5	3.9 x 7.5 in (98 x 191 mm)		

Tray 2	Dimensions	Weight	Capacity
Paper, Letter	8.5 x 11 in (216 x 279 mm)	Single-sided: 16- to 28-lb (60 to 105 g/m ²)	500 sheets of 20-lb Bond (75 g/m ²) paper
Paper, ISO A4	8.3 x 11.7 in (210 x 297 mm)		
Paper, Legal, JIS B4	8.5 x 14 in (216 x 356 mm)		
Paper, JIS B4	10.12 x 14.33 in (257 x 364 mm)		

Tray 3	Dimensions	Weight	Capacity
Paper, Letter	8.5 x 11 in (216 x 279 mm)	Single-sided: 16- to 28-lb (60 to 105 g/m ²)	500 sheets of 20-lb Bond (75 g/m ²) paper
Paper, ISO A4	8.3 x 11.7 in (210 x 297 mm)		
Paper, Legal	8.5 x 14 in (216 x 356 mm)		
Paper, JIS B4	10.12 x 14.33 in (257 x 364 mm)		
Paper, ISO A3	11.7 x 16.5 in (297 x 420 mm)		
Paper, 11 in x 17 in	11 x 17 in (297 x 432 mm)		

Media Use Guidelines

Table 5-2 presents guidelines for using media in the HP LaserJet 5Si/5Si MX. Media that does not meet these guidelines may increase the incidence of paper jams, cause premature wear to the printer, and contribute to repair costs.

Before purchasing any media or specialized forms in quantity, make sure your paper supplier obtains and understands the paper and print media requirements specified in the *HP LaserJet Printer Family Paper Specification Guide*, which is available through HP Direct Distribution. Refer to Chapter 7, "Calling for Help," for ordering information.

Note

Hewlett-Packard neither warrants nor recommends the use of a particular brand of print media. Media properties are subject to change by the manufacturer, and HP has no control over these changes. It is possible that paper could meet all of the guidelines and still not print satisfactorily. This might be due to improper handling, unacceptable temperature and humidity levels in the room, or other variables over which HP has no control.

HP recommends testing any paper before buying it in large quantities.

CAUTION

Using media outside the specifications listed on the previous pages or in the *HP LaserJet Printer Family Paper Specification Guide* may cause problems requiring service. This service is not covered by the Hewlett-Packard warranty or service agreements.

Table 5-2

Media Use Guidelines

Media Type	Guidelines
Paper and Preprinted Forms	<ul style="list-style-type: none"> • For best results, use conventional 20-lb (75 g/m²) xerographic paper. Make sure the paper is of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, and curled or bent edges. • Do not use paper with cutouts or perforations (including standard pre-punched paper) <i>with holes 8 mm or larger</i>. • Do not use letterhead papers that are printed with low-temperature inks, such as those used in some types of thermography. • Use only colored papers or preprinted forms that use inks compatible with your printer's fusing temperature (392° F/200° C for 0.1 second). • Keep paper stored in moisture-proof wrapping to prevent changes in moisture content that may cause poor print quality, jamming, or curling. • Avoid paper with ragged cut edges to prevent feeding problems. • Do not use paper heavier than 28-lb (105 g/m²) from trays other than Tray 1. Tray 1 can manually feed 16-lb Bond to 110-lb Index (60 - 199 g/m²) paper. Heavier paper may cause misfeeds, stacking problems, paper jams, poor toner fusing, poor print quality, and excessive mechanical wear. • Do not use paper that is very rough, very smooth, or embossed. Such paper may cause feeding or print quality problems, and rough papers may have poor toner adhesion.
Adhesive Labels	<ul style="list-style-type: none"> • Use only labels recommended for use in laser printers. • Use only the Left Output Bin for printing labels. • The adhesive material should be stable at the 392° F/200° C temperatures encountered in the printer's fusing process. None of the adhesive between the labels should be exposed. • Use labels with no exposed areas between labels. Using label stock with spaces between labels often causes labels to peel off during the printing cycle, causing serious jamming problems. Use a sheet of labels only once. • Labels must lie flat with no more than 0.5 in (13 mm) of curl in any direction. • Do not use labels that have separated from the backing sheet or with wrinkles, bubbles, or other indications of delamination.
Overhead Transparencies	<ul style="list-style-type: none"> • Overhead transparencies used in HP LaserJet printers must be able to withstand the 392° F/200° C temperature encountered in the printer's fusing process. • Use only transparencies recommended for use in laser printers. Because transparency films tend to stick to each other, remove each transparency from the output bin before printing the next one.
Envelopes	<ul style="list-style-type: none"> • The weight of the envelope paper should not exceed a 24-lb (90 g/m²) Bond rating, or jamming may result. • Envelopes should lie flat with less than 0.25 in (6 mm) curl. • Do not use envelopes with windows or clasps. • Make sure envelopes are not wrinkled, nicked, or otherwise damaged. • Envelopes with a peel-off adhesive strip or with more than one flap that folds over to seal must use adhesives compatible with the heat and pressure of the fusing rollers in the printer. The extra flaps and strips may result in wrinkling or creasing, and may cause jamming.

Paper Trays 1, 2, and 3

You can load a single sheet of paper into Tray 1 or a stack of up to 100 sheets. Tray 1 is used for standard and custom paper sizes, envelopes, labels, and transparencies.

Paper Trays 2 and 3 each hold up to 500 sheets of 20-lb Bond paper.

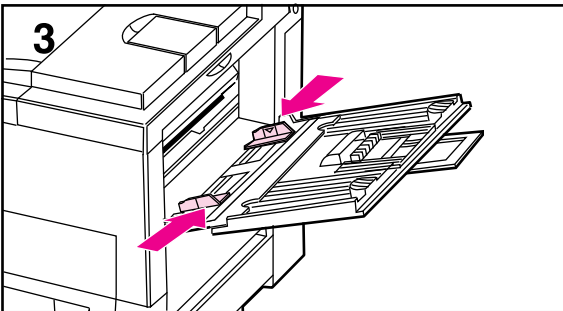
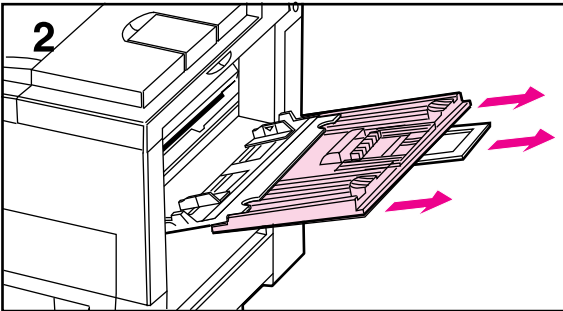
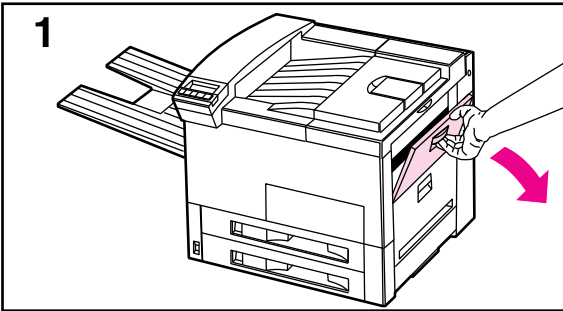
Paper Tray 2 holds:

- Letter
- Legal
- ISO A4
- JIS B4

Paper Tray 3 holds:

- Letter
- Legal
- ISO A4
- ISO A3
- 11 in x 17 in
- JIS B4

Adjustable paper size guides for each of the media listed are located inside the paper trays. See Tables 5-1 and 5-2 earlier in this chapter for media selection and use guidelines.



Loading Media Into Tray 1

CAUTION

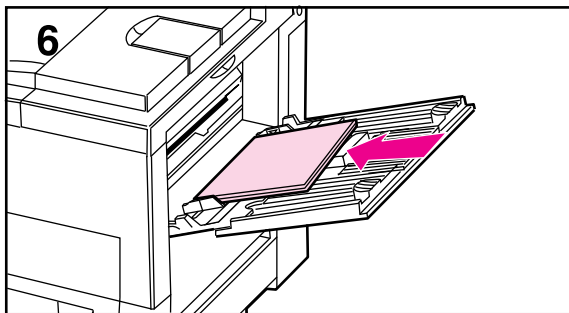
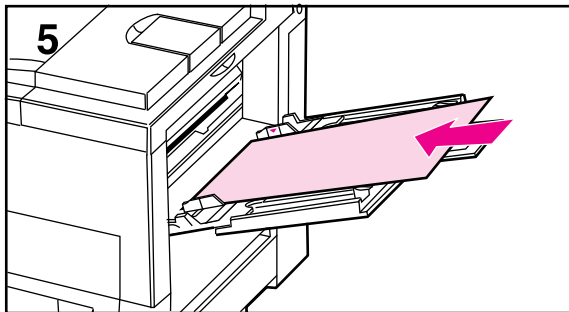
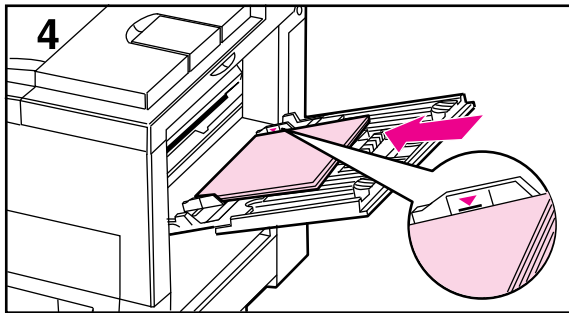
To avoid a paper jam, never add or remove paper or other print media from Tray 1 while the printer is printing.

To avoid damaging the printer, print labels and transparencies only from Tray 1, use the Left Output Bin, and do not print them two-sided.

When printing multiple transparencies, promptly remove each print as soon as it emerges from the printer (so the sheets do not stick together).

- 1 Open Tray 1.
- 2 Pull out the tray extension, if needed for the paper size you are printing.
- 3 Slide the paper width guides to the appropriate size marked on the tray.

Continued on the next page.



- 4 For single-sided printing, place paper into Tray 1 with side-to-be-printed *up*. The height of the paper stack should not exceed the paper fill mark on the paper width guides.

For two-sided printing place paper with the front side (odd-numbered) *down*. The back side (even-numbered) is printed first, and the back side is printed second.

Note

You may use two-sided printing for sizes equal to and larger than executive size paper.

- 5 Paper loading differs by size:

- a. Load Letter and ISO A4 with the longer edge of the page leading into the printer.
- b. Load envelopes, postcards, Executive, Legal, 11 in x 17 in, ISO A3, JIS B5, or JIS B4 with the short edge of the page leading into the printer.

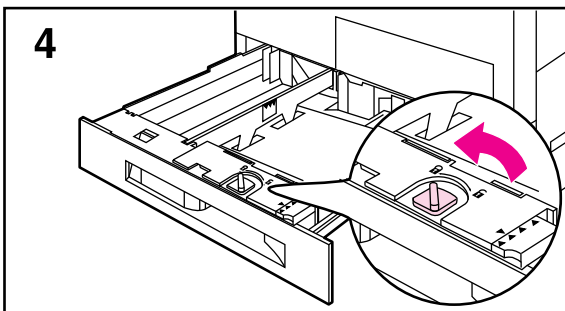
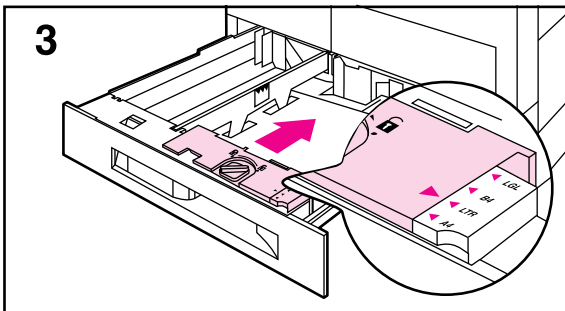
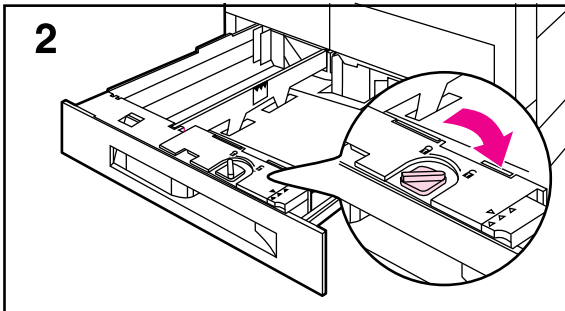
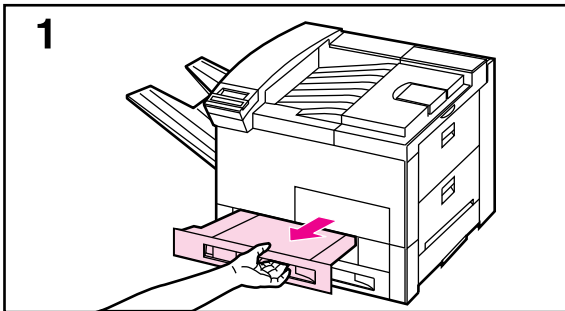
- 6 Slide the paper into the printer as far as it will go—until leading edges rest lightly against the printer, and paper fits squarely and firmly between the paper width guides, without bending the paper.

- 7 Set the correct paper type and size for Tray 1 in the TRAY MENU on the printer's control panel.

Note

Paper heavier than 28-lb (105 g/m²) should be printed from Tray 1 using Manual Feed for proper fusing of the toner.

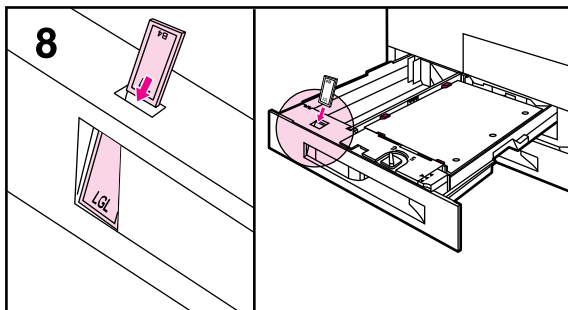
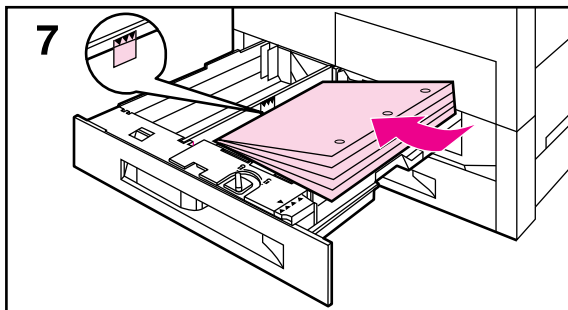
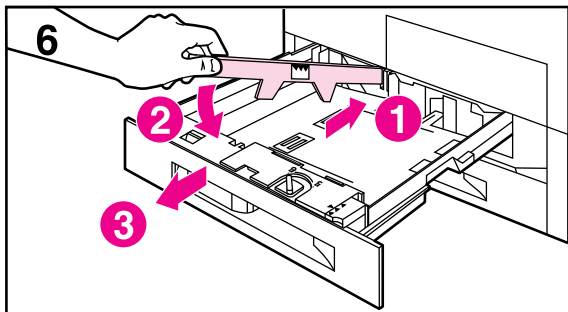
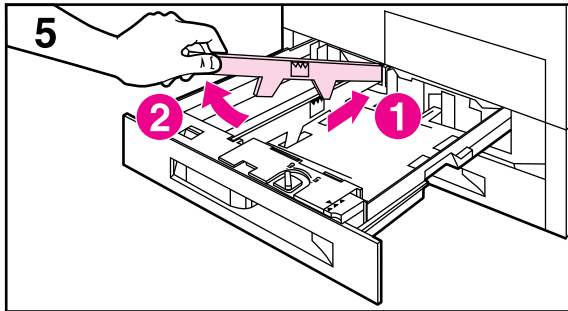
If you are using the Top Output Bin, remember to adjust the paper stop guide on the output bin for the paper size to be printed (see Figure 5-4).



Loading Paper into Tray 2 or Tray 3

- 1 Slide the tray from the printer until it stops.
- 2 Turn the paper guide lock to the unlocked position.
- 3 Slide the paper guide to the mark indicating the size of paper you are loading.
- 4 Turn the paper guide lock to re-lock the position of the tray.

Continued on the next page



5 Adjust the left paper guide by pushing it in (1) and lifting up and out (2).

6 Position the guide over the appropriate lines marked in the tray. Press the guide into the rear slot (1) and then lower down (2) into the front slot (3). Be sure the guide is not skewed.

7 Place paper into the tray without stacking it above the paperfill mark. Less than 100 sheets of paper may not lay flat (from rear to front). This is normal.

For single-sided printing place paper into the tray with side-to-be-printed *down*.

For two-sided printing place paper with the front side (odd-numbered) *up*. The back side (even-numbered) is printed first, and the back side is printed second.

8 Ensure that the paper size tab is set correctly. Then slide the tray back into the printer.

9 If you wish to select your paper by type rather than tray (source) in your software, set the correct paper type for Trays 2 and 3 in the TRAY MENU on the printer's control panel.

Adjust the paper stop guide on the Top Output Bin for the paper sizes larger than Letter or A4 (see Figure 5-4).

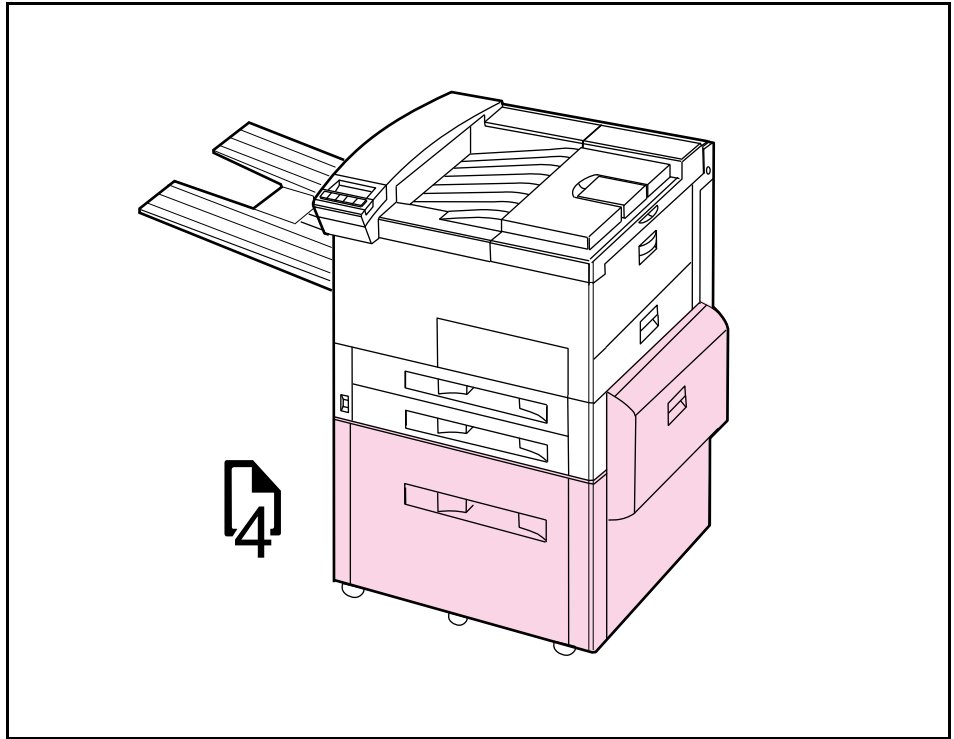
Note

If paper curls or skews excessively when it is printed, open the tray and turn the stack of paper over. To avoid a media jam, never remove the tray while it is in use.

Optional 2000-Sheet Input Tray (Tray 4)

An optional 2000-Sheet Input Tray (Tray 4) is available for your printer (see Figure 5-3). It consists of a base into which a paper tray slides. Your printer rests on top of the Tray 4 base.

Figure 5-3



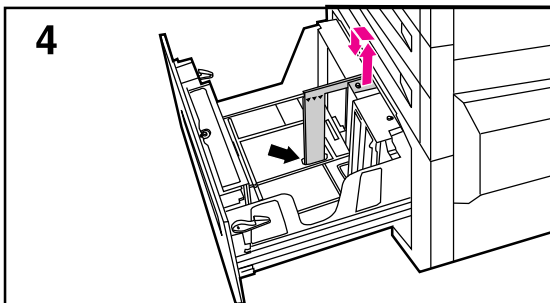
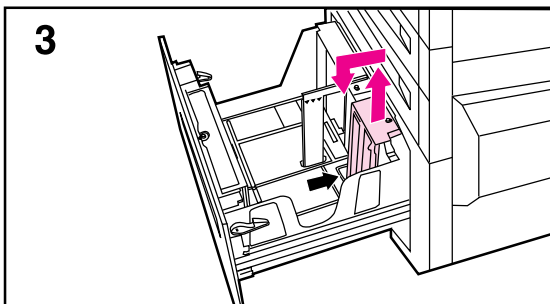
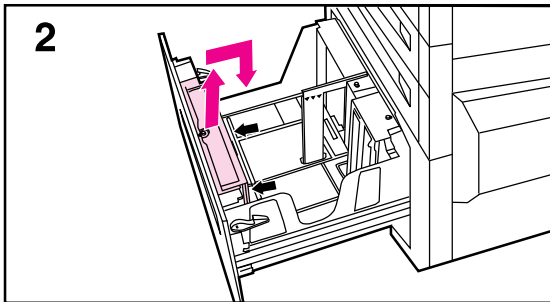
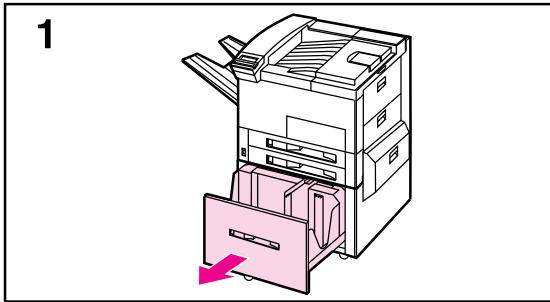
2000-Sheet Input Tray (Tray 4)

Tray 4 adjusts for Letter, Legal, ISO A4, ISO A3, 11 in x 17 in, and JIS B4 paper. The tray holds approximately 2000 sheets of 20-lb (75 g/m²) Bond paper.

When Tray 4 is installed, and all trays have the same type and size media loaded, by default the printer prints from paper sources in the following order:

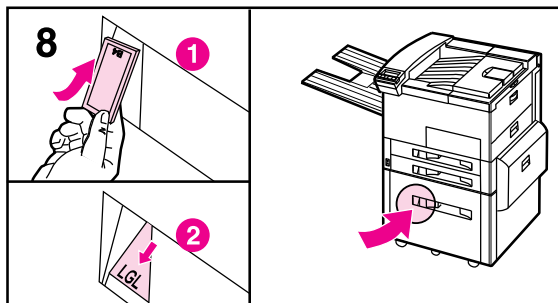
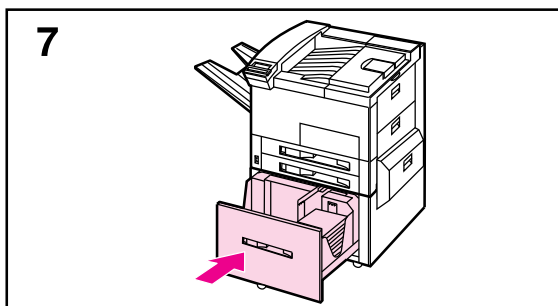
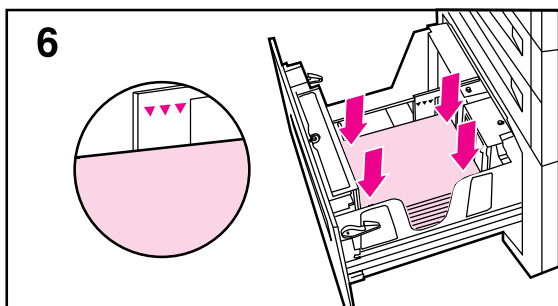
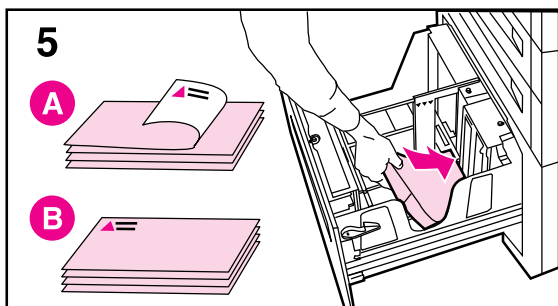
1. Tray 1
2. Tray 4
3. Tray 2
4. Tray 3

For example, assume all paper sources contain the same size of paper. If you have specified Tray 1 or Automatic, send a print request to the printer, and Tray 1 is empty, the printer prints from Tray 4. If Tray 4 is also empty, the printer prints from Tray 2, and then from Tray 3.



Loading Paper into Tray 4

- 1 Slide Tray 4 open until it stops.
- 2 Adjust the front guide by pulling up on the pin, placing the guide into the corresponding top and bottom slots, and then pushing in the pin.
- 3 Adjust the back guide by pulling up on the pin, placing the guide into the corresponding top and bottom slots, and then pushing in the pin.
- 4 Adjust the left guide by pulling up on the pin and placing the guide into the corresponding top and bottom slots. Store the left guide when using 11x17 paper.



5 Load up to 2000 sheets of paper into the tray; do not allow paper to extend above the paperfill mark on the sides.

a. Load Letter or A4 paper with the top of the page toward the rear of Tray 4, side-to-be-printed *down* for single-sided printing (shown in illustration 3). For two-sided printing, load front side (odd-numbered) *up*.

b. Load 11 in x 17 in, Legal, A3, or JIS B4 paper with top of the page toward the right of the printer, side-to-be-printed *down* for single-sided printing. For two-sided printing, load front side (odd-numbered) *up*.

6 Press down on all four corners of the paper stack to ensure the paper rests flat in the tray, without bending the paper.

7 Slide Tray 4 back into the base.

8 Ensure that the paper size tab is set correctly.

Note

See “Changing Paper Type and Size from the Control Panel” later in this chapter to set the type of paper you loaded in the tray.

If using the Top Output Bin, remember to adjust the paper stop guide on the output bin (see Figure 5-4).

Envelopes in Tray 1

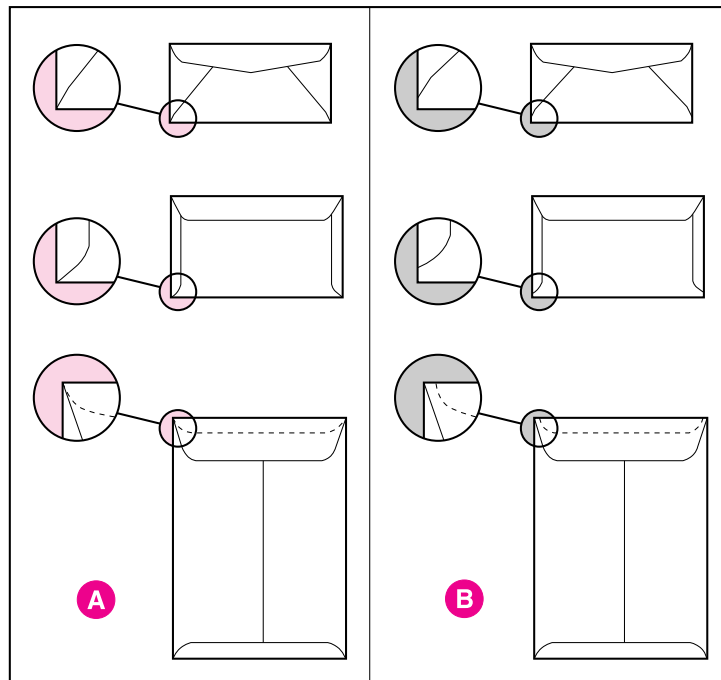
You can print up to ten envelopes from Tray 1. This section explains how to print an envelope using your software application. Table 5-1 lists the kinds of envelopes you can print. Check the media use guidelines in Table 5-2 before loading envelopes. (See “Media Use Guidelines” earlier in this chapter.)

CAUTION

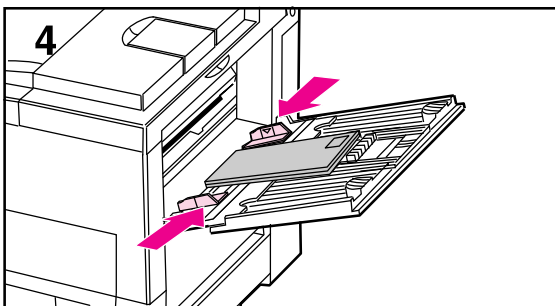
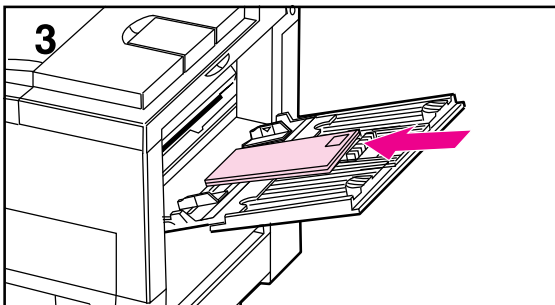
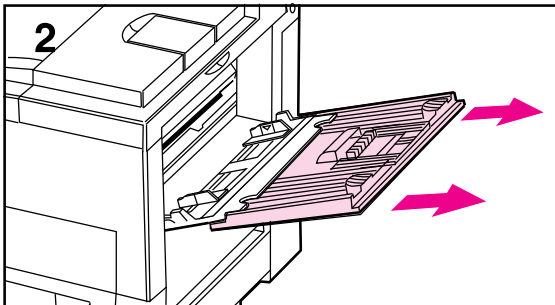
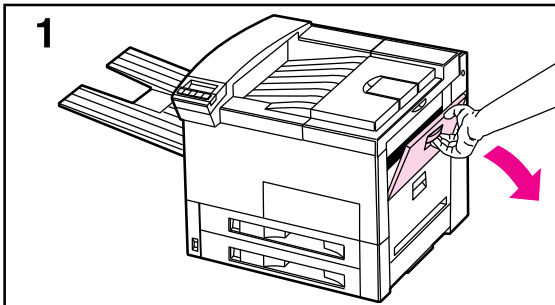
Never use envelopes with clasps, snaps, windows, coated linings, self-stick adhesives (peel and seal), or other synthetic materials. These items can severely damage your printer. Never try to print on both sides of an envelope. Jamming and printer damage can result.

Before you load an envelope in Tray 1, check to make sure it is rectangular in shape and undamaged. It's a good idea to run a pen or pencil down the leading edge (side being fed into the printer) to flatten it before you insert it in Tray 1.

Figure 5-4



A) Good Construction for Envelopes B) Poor Construction for Envelopes

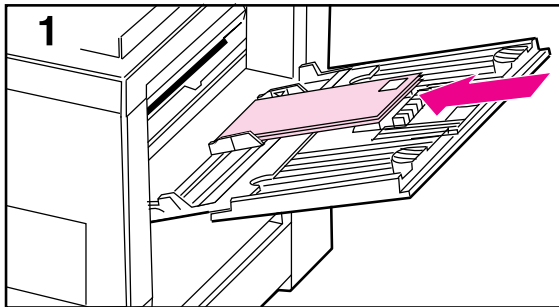


Loading Envelopes into Tray 1

- 1 Open the door of Tray 1.
- 2 If necessary, pull out the tray extension for the envelope size you are printing.
- 3 Gently place up to ten envelopes between the paper width guides, face up, with the back flap lying against the rear paper guide.
- 4 Slide the paper width guides until they lightly touch both sides of the envelope stack without bending it.
- 5 Set the envelope size and type in the TRAY MENU on the control panel for Tray 1.

Note

You may also want to open the printer's left door and lift the Envelope Pressure Switches on the lower part of the fuser to reduce wrinkling.



2

Paper Source: TRAY 1

Paper Size: Com 10 Envelope

3

Orientation

A

☐ Portrait

☒ Landscape

Printing Envelopes from Your Software Application

- 1 Load up to ten envelopes into Tray 1.
- 2 Specify Tray 1, Automatic, or select the media source by type in your software application, and set the envelope size and type to the appropriate envelope size, such as COM 10 or DL.
- 3 If your software does not automatically format an envelope, specify Landscape for page orientation in your Print Setup command.

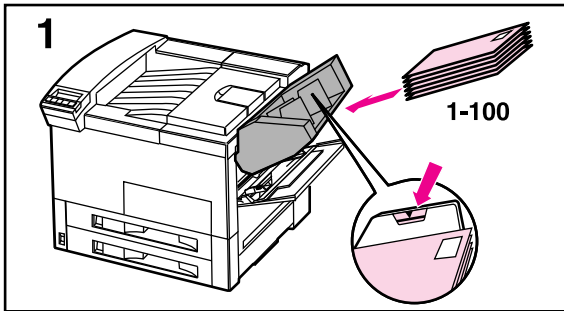
CAUTION

To avoid a printer jam, once you begin printing, *do not* remove an envelope and reinsert it.

For best print quality, use the following table to set margins for a return and mailing address. It gives you typical address margins for a Commercial #10 or DL envelope. For envelopes of other sizes, adjust the margin settings until they please you. *Avoid* printing over the area where an envelope's three back flaps meet.

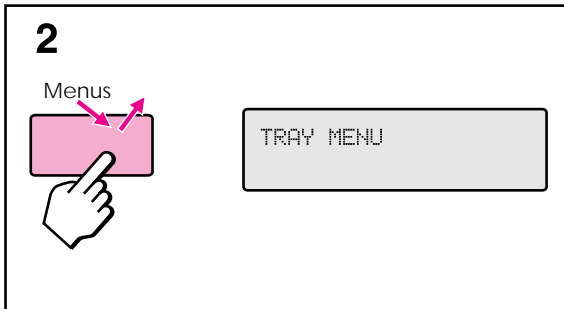
Type of Address	Left Margin	Top Margin
Return	0.5 in (15 mm)	0.5 in (15 mm)
Mail destination	4.0 in (85 mm)	2.0 in (51 mm)

Optional Envelope Feeder



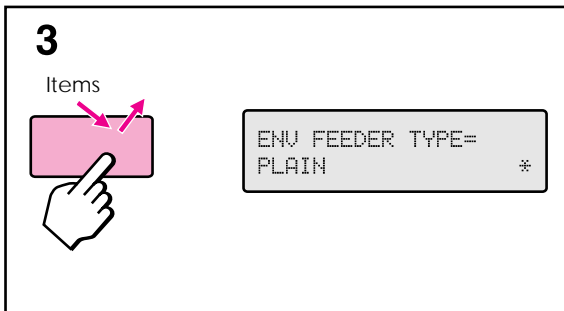
The optional Envelope Feeder can hold 2X postcards and B5, Com 10, C5, DL, and Monarch envelopes. You can load up to 100 envelopes in the Envelope Feeder. Because the printer cannot sense the size of the envelopes to be printed, you must select the appropriate envelope size and type through the control panel.

Printing from the Optional Envelope Feeder

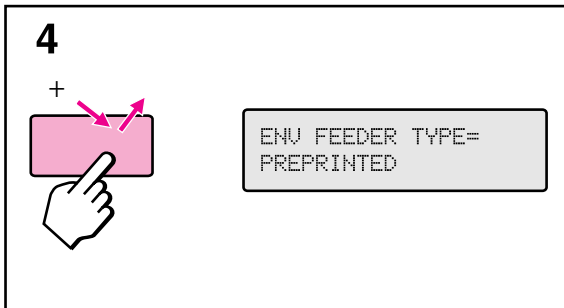


1 Load up to 100 envelopes in the feeder (do not exceed the paperfill mark).

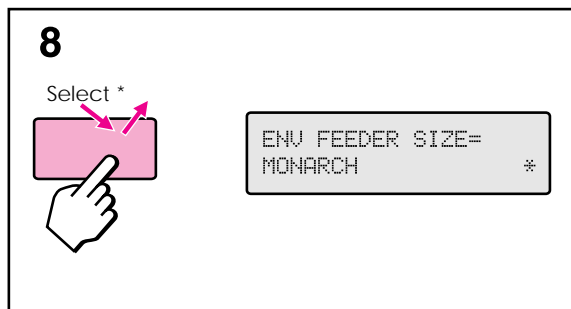
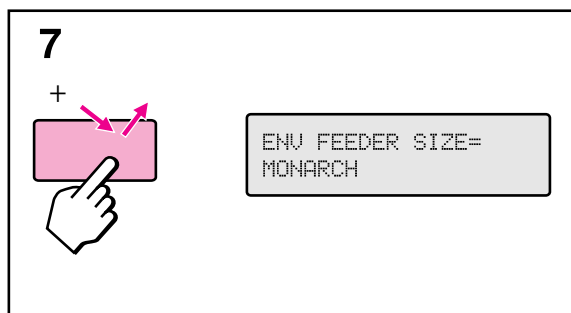
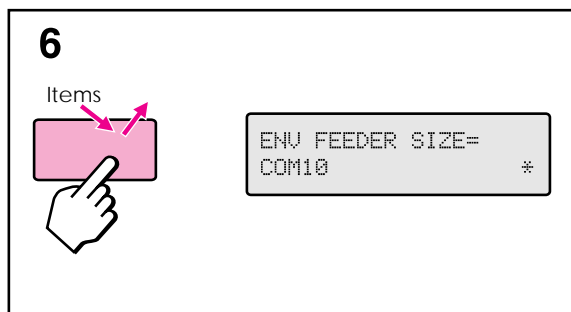
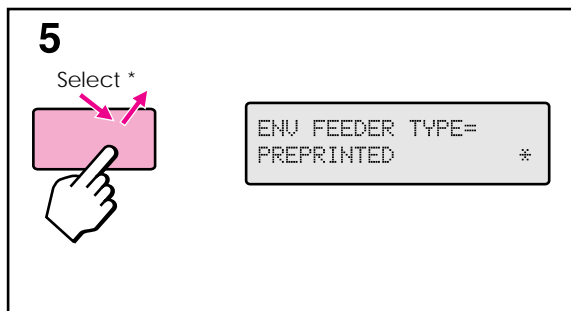
2 From the control panel, press **Menu** until TRAY MENU appears.



3 Press **Items** until ENV FEEDER TYPE= PLAIN * appears.



4 Press **+** to view options.



5 Press **Select *** to select the appropriate choice.

6 Press **Items** again to see ENV FEEDER SIZE= COM10 *

7 Press **+** to view options.

8 Press **Select *** to select the appropriate choice.

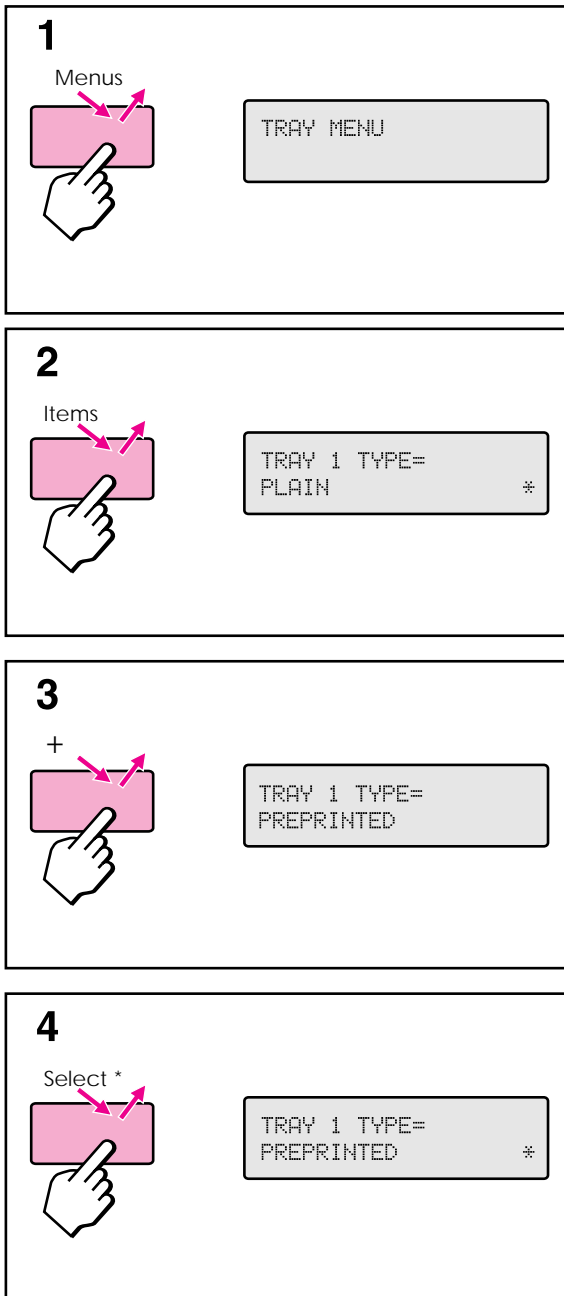
When printing you may select the Envelope Feeder as your media source, or you may select your media by type. To select by media type, you choose the type in the printer driver that matches the envelope type you set on the printer's control panel.

If you cannot access the Envelope Feeder when printing, you may need to ensure that the Envelope Feeder has been installed in your printer driver. See Chapter 3 for information on accessing the printer driver.

Note

You may also want to open the printer's left door and lift the Envelope Pressure Switches on the lower part of the fuser to reduce wrinkling.

Changing Paper Type and Size from the Control Panel



- 1 Press **Menus** until TRAY MENU appears.
- 2 Press **Items** to scroll through the trays and their media types.

Note

Tray 1 and the Envelope Feeder do not have a sensor for identifying paper size. If either is being used, you will also have a menu item for media size. You must select the size of the media before continuing.

- 3 Press **+** to scroll through the media type options.
- 4 Press **Select *** to choose the type of paper you loaded in the tray.

If you want to select the media for your job by type, and not by the paper tray (source), you will have to set the type value for each tray on the printer's control panel, and in the printer driver. See Chapter 3 for information on accessing the printer driver.

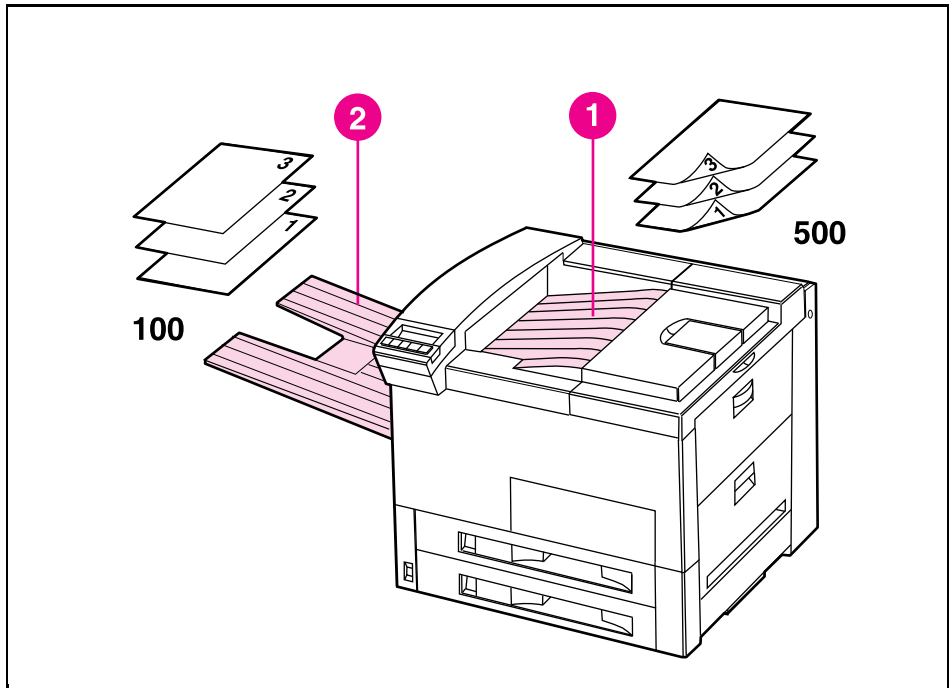
Selecting media by type rather than source is similar to locking out the tray(s). If you have letterhead loaded in Tray 1, and you select to print on plain paper in your driver, the printer will not pull the letterhead paper from Tray 1. However, the printer will pull from either of the other trays if plain paper is loaded, and has been set on the printer's control panel.

Paper Output Bins

The Top Output Bin, located at the top of the printer (see 1 in Figure 5-5 below), holds up to 500 sheets of paper in the correct order as they exit the printer. A sensor causes the printer to stop when the paper bin is full. Printing continues when you empty or reduce the amount of paper in the bin. The Top Output Bin is the factory default bin.

The Left Output Bin, located on the left side of the printer (see 2 in Figure 5-5 below), holds up to 100 sheets of paper face up as they exit the printer. This paper bin is mainly used for special media types, such as labels or transparencies, that cannot tolerate the curved paper path of the Top Output Bin. This paper bin does not sense when the bin is full.

Figure 5-5



Paper Output Bins

1. Top Output Bin
2. Left Output Bin

Selecting the Left Output Bin

You can select an output bin through your software application or printer driver, or from the printer control panel. You will probably prefer to designate the paper destination in your software or printer driver since you will want to control to which output bin the paper is sent. Otherwise, follow the instructions below for setting the Left Output Bin as the printer's default output bin.

The Left Output Bin is used for envelopes, transparencies, and labels. Using this bin helps reduce paper curl.

Note

Where and how you make selections depends on your software application or associated printer driver. The selection process may be available *only* from within the printer driver. See Chapter 3 or your application manual for more information.

Selecting the Left Output Bin from the Control Panel

- 1 Press **Menus** until CONFIGURATION MENU appears.
- 2 Press **Items** until PAPER DESTINATION=TOP OUTPUT BIN * appears.
- 3 Press **+** until PAPER DESTINATION=LEFT OUTPUT BIN appears.
- 4 Press **Select *** to save your choice. An asterisk (*) appears next to your selection.

Adjusting the Paper Stop

The paper stop (shown in Figure 5-6) is located near the Top Output Bin. It can be adjusted to help paper lay flat as it exits the printer. The paper stop does not have to be raised for Letter or A4 size paper. Note that the printer jams if the paper stop is set to a smaller size of paper than is being printed.

- 1 Pull the left side of the paper stop up, away from the printer, until the stop is in an upright position.
- 2 Slide the paper stop away from the printer to the mark indicating the largest paper size to be printed. (You do not need to raise the paper stop for Letter or A4 size paper.)

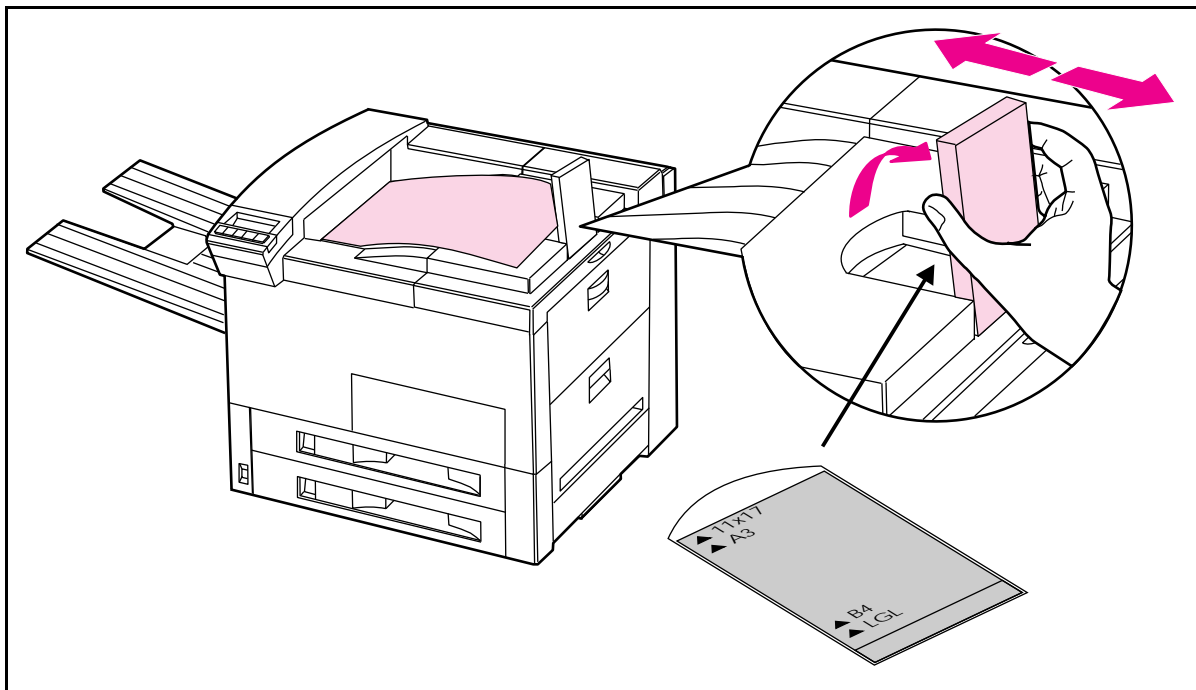


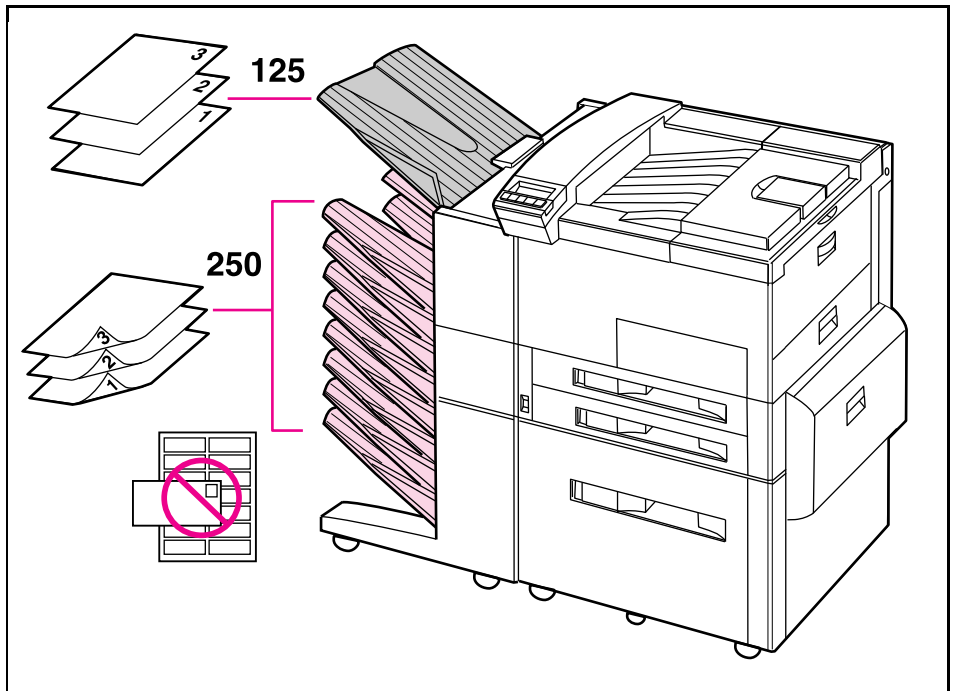
Figure 5-6 Adjustable Paper Stop

Optional Multi-Bin Mailbox

The optional Multi-Bin Mailbox (shown in Figure 5-7) attaches to the left side of the HP LaserJet 5Si/5Si MX printer. The mailbox contains eight bins which hold up to 250 sheets each, and a Left Output Bin (face-up). It can work in one of the following three modes:

- Mailbox - Each bin can be addressed individually, and can have a name assigned to it by the network or printer administrator.
- Job Separation - Automatically separates your jobs assigning a bin to each job. It uses all eight bins for this purpose, but is seen in the printer software as one logical bin.
- Stacking - It stacks the printed output from the lowest bin to the top, regardless of job boundaries. This mode of operation takes advantage of the total capacity of the mailbox. The device is seen by the printer software as one logical bin.

Figure 5-7



Multi-Bin Mailbox

Note

The mailbox handles all of the printer's supported paper sizes. Envelopes and labels are sent only to the Left Output Bin (face-up).

Printing to the Multi-Bin Mailbox

When attached, the mailbox becomes the output bin (OPTIONAL OUTBIN). The network or printer administrator determines which mode of operation is chosen through an HP network utility, such as the HP JetAdmin utility. You need to set up your printer driver to reflect the mode chosen by the administrator. Bi-directional environments automatically reflect the administrator's choices in the your printer driver.

In mailbox mode, the device is OPTIONAL OUTBIN 1 to OPTIONAL OUTBIN 8, unless the network administrator has named each bin. These names appear on the control panel in the place of OPTIONAL OUTBIN. In job separation or stacking mode, the device is OPTIONAL OUTBIN 1.

You can select this optional output bin through your software application, printer driver, or from the printer control panel. It is better to designate the paper destination in your software or printer driver since you will control to which output bin your job is sent. Otherwise, follow the instructions below for setting the overall default printer output bin selection.

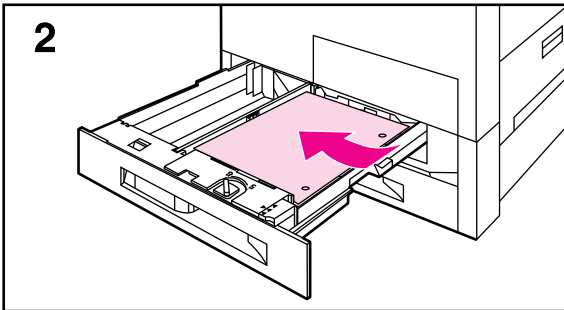
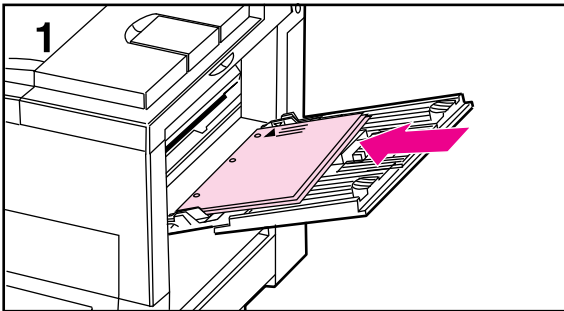
Note

Where and how you make selections depends on your software application or associated printer driver. The selection process may be available *only* from within the printer driver. See Chapter 3 or your application manual for more information.

Selecting the Multi-Bin Mailbox from the Control Panel

- 1 Press **Menus** until CONFIGURATION MENU appears.
- 2 Press **Items** until PAPER DESTINATION= TOP OUTPUT BIN * appears.
- 3 Press **+** until PAPER DESTINATION= OPTIONAL OUTBIN *x* appears. The *x* represents a number from 1–8 (for the output bins). For the normal mailbox mode this could be 1–8, representing eight mailboxes.
- 4 Press **Select *** to save your choice. An asterisk (*) appears next to your selection.

Different First Page



Use the following procedure to print the first page of a document on preprinted or special paper, such as a letter with just the first page on letterhead paper.

- 1 Select a different paper for the first page in your application or printer driver.

Note

Where and how you make selections depends on your software application or associated printer driver. The selection process may be available *only* from within the printer driver. See Chapter 3 or your application manual for more information.

- 2 Choose the designated tray (or Manual Feed) for the first page and the other tray for the remaining pages.
- 3 Place the paper for the first page in the tray.

For manual feed, place a page in Tray 1 after the job is sent to the printer, and the printer requests the paper to be loaded. Place the page side-to-be-printed up, with the top of the page placed towards the rear of the printer and the long edge leading into the printer.

- 4 Load the paper for the remaining pages of the document in another tray.

You may select the first and remaining pages by type of media. To do so, you must set the types of media loaded in the trays through the control panel (see "Changing Paper Type and Size from the Control Panel" earlier in this chapter). Then select the paper source in the printer driver not by tray, but by type.

Custom-Size Paper in Tray 1

1

Paper Source: 

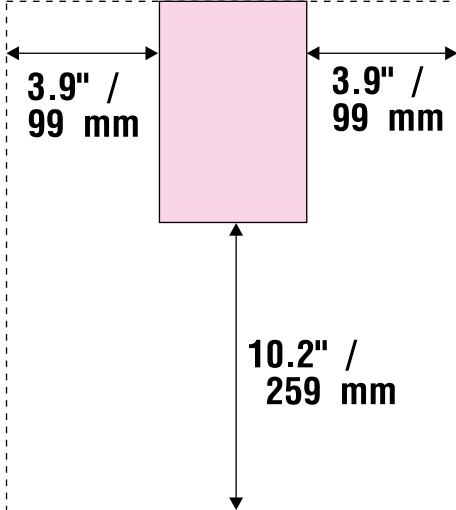
Paper Size: 

You can print on custom-size paper from Tray 1. The largest size of paper supported is 11.7 x 17.7 in (297 x 450 mm). The smallest size is 3.9 x 7.5 in (99 x 191 mm). *When you select maximum size of paper, the printer assumes the maximum page size is 11.7 x 17.7 in (297 x 450 mm).*

Printing on the Smallest-Sized Paper

Some software applications require you to calculate margins in order to print on custom-size paper. The following example is provided as a guideline. Adapt this example to your paper size and unit of measurement.

2



1 In your software application, select Tray 1 for the paper source and Maximum (Windows PCL) or Oversize (Macintosh and Windows PostScript) for the paper size.

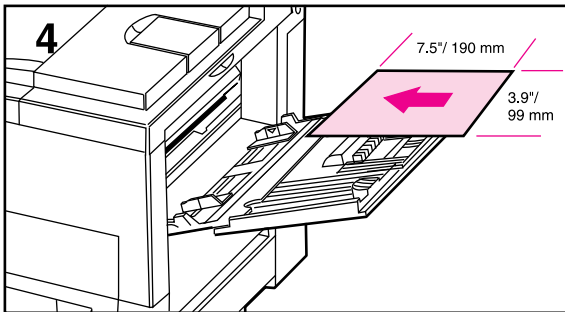
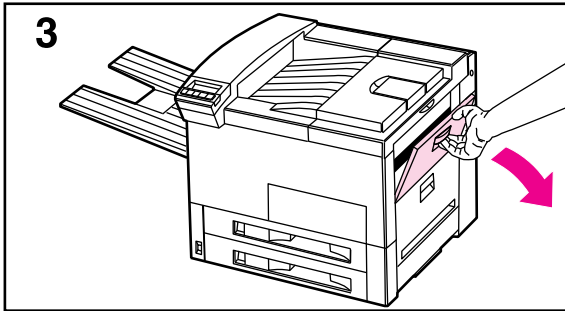
2 Calculate margins to identify the area to be printed. Illustration 2 and steps 2a and 2b show how to calculate a margin for 3.9 x 7.5-in (99 x 191 mm) paper.

a. Take the maximum paper width size 11.7 in (297 mm) and subtract 3.9 in (99 mm) for the width of the paper. Take the answer, 7.8 in (198 mm), and divide it by 2, which equals 3.9 in (99 mm).

In your software application, select a left margin of 3.9 in (99 mm) and a right margin of 3.9 in (99 mm).

b. If your software allows, also set the bottom margin. Take the maximum paper length size, 17.7 in (450 mm), and subtract 7.5 in (191 mm), the length of the paper. The bottom margin equals 10.2 in (259 mm).

Continued on the next page.



- 3 Print custom-size paper from Tray 1. See “Loading Media into Tray 1” earlier in this chapter for the procedure.
- 4 The edge of the paper feeding into the printer must be at least 3.9 in (99 mm) wide to allow rollers inside the printer to grab the paper. Measuring from the leading edge to the trailing edge of the paper going into the printer, the length dimension must be at least 7.5 in (190 mm).

Note

You may use two-sided printing on paper sizes equal to or larger than Executive.

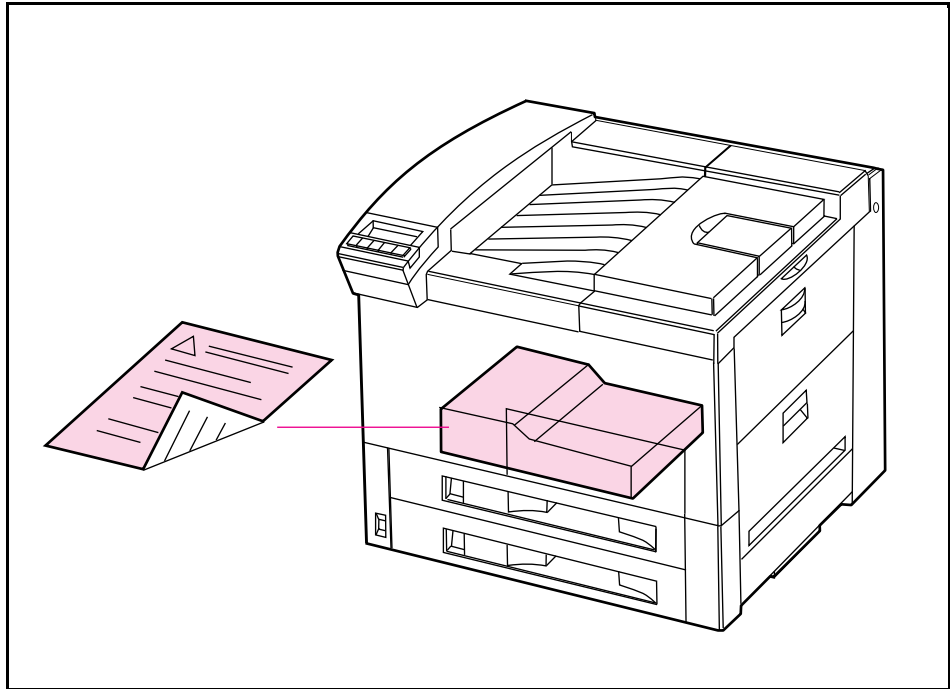
Printing Tabloid Bleeds

Since the printer has the ability to print on specially cut paper up to 11.7 x 17.7 in (297 x 450 mm), you can print tabloid size (11 x 17 in / 279 x 432 mm) bleed images with crop marks. Refer to your software application or Windows online help.

Two-Sided Printing with the Optional Duplex Unit

The Duplex Unit (shown in Figure 5-8) allows printing on both sides of the paper (two-sided) with either portrait or landscape orientation. You can select two-sided printing through your application, the printer driver, or the printer's control panel.

Figure 5-8



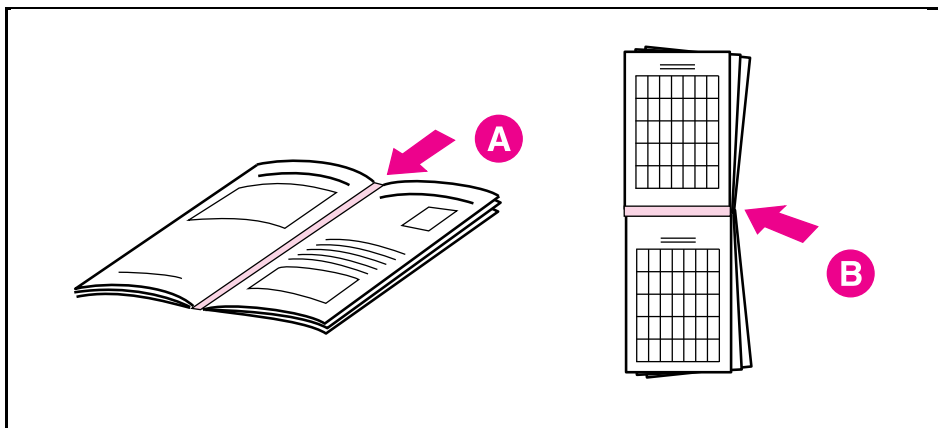
Optional Duplex Unit

Binding Options

Before printing in two-sided mode, decide how you want your finished document bound: stapled (stitches), in three-hole binders, glued, or by some other means. The binding setup options are:

- *Book (long-edge) binding*, which is the conventional layout used in book binding (see A in Figure 5-9 below).
- *Tablet (short-edge) binding*, which is the type often used with calendars (see B in Figure 5-9 below).

Figure 5-9



Binding Options

You may select two-sided printing in your application or printer driver. See Chapter 3 for information on accessing the printer driver. The printer settings usually come first from the application, second from the printer driver, and last from the control panel.

Selecting Two-Sided Printing from the Control Panel

- 1 Press **Menus** until CONFIGURATION MENU appears.
- 2 Press **Items** until 2-SIDED= OFF appears.
- 3 Press **+** until 2-SIDED= ON appears.
- 4 Press **Select *** to choose two-sided printing. An asterisk (*) appears next to your selection.
- 5 Press **Items** until BINDING=LONG EDGE or BINDING=SHORT EDGE appears.
- 6 Press **Select *** to save your choice. An asterisk (*) appears next to your selection.

Stopping a Print Request

You can stop a print request from your software application or from the printer control panel. To stop a print job from a computer on a network, refer to the *HP JetDirect Print Server Software Installation Guide*.

Note that it may take some time for all printing to clear after canceling a print job.

Stopping the Current Print Job from Your Software Application

If many requests have been sent to the printer through your software, they may be waiting in a print queue (in Windows Print Manager, for example). See the instructions that come with your software for specific instructions about canceling a print request in the computer.

Note

In order to cancel a print job, at least one printed page must be delivered to the destination output bin. This ensures that you identify the *correct* print job.

Stopping the Current Print Job from the Control Panel

- 1 Press **Menu** until JOB CONTROL appears.
- 2 Press **Items** until CANCEL JOB appears.
- 3 Press **Select *** to cause the printer to stop printing, and display the message STOPPING CHECK LAST PAGE until the last page currently being printed is placed in the output bin.
- 4 PRESS SELECT TO CANCEL JOB. appears on the display. To cancel the job, press **Select ***.
- 5 The message CANCELLING JOB appears. This message remains until the job is cleared from the system.

Note

To skip cancelling the job, press the **On Line**, **Menu** or **Items** key.

Print Quality

The HP LaserJet 5Si prints at true 600 dots-per-inch (dpi) with Resolution Enhancement (REt) and MicroFine toner. REt adjusts the size and placement of each dot to smooth angles and curves. Combined with MicroFine toner, this sharpens the appearance of text and graphics. The printer also offers 300-dpi printing with REt to give you a wider range of printing alternatives.

This chapter tells you how to:

- Choose print resolution.
- Fine-tune print quality by adjusting the print density.
- Improve print quality.
- Use EconoMode to print drafts and save toner.

Note

To find the current printer settings, use the printer control panel to print a configuration page. This procedure is described in “Test Menu” in Chapter 4, “Printer Control Panel.”

Print Resolution

You can select 300- or 600-dpi resolution for your printed page; however, 600 dpi (the default setting) provides better print quality. If available, you can select resolution through your software application; otherwise you can use the control panel.

Changing the Print Resolution Setting from the Control Panel

- 1 Press **Menus** until the PRINT QUALITY MENU appears.
- 2 Press **Items** until RESOLUTION= 600 DOTS PER INCH appears.
- 3 Use the **+** to switch between 600 and 300 dpi.
- 4 Press **Select *** to save the 600- or 300-dpi setting.

Print Density

Print density is a measure of the darkness of the print on the page. The degree of darkness depends on how much toner is applied to the paper while printing.

Print density adjustments are made through the control panel. Settings range from Print Density = 1 to Print Density = 5, with 5 being the darkest setting. See the procedure below to change the print density setting from the control panel. Changes to this setting are effective during a printed job within one or two pages.

Note

The higher the print density setting, the more toner the printer uses. To extend the life of your toner cartridge, choose lighter print density settings.

If available, you can change this setting through your software application; otherwise, use the control panel.

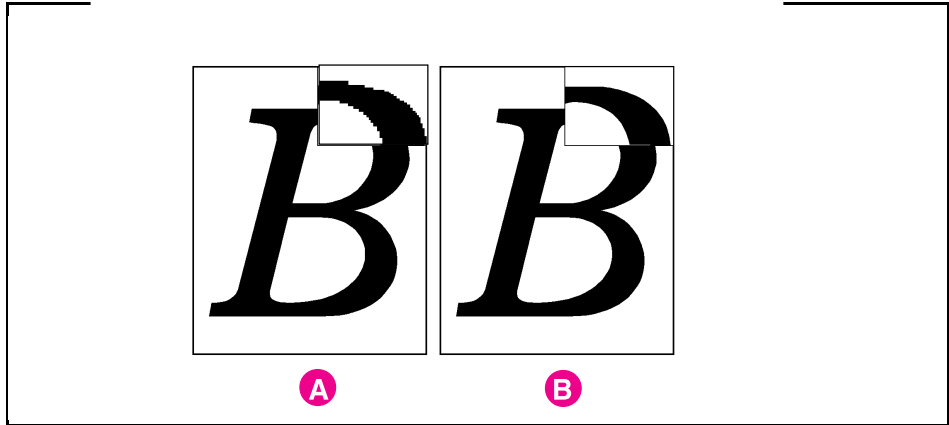
Adjusting Print Density from the Control Panel

- 5 Press **Menus** until PRINT QUALITY MENU appears.
- 6 Press **Items** until PRINT DENSITY=3* appears.
- 7 Press **+** until the desired setting appears.
Your choices are 1-5; 1 = the lightest; 5 = darkest.
- 8 Press **Select *** to save the setting.

Resolution

Resolution Enhancement technology (REt) refines the print quality of characters and graphics by smoothing the fine gradations along the angles and curves of the printed image. Figure 6-1 shows two magnified images: the left one (A) shows REt set to OFF; the right one (B) shows it set to ON.

Figure 6-1



Resolution Enhancement

If available, you can change this setting through your printer setup screen in the printer drivers; otherwise, use the control panel.

Activating REt from the Control Panel

- 1 Press **Menus** until PRINT QUALITY MENU appears.
- 2 Press **Items** until RESOLUTION ENHANCEMENT= ON appears.
- 3 Press **+** to switch between OFF and ON.
- 4 Press **Select *** to save your selection. An asterisk (*) appears next to that setting.

Print Quality Solutions

Solutions to general causes of print quality problems are given in the checklist below, followed by specific samples of common print quality problems. If the listed solutions do not work, see Chapter 7, “Maintenance and Troubleshooting,” for other possible solutions.

If you have problems with print quality:

- Check the EconoMode setting; be sure it is OFF. (See “EconoMode” later in this chapter.)
- Redistribute the toner in the toner cartridge. (See Chapter 7.)
- Clean the inside of the printer. (See Chapter 7.)
- Adjust the print density. (See “Print Density” earlier in this chapter.)
- Check the paper type and quality. (See Tables 5-1 and 5-2 in Chapter 5, “Print Tasks,” for media selection and use guidelines.)
- Make sure you are printing at 600-dpi resolution.
- Adjust the REt setting to ON or OFF.
- Replace the toner cartridge.

Note

Toner cartridges should be allowed to stabilize at room temperature prior to use; otherwise, print quality may be affected.

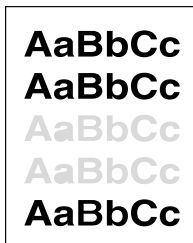
Note

All sample pages are shown in Letter size and portrait orientation. Similar problems may show up on different paper edges, depending on the paper feed.

Fading

If a white streak or faded area appears on the page (in the direction the paper passes through the printer):

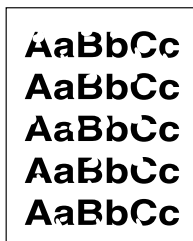
- The toner cartridge supply is low. Remove the toner cartridge from the printer and rotate it back and forth. If shaking the cartridge does not improve the print quality, replace the toner cartridge.
- The print density adjustment is too light. Adjust print density.



Dropouts

If faded areas, generally rounded, occur randomly on the page:

- The moisture content of the paper is uneven or the paper has moist spots on its surface. Try paper from a different source.
- The paper lot is bad. The manufacturing processes can cause some areas to reject toner.

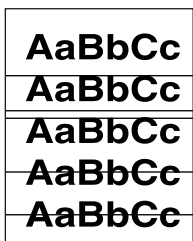


Try paper from a different source. If using paper within the specification required by the printer does not correct your problem, your printer may need service (refer to Table 5-1 in Chapter 5 for media selection guidelines). Contact your authorized HP dealer or your HP service representative.

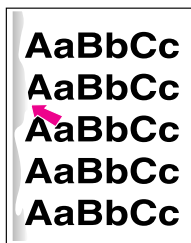
Lines

If sharp black streaks appear on the page (in the direction the paper passes through the printer), the light-sensitive drum inside the toner cartridge has probably been scratched. Replace the toner cartridge.

If smeared black streaks appear (in the direction the paper passes through the printer), the fuser may be bad. Contact your HP service representative.



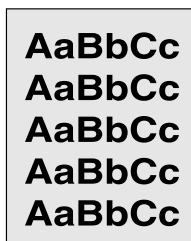
Toner Smear



If toner smears appear on the leading edge (as it passes through the printer) of the paper, the paper guides are dirty. Clean the printer as described in Chapter 7.

If toner on the paper is loose or can be wiped off easily, your fuser may be damaged. Contact your authorized HP dealer or your HP service representative.

Background Gray Toner Shading

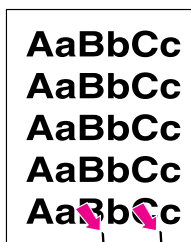


If the amount of background toner shading becomes unacceptable:

- Lower the density setting. (See “Print Density” earlier in this chapter.) This decreases the amount of background shading.
- Replace the toner cartridge.
- Change the paper to a lighter basis weight.
- Check the printer’s environment; very dry (low humidity) conditions can increase the amount of background shading.

If these procedures do not fix the problem, the transfer roller may need to be replaced. Contact your authorized HP dealer or your HP service representative.

Repetitive Defects



If any of the following marks appear repeatedly on the printed side of the page, replace toner cartridge:

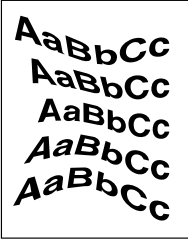
- If a repetitive mark occurs every 3 3/4 inches (94 mm) in the direction the paper passes through the printer, the toner cartridge drum is damaged.
- If a repetitive mark occurs every 2 inches (51 mm) in the direction the paper passes through the printer, the developer roller is damaged.
- If black lines occur every 1 1/2 inches (38 mm) on the back of the page, the charger roller is damaged.

If defects occur every 2 3/8 inches (61 mm) on the back of the page, the transfer roller has toner on it. This problem will likely correct itself after a few pages.

Improperly Formed Characters

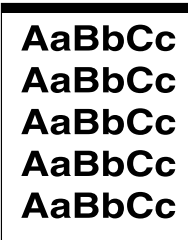
If characters are improperly formed, producing hollow characters, your paper stock may be too slick. Make sure that the EconoMode setting is set to OFF. Try a different paper.

If characters are improperly formed, producing a wavy effect, the laser scanner needs service. Call your authorized HP dealer or HP service representative.



Line at Edge of Paper

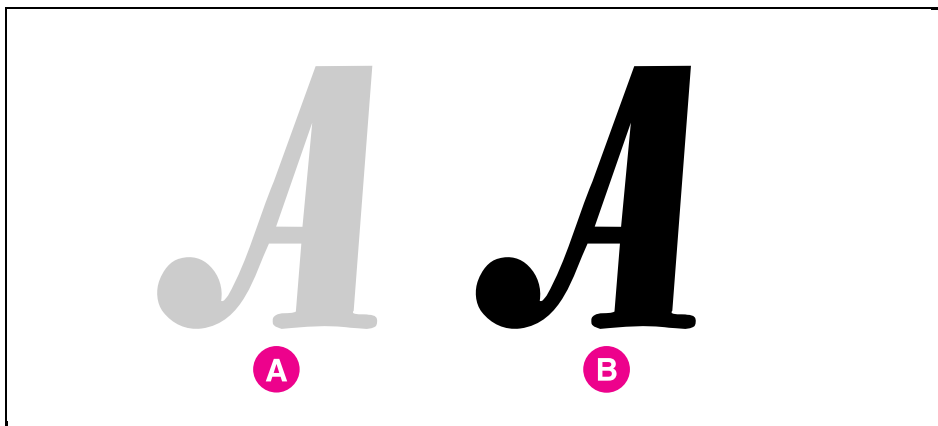
If a line appears on the top of the paper toward the end of the toner cartridge life (usually on the right side and running the direction that the paper travels through the printer), the drum in your toner cartridge is wearing out. The line will grow wider, with cross-hatching. Replace the toner cartridge. Shaking the cartridge does not relieve the problem.



EconoMode

EconoMode lowers printing costs by reducing the amount of toner on the printed page. When set to ON, the printed image is lighter but still readable, as shown in Figure 6-2, side (A). Full time use may result in a loss of print quality due to normal toner cartridge mechanical wear.

Figure 6-2



EconoMode

Turning on EconoMode

You may be able to turn on EconoMode through your software application or printer driver. If your software permits, you will probably prefer to use this method. Otherwise, see “Turning on EconoMode from the Control Panel” in the following section.

Note

Where and how you make selections depends on your software application or associated printer driver. The selection process may be available only from within the printer driver. See Chapter 3 or your application documentation for more information.

Turning on EconoMode from the Control Panel

- 1 Press **Menus** until PRINT QUALITY MENU appears.
- 2 Press **Items** until ECONOMODE=OFF appears.
- 3 Press **+** to choose ON.
- 4 Press **Select *** to save your choice.

Note

The printer settings usually come first from the application, then from the printer driver, and finally from the control panel.

Maintenance and Troubleshooting

This chapter describes normal routine maintenance, which includes:

- Cleaning the printer
- Working with the toner cartridge
- Extending toner cartridge life
- Clearing the TONER LOW message

The following sections help you troubleshoot the most common printer problems, clear paper jams, and understand printer messages.

Cleaning Tasks

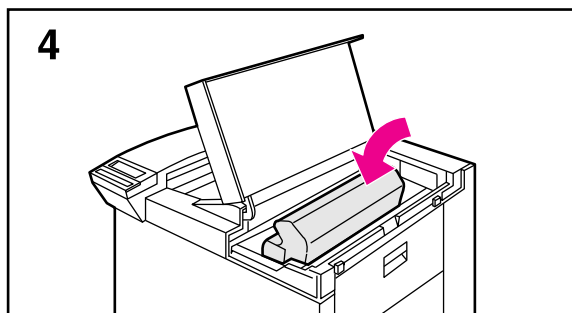
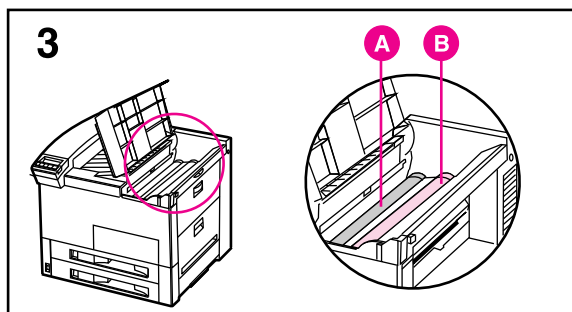
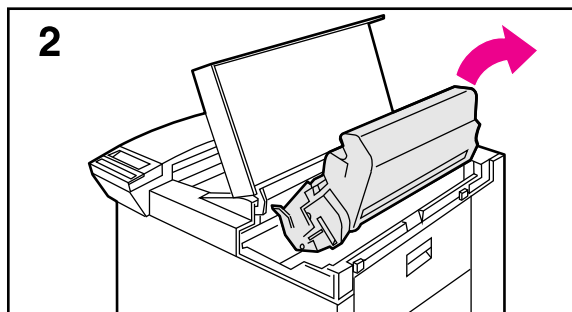
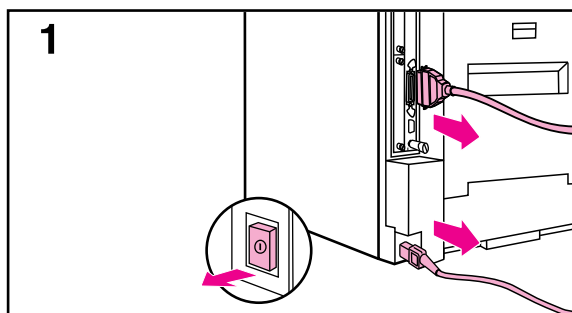
To maintain print quality, thoroughly clean your printer:

- Every time you change the toner cartridge
- After printing approximately 15,000 images
- Whenever print quality problems occur

Clean the *outside* of the printer with a lightly water-dampened cloth. Clean the *inside* with only a dry, lint-free cloth. Observe the warnings and cautions that follow the cleaning tasks on the following page.

CAUTION

To avoid permanent damage to the toner cartridge, do not use ammonia-based cleaners on or around your printer.



Cleaning the Printer

- 1 Before you begin these steps, turn the printer OFF and unplug all cords.
- 2 Open the top cover of the printer and remove the toner cartridge.

WARNING

Avoid touching the adjacent fusing area. It may be **HOT**.

- 3 With a *dry* lint-free cloth, wipe any residue from the paper path area, the registration roller (B), and the toner cartridge cavity.

CAUTION

Do not touch the transfer roller (A). Skin oils on the roller can reduce print quality. If toner gets on your clothes, wipe it off with a dry cloth and wash your clothes in *cold* water. Hot water sets toner into fabric.

- 4 Replace the toner cartridge, close the printer, reconnect all cables, and switch the printer ON.

Toner Cartridge

Extending Toner Cartridge Life

The life of your toner cartridge depends on the amount of toner your print jobs require. When you print word-processed text, average toner cartridge yield is 15,000 pages printed at 5% coverage. (A typical full-page business letter is about 5% coverage.) This assumes that the print density setting is in the middle range. Using *EconoMode* can further extend average toner cartridge yield. (See Chapter 6, “Print Quality.”)

EconoMode extends toner usage beyond the specified 15,000 images. However, extended use of the toner cartridge assembly may result in wear of moving parts within the cartridge; this may produce unusual noises. Because of this HP cautions you not to use *EconoMode* full time.

Storing and Installing the Toner Cartridge

Do not remove the toner cartridge from its packaging until you are ready to use it. The shelf life of an unopened cartridge package is approximately 2 1/2 years; the shelf life of an opened cartridge package is approximately six months. Use the cartridge before the expiration date (the expiration date is stamped on your toner cartridge box).

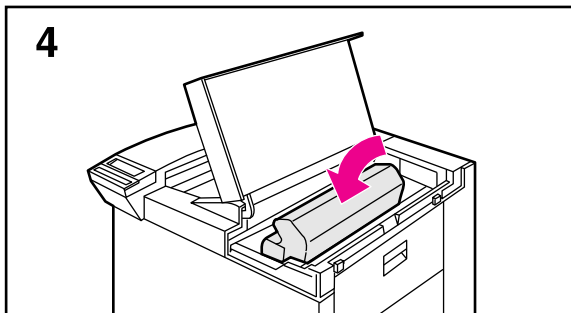
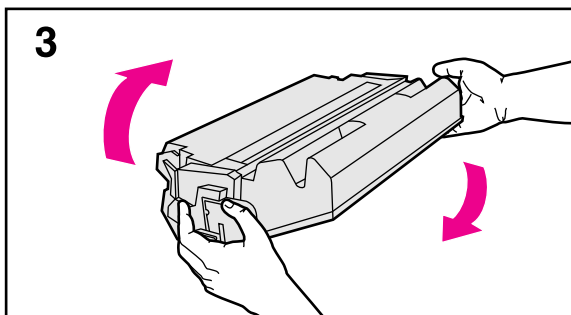
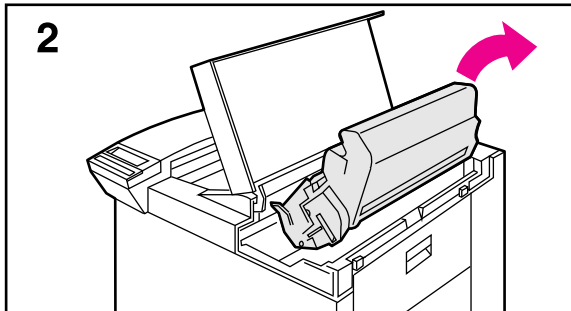
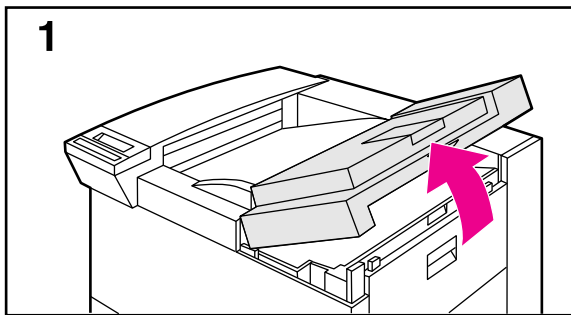
To install a new toner cartridge, follow the instructions in the *Installation Instruction Guide* included in your toner cartridge box. A separate *Recycling Instruction Guide* is also included.

WARNING

Avoid touching the adjacent fusing area. It may be HOT.

HP Policy on Use of Non-HP Toner Cartridges

Hewlett-Packard cannot recommend use of non-HP toner cartridges, either new or remanufactured. Because they are not HP products, HP cannot influence or control their quality.



Redistributing Toner in the Cartridge

You can extend the life of your toner cartridge and *temporarily* re-establish print quality by redistributing the toner.

- 1 Open the printer's top cover.
- 2 Remove the toner cartridge.

WARNING

Avoid touching the adjacent fusing area. It may be **HOT**.

- 3 Rotate the toner cartridge back and forth five or six times to redistribute toner.
- 4 Reinsert the toner cartridge and close the top cover.

The **TONER LOW** message may continue to appear, but the print quality should improve. If the print remains light, replace the toner cartridge using the instructions in the *Installation Instruction Guide* inside the toner cartridge box.

Clearing the TONER LOW Message

When the toner level in the toner cartridge gets low, a `TONER LOW` message appears in the control panel display. You can either rotate the cartridge back and forth to redistribute the toner (shown in the previous section) or replace the cartridge. If you continue to use the cartridge, your print will become lighter and white streaks may appear.

From the Configuration Menu, you can set `TONER LOW=STOP` or `TONER LOW=CONTINUE`.

- When set to `TONER LOW=CONTINUE`, the printer continues to print, with the `TONER LOW` message displayed on the control panel instead of `READY`. Use `TONER LOW=CONTINUE` when printing long or unattended print jobs.
- When set to `TONER LOW=STOP`, the printer stops printing and goes offline when low toner is detected. To resume printing, press **Select ***. The printer continues to display the `TONER LOW` message until you change the cartridge. The default setting is `TONER LOW=STOP`.

For more information about the Configuration Menu, see Chapter 4, “Printer Control Panel.”

Troubleshooting Check List

Use the following information to help solve printer problems. For networked printers, check with your network administrator if you suspect a network-related problem.

Printer Response Problems

Printer Does Not Turn On

Check to see if ...	Solution
Printer is not plugged in.	Plug the AC power cord firmly into the power receptacle and into the printer. (Be sure the power source is energized.)
Printer voltage is not correct.	Make sure line voltage is correct for the printer's power configuration. (See the product label next to the power receptacle on the back of your printer for voltage requirements.)

Blank or Garbled Control Panel Display

Check to see if ...	Solution
Printer is not switched ON.	Put the printer's power switch in the ON position.
Printer is switched ON but internal fans are not running.	Make sure the line voltage is correct for the printer's power configuration. (See the plate next to the power receptacle on the back of your printer for voltage requirements.) If you are using a power strip and its voltage is not within specification, plug the printer directly into the power receptacle.
Display is blank but internal fans are not running.	Press all the keys to see if one is stuck; contact your HP service representative if this does not work.
Printer display is in the wrong language or displays unfamiliar characters.	Reconfigure the control panel display. Refer to the HP LaserJet 5Si/5Si MX <i>Getting Started Guide</i> .

Printer Cannot Print Configuration Page

Check to see if ...	Solution
Correct size of paper is not loaded	Check paper trays to be sure correct size media is loaded (Letter or A4). Also, check that guides are set correctly.
Toner cartridge sealing tape is not removed.	Remove sealing tape from toner cartridge. See the <i>Getting Started Guide</i> or the installation guide that came with your toner cartridge.
Paper tray is out of paper.	Add paper and close tray, if appropriate.
Printer cover(s) is open.	Firmly close the printer top cover and all doors (left, front, and right).
Paper is jammed in the printer.	Check for paper jams. (See “Paper Jams” later in this chapter.)
Messages appear in the display.	Review the messages for help. (See “Printer Messages” later in this chapter). If no error messages appear but the configuration page still does not print, call for assistance.

Display Messages Cannot be Cleared

Message	Solution
TONER LOW	See “Clearing the TONER LOW Message” earlier in this chapter.
LOAD TRAY 2 PLAIN LEGAL (or similar messages requesting that you load media)	Load the requested media in any tray, or override and press Select * .
HP MIO 1 INITIALIZING HP MIO 2 INITIALIZING	<p>Wait for the message to disappear (approximately 5 minutes). If the printer MIO card is operating correctly and communicating with the network, this message disappears after approximately one minute and no action is required.</p> <p>If the MIO card is unable to communicate with the network, this message remains for five minutes and then disappears. In this case the printer is not communicating with the network (even though the message is no longer present). The problem may be a bad MIO card, a bad cable or connection on the network, or a network problem. Contact your network administrator.</p>

Software, Computer, and Printer Interface Problems

Print Job Does Not Print

Check to see if ...	Solution
Printer is OFF or not connected to an active power source.	Make sure the printer is ON and that it is firmly plugged into both the printer and an active power source.
Printer is offline.	Press On Line to put the printer online. Printer should display <code>READY</code> and On Line should be lit.
Printer is online but not receiving data (the Data light does not blink).	Check your I/O cable: <ol style="list-style-type: none">1. Check for loose I/O cable connections at printer and computer.2. Try your I/O cable on a system that you know works.3. Check that the correct interface cable was selected and securely connected to both the printer and the computer. If the cable is not correctly configured, see the <i>Getting Started Guide</i> for configuration information.
Printer displays a message.	See Table 7-2, "Printer Messages," for printer messages and recommended actions.
Data from a previous print job is still in the printer's buffer.	Select <code>FORMFEED</code> item from the Job Control Menu to print the pages stored in the printer buffer.
Last page did not print and the Data light is on.	Select <code>FORMFEED</code> item from the Job Control Menu to print the page stored in the printer buffer. (Some older software programs do not automatically send an "end of job" command.)
Data light is flashing but nothing prints.	<p>If at least one page has printed, go to the Job Control Menu. When <code>CANCEL JOB</code> shows in the display, press Select * and then press Select * again when the message changes to <code>PRESS SELECT TO CANCEL JOB</code>. The display shows <code>CANCELING JOB</code> until the job terminates. (If the job continues indefinitely, the application is stuck in a loop. Cycle printer power OFF and ON and then attempt to determine the source of the problem.)</p> <p>In the <code>POSTSCRIPT MENU</code>, set <code>PRINT POSTSCRIPT ERRORS=ON*</code> to print out the PostScript error page.</p> <p>Check your software application setup to ensure that it is correct. Also check your cabling to ensure that it is secure.</p>

Computer, Network, or I/O Port Problems

Situation	Solution
Printer interface problems	Print out a configuration page to verify that the interface configurations shown on the printout match those on your host computer. (See Chapter 4 to print a configuration page.)
Computer software problem	Check that your computer is working correctly by printing from a software application you know works or by printing a plain MS-DOS file to see if the problem is with your software application or printer driver. (For example, C:\dir>LPTn where <i>n</i> is the number of the computer port the printer is connected to, for example LPT1.) To output the page, you may have to send a formfeed command from your computer or from the Job Control Menu.
Software is selecting the wrong port.	Check your software application to be sure the print job is being sent to the correct port (for example, LPT1).
Printer port problem	Check that your computer's port is configured and working properly. One way to check this is to connect another printer to that port on your computer and print an application you know works.
Network or shared printer problems	Check for network or shared printer problems by connecting your computer directly to the printer and printing from an application you know works. If you suspect network problems, check with your network administrator or consult the network documentation that came with your printer network card(s).
Computer displays DOS messages such as: Write Fault Error Writing Device LPTn: Abort, Retry, Ignore?	<ol style="list-style-type: none"> 1. Add a Mode command to your computer's AUTOEXEC.BAT file for the parallel port. It should be inserted immediately following the PATH statement: For DOS versions below 4.0, add: <code>MODE LPT1:,,P</code> For DOS versions 4.0 and above, add: <code>MODE LPT1:,,B</code> 2. Your I/O cable might be faulty; see "Printing Incomplete or Incorrect" later in this section.

Print Speed Too Slow

Situation	Solution
First page takes much longer to print than following pages.	Set the Power Save feature for a longer time period or turn it off. (See “Configuration Menu” in Chapter 4.) A page may take longer to print due to complex formatting commands, so changing the Power Save period may not result in the first page being printed faster.
Printer is usually slow to respond.	<ol style="list-style-type: none">1. Printer speed is highly dependent on how your software application is set up, which printer driver you are using, and how much traffic is on the network. See the <i>Getting Started Guide</i> for configuration information.2. You may need to add more memory. See Chapter 1, “About Your Printer,” for HP memory part numbers.

Printing Incomplete or Incorrect

Situation	Solution
Blank pages print.	<ol style="list-style-type: none">1. Turn the printer OFF and then back ON.2. Make sure toner cartridge is installed properly.3. Make sure the toner cartridge sealing tape has been removed. (See the <i>Getting Started Guide</i> or the installation guide that came with your toner cartridge.)
Garbled pages print, there are overprints, or only a portion of a page prints.	<ol style="list-style-type: none">1. Ensure that your software application is configured for the correct printer.2. Replace the printer interface (I/O) cable with a cable you know works to see if the cable is defective.3. Your parallel printer cable quality may be defective. Use a high-quality cable; see Chapter 1 for an HP cable part number.4. Set the PERSONALITY item in the Configuration Menu to AUTO (see Chapter 4). The printer may have been set to PCL and a PostScript job sent to the printer.5. Data file sent to the printer may be corrupt. Try sending another file to see if it prints.

Continued on the next page.

Situation	Solution
Data is missing, but there are no printer messages.	<ol style="list-style-type: none">1. Check your software application to be sure the print file contains no errors.2. Check your cable to ensure that it is securely connected to both the printer connector and the computer connector.3. Your parallel printer cable may be defective. Use a high-quality cable; see Chapter 1 for an HP printer cable part number.
Printing stops in the middle of the job.	<ol style="list-style-type: none">1. Check the control panel for an error message.2. If you are on a network, make sure your computer is correctly configured and there is not a network problem (see your network administrator).3. Check your line voltage to ensure that it is steady and within printer specifications. (See Appendix A, "Specifications.") Turn the printer OFF and then back ON.4. Check the time-out setting in your network application. It may need to be increased.5. If you are trying to copy a file to the printer from the DOS prompt, use the copy command <code>COPY filename LPTn /B</code> (where <i>n</i> is the number of printer port, such as LPT1). <p>Note: To output the page, you may have to send a formfeed command from your computer or from the Job Control Menu.</p>

Printer Ignores Font, Format, or Tray Selection

Situation	Solution
Printer prints some wrong fonts or formats.	<ol style="list-style-type: none">1. The font is not present in the printer and must be downloaded by your software application or the proper font SIMM must be installed. Check your software program to ensure the correct printer driver has been installed and configured. To verify that the font or format you want is available, print a font list (see Chapter 4).2. Your software selected a substitute font for one that is not available in the printer. (See your software application manual for more information on font selection.)
Printer draws media from the wrong paper source.	<ol style="list-style-type: none">1. Be sure your software application is selecting the correct size of media.2. Ensure that the printer driver for your software application is correctly installed, configured, and capable of requesting desired size and type of media.3. The size of paper you are requesting is not in the tray you have selected. The printer draws paper from the next default tray with the correct size. Put the correct size paper in the tray and make sure it is adjusted correctly. Check Tray Menu for correct type, size (for Tray 1), as well as amount of paper available. For Trays 2–4 look at the size loaded and correct as needed.4. If you selected the optional 2000-Sheet Input Tray (Tray 4) and did not turn the printer off when installing it, the printer does not recognize it and draws paper from the next default paper size source. (Switch the printer OFF, then back ON, and the printer will recognize Tray 4.)
Printer prints in wrong personality.	<ol style="list-style-type: none">1. Ensure that the printer personality (such as PostScript) is installed in the printer (see Chapter 4).2. If your software application allows you to set personality, ensure that it is set for the correct one. If your software application does not allow you to select personality, set the PERSONALITY item in the CONFIGURATION MENU to the correct personality (see Chapter 4).
Control panel settings, such as resolution or orientation, do not work or are ignored.	Software commands override control panel settings. (See Chapter 4 for information about how your software works with control panel settings.)

Problems with Tray 1

Situation	Solution
Cannot clear manual feed messages	A previous print job may still be in the printer's buffer. Go to the Job Control Menu and select FORMFEED .
Cannot print from Tray 1	Check to be sure you have selected Manual Feed or Tray 1 through your software application for the size and type for which the tray is configured. For Manual Feed, wait for the printer to request the manual feed before loading the media.
Paper is loaded into Tray 1, and the control panel displays a load or manual feed message	Load the correct media in the tray. See Chapter 5 for information on loading Tray 1. If the correct media is already loaded, press On Line so the printer will use that media.

Problems with Tray 2 and Tray 3

Situation	Solution
General operation problems	For general paper operation information, see Chapter 5, "Print Tasks."
Paper jams and paper feeding problems	<ol style="list-style-type: none"> 1. See "Paper Jams" later in this chapter. 2. Ensure that paper weight is within recommended range. See Chapter 5 for media specifications (Table 5-1) and media use guidelines (Table 5-2).
Cannot access Tray 2 or Tray 3	<ol style="list-style-type: none"> 1. The printer selects paper from trays in a certain priority; see Chapter 5. 2. Software application paper size and type must be selected for the same media size and type as loaded in Tray 2 or 3. 3. Ensure that the tray is adjusted correctly for the paper size you are using. See Chapters 4 and 5 for more information. 4. Check the Tray Menu for correct type of paper available.
LOAD TRAY x SIZE Type media size message	<ol style="list-style-type: none"> 1. Load the requested media size. 2. Set the media type. (See Chapter 4.)

Problems with Accessories

Optional 2000-Sheet Input Tray (Tray 4)

Situation	Solution
Media size adjustment and installation	See Chapter 5.
Paper jams and paper feeding problems	<ol style="list-style-type: none">1. See “Paper Jams” later in this chapter.2. Ensure that the paper weight is within recommended range. See Chapter 5 for media specifications (Table 5-1) and media user guidelines (Table 5-2).3. Don't pull a paper tray out while printing.4. Check cables and connectors between units.5. Make sure media is fully and correctly loaded.6. Make sure the paper guides are adjusted properly, and not skewed. See Chapter 5 for more information on adjusting the guides.
Cannot access Tray 4.	<ol style="list-style-type: none">1. Ensure that the paper tray guides are adjusted correctly for the paper size you are using. (See Chapter 4.)2. Check Tray Menu for correct type of paper in Tray 4.
Printer does not recognize Tray 4.	<ol style="list-style-type: none">1. Ensure the 2000-Sheet Input Tray has been installed in your printer driver. Refer to Chapter 3 for more information on accessing the printer driver.2. Ensure that the cable from the Tray 4 base is plugged into the printer. If not, turn the power OFF and plug the cable into the printer, then switch the printer ON again.3. If the printer still does not recognize Tray 4, contact your dealer or authorized HP service provider.
Refer to “Problems in Tray 2 and Tray 3” earlier in this chapter. These problems can occur in Tray 4, too.	

Optional Envelope Feeder

Situation	Solution
Envelope jams and envelope feeding problems	<ol style="list-style-type: none">1. Make sure the envelopes are within the specification listed in Chapter 5 and the <i>HP LaserJet Printer Family Paper Specification Guide</i>.2. Make sure the envelopes are properly loaded .3. Make sure the envelope lever is down.4. Make sure the envelope feeder extension is fully pulled out .
Printer does not recognize Envelope Feeder.	<ol style="list-style-type: none">1. Remove and re-install the Envelope Feeder2. Ensure the Envelope Feeder has been installed in your printer driver. Refer to Chapter 3 for more information on accessing the printer driver.

Printer Hard Disk

Situation	Solution
Printer does not recognize disk.	Turn power off and verify that the ribbon cable that connects the disk to the printer is securely fastened.
Disk is not initialized. (Control panel displays 30.1.0 DISK NOT INITIALIZED.)	Use the Windows based HP JetAdmin utility or the Macintosh based HP LaserJet Utility to initialize the disk.
Disk failure. (Control panel displays 31.1.0 DISK FAILURE.)	Turn power off and verify that the ribbon cable that connects the disk to the printer is securely fastened. If the control panel message continues to be displayed, the disk drive needs to be replaced.
Disk write-protected.	Fonts and forms can not be stored on the disk when the disk is write-protected. Use the Windows based HP JetAdmin utility or the Macintosh based HP LaserJet Utility to initialize the disk.
Attempted to use a disk-resident font, but the printout substituted a different font.	If you are using PCL, print the PCL Font Page, and verify that the font is on the disk. If you are using PostScript, print the PostScript Font Page and verify that the font is on the disk. IF the font is not on the disk, use the Windows based HP JetAdmin utility or the Macintosh based HP LaserJet Utility to initialize the disk.

Optional SIMM Board Troubleshooting

Situation	Solution
61.x SERVICE where x = 0, 1, 2, 3, or 4.	This error indicates a SIMM parity error. The x indicates which SIMM slot generated the error. If x = 0, the slot with the defective SIMM could not be determined. Check the HP part number to make sure you have the right SIMM board; if you do, see the checking procedure for 61.x SERVICE and 62.x ERROR below.
62.x ERROR where x = 0, 1, 2, 3, or 4.	This error indicates that your printer has identified a problem while checking memory. If x = 0, the problem is in internal Read-Only Memory (ROM); see your HP service representative. If x = 1, 2, 3, or 4, the problem is in SIMM slot 1, 2, 3, or 4.
63 NEEDS SERVICE / 63 SERVICE	This indicates that the printer has found a problem in its internal RAM memory. Switch your printer OFF, and then ON, to clear the error. If the message reappears, call your authorized HP dealer or service representative.

To check memory for the 61.x SERVICE and 62.x ERROR messages:

- 1 Switch the printer OFF, then back ON (*data will be lost*).
- 2 If the error message appears again, switch your printer OFF and verify that the SIMM board is installed correctly; then switch your printer ON.
- 3 If the error message appears again, switch your printer OFF and remove the SIMM board(s); then switch your printer back ON.
- 4 If the error message appears again, the problem is in printer memory. If the error message does not appear, the problem is in SIMM memory. Call your HP service representative.

SIMM Validation Error Messages

Validation error messages appear when a SIMM fails to be initialized when the printer is turned on. This error is in the format 53.XY.ZZ ERROR. Table 7-1 lists these errors.

Table 7-1 Validation Error Messages

X (Hardware Type)	Y (Hardware Device)	ZZ (Error Number)
0: ROM 1: RAM	0: Internal Memory 1: SIMM Slot 1 2: SIMM Slot 2 3: SIMM Slot 3 4: SIMM Slot 4	0: Unsupported memory 1: Unrecognized memory 2: Unsupported memory size 3: Failed RAM test 4: Exceeded maximum RAM size 5: Exceeded maximum ROM size 6: Invalid SIMM speed 7: SIMM reporting information incorrectly 8: SIMM RAM parity error 9: (n/a) 10: SIMM address conflict 11: ROM out of bounds 12: Could not make temporary mapping

Although these errors can be ignored, the SIMM that caused the error will not be configured. You can still print if the SIMM has more than one bank of memory.

PostScript Troubleshooting

Situation	Solution
A text listing of PostScript commands prints instead of your PostScript printing job.	The control panel <code>PERSONALITY=AUTO</code> setting may have been confused by a nonstandard PostScript code. Check <code>PERSONALITY=</code> to see if it is set to <code>POSTSCRIPT</code> or <code>PCL</code> . If it is set to <code>PCL</code> , set it to <code>PERSONALITY=AUTO</code> . If it is set to <code>AUTO</code> , set it to <code>POSTSCRIPT</code> for this print job only. When the job has printed, return the setting to <code>AUTO</code> .
The job prints in Courier (the printer's default font) instead of the font you requested.	<p>The requested typeface is not available in the printer or is not present on the disk. Use a font download utility to download the desired font.</p> <p>Fonts downloaded to memory are lost when the printer is switched OFF. They are also lost if Resource Saving is not used and a personality switch is performed to print a PCL job. Disk fonts are not affected by PCL jobs or by switching the printer to OFF.</p> <p>Print a PostScript Font Page to verify that the font is available. If a disk font appears to be missing, it may be because a software utility was used to delete the font, because the disk was re-initialized, or because the disk drive is not installed correctly. Print a configuration page to verify that the disk drive is installed and functioning correctly.</p> <p>Print a Disk Directory to aid you in identifying available fonts.</p>
A page prints with clipped margins.	If the page margins are clipped, you may have to print the page at 300-dpi resolution or install more memory. Also try turning Resource Saving and I/O Buffering OFF.
A page fails to print.	Set <code>PRINT POSTSCRIPT ERRORS=ON</code> , and then send the job again to print a PostScript error page. If an error page prints, refer to the next table entry "A PostScript error page prints." If this does not correct the problem try turning Resource Saving and I/O Buffering OFF, or installing more memory. (See Chapters 2 or 4 for more information about PostScript printing.)
A PostScript error page prints.	<p>Make sure the print job is a PostScript job. Check to see whether your software expected you to send a setup or PostScript header file to the printer. Check the printer setup in your software application to ensure that the printer is selected. Check cable connections to ensure that they are secure.</p> <p>Reduce the complexity of the graphic. Add available memory by turning on Resource Saving.</p>

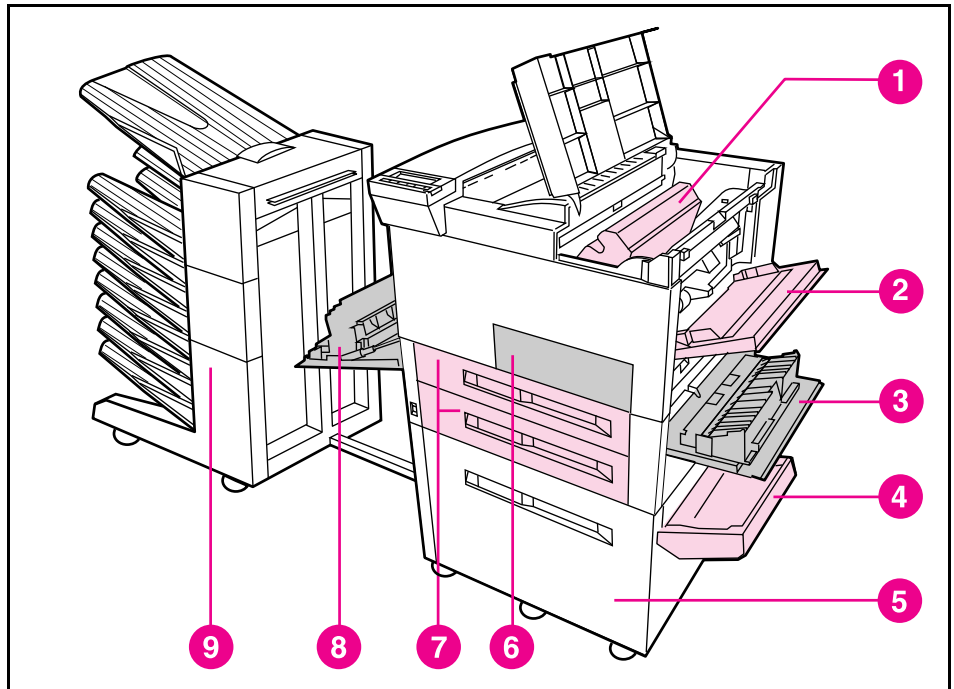
Paper Jams

If one of these messages appears in the display panel:

- 13.x PAPER JAM CLEAR 1 PAGE
- 13.x PAPER JAM CLEAR n PAGES
- 13.0 PAPER JAM CLEAR PRINTER

The X is a number for a specific jam, and the N is the number of pages in the printer. Look for jammed paper in any of the locations indicated in Figure 7-1. Removing media from these areas is discussed in this section. The following pages explain the jam clearing process in more depth.

Figure 7-1



Paper Path Jam Locations

- | | |
|--------------------------------------------|-------------------------------|
| 1. Toner cartridge area | 6. Front door |
| 2. Tray 1 pick-up roller and feed area | 7. Tray 2 and Tray 3 |
| 3. Right door | 8. Left door |
| 4. Vertical transfer door | 9. Optional Multi-Bin Mailbox |
| 5. Optional 2000-Sheet Input Tray (Tray 4) | |

Note

Open and close all printer covers to clear the paper jam message. After removing a sheet of paper you may need to check other areas to ensure that all paper has been removed.

Whenever a sheet of jammed paper becomes badly shredded it is a good idea to carefully piece all parts together to be sure you haven't overlooked some small part. All portions of a jammed piece of paper must be removed or you may run into repeated jams.

If after you clear a paper jam (by following the procedures on the next few pages) the printer still jams, there are a few things you can do:

- If you have PostScript installed, use the `JAM RECOVERY=ON` menu item under the PostScript Menu. The printer will attempt to automatically recover from paper jams.
- Execute a formfeed from the computer or the printer's control panel (a menu item under the Job Control Menu). A formfeed may flush any paper or envelopes left in the printer.
- Check to make sure you have located and removed all scraps of paper from inside the printer.
- Use the Error Log Page and Error Codes to aid you in isolating where the errors are occurring. (See Chapter 4 "Error Log Page," and the "Printer Messages" table at the end of this chapter.)

Also refer to "Repeated Paper Jams" later in this chapter.

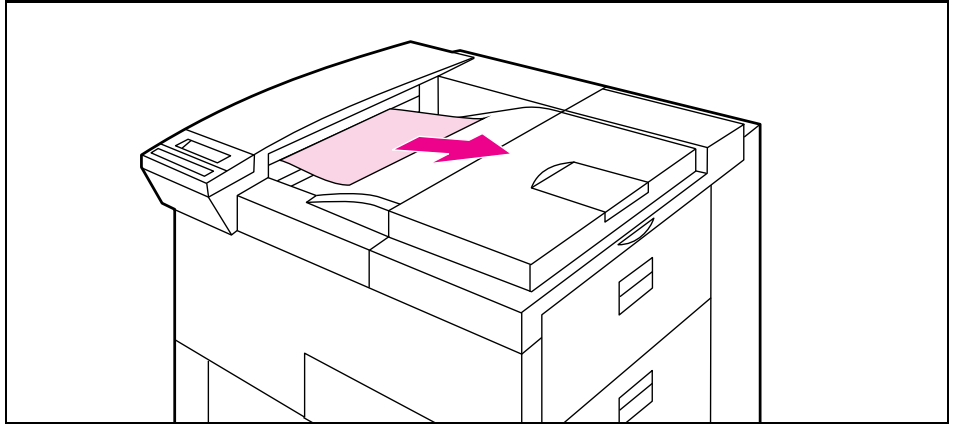
Paper jams occur most often when:

- Paper trays are not correctly loaded (see Chapter 5, "Print Tasks").
- Your print media does not meet the specifications listed in Chapter 5.
- The media is in poor condition.
- The printer needs cleaning.

Clearing the Top Output Bin

If the paper jam extends into the output area, as shown in Figure 7-2, slowly and *carefully* pull the paper straight out of the printer so it doesn't tear.

Figure 7-2

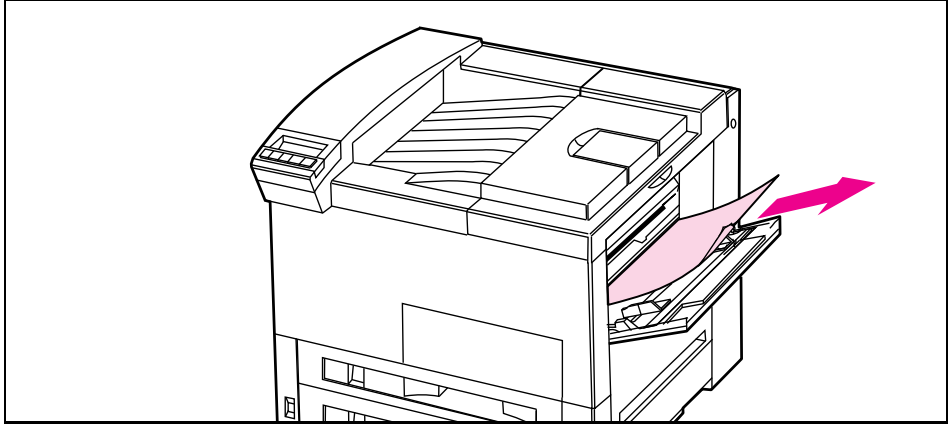


Top Output Bin

Clearing Tray 1

- 1 Open the door of Tray 1.
- 2 Check for paper in the pick-up roller of Tray 1.
- 3 Remove any paper from this area by pulling it in the direction shown by the arrow in Figure 7-3.
- 4 Remove any and all pieces of torn paper. Carefully check to be sure you have removed all scraps.

Figure 7-3

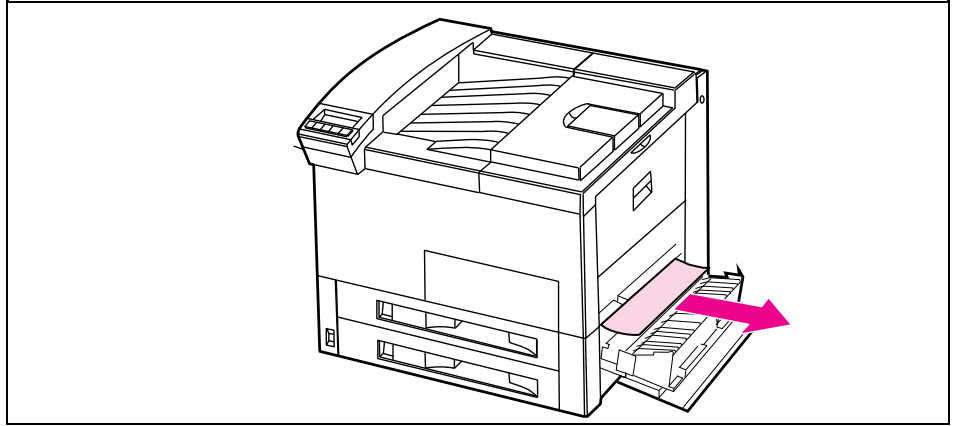


Paper Tray 1

Clearing the Right Door

- 1 Open the right door located below Tray 1.
- 2 Check for paper jammed in the pick-up roller of Tray 2 or 3.
- 3 Open the jam access cover.
- 4 Remove any paper from this area by pulling it in the direction shown by the arrow in Figure 7-4.
- 5 Remove any and all pieces of torn paper. Carefully check to be sure you have removed all scraps.

Figure 7-4



Right Door

Clearing the Top Cover

- 1 Open the top cover.
- 2 Remove the toner cartridge.

WARNING

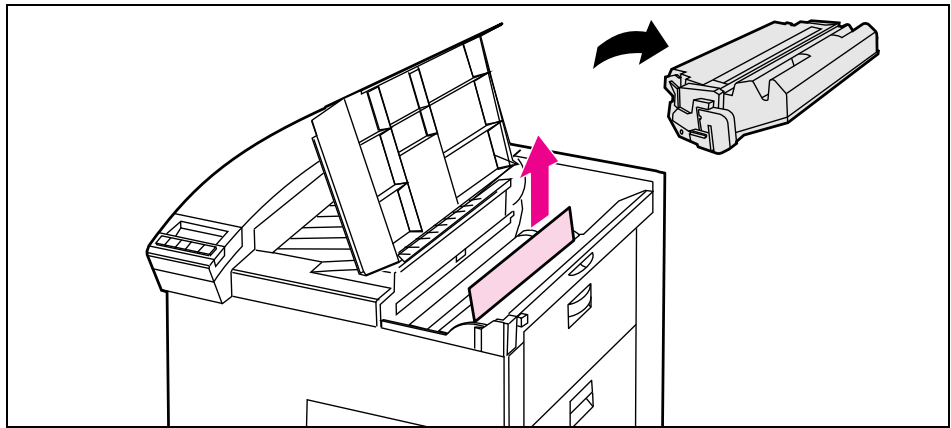
Avoid touching the adjacent fusing area. It may be HOT.

- 3 Remove any paper in this area by pulling it in the direction shown by the arrow in Figure 7-5.
- 4 Remove any and all pieces of torn paper. Carefully check to be sure you have removed all scraps.

Note

Lift both green user tabs on the jam access covers under the toner cartridge to clear any jams that may be hidden.

Figure 7-5



Top Cover

Clearing the Front Door (Duplex Area)

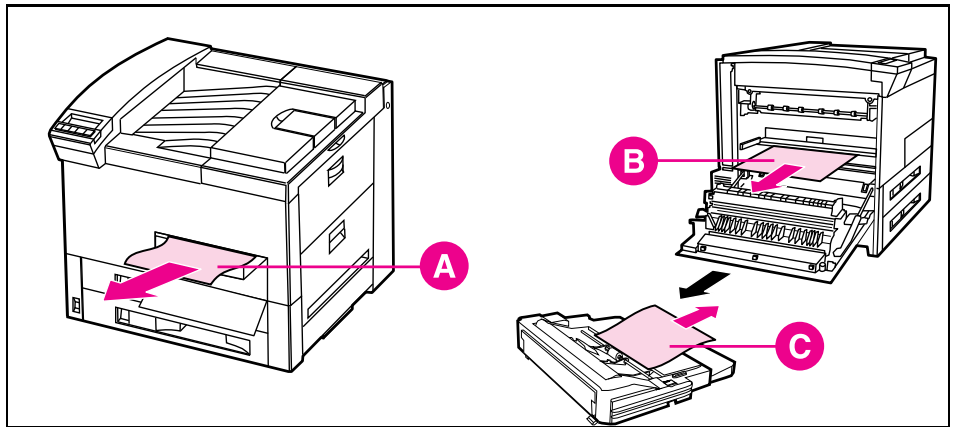
- 1 Open the front door.
- 2 Check for paper jammed in this area.
- 3 Remove any paper by pulling it in the direction shown by the arrow (A) in Figure 7-6. Be careful not to tear the page.
- 4 If you cannot remove all the paper from the front door, lower the left door and carefully pull out any jammed paper (B).

WARNING

Avoid touching the adjacent fusing area. It may be HOT.

- 5 If a Duplex Unit is installed, remove it.
- 6 Remove any remaining paper (C).
- 7 Reinstall the Duplex Unit, if removed, and close the doors.

Figure 7-6



Front Door (Duplex Area)

- A. Front door jam
- B. Left door jam (Duplex Unit area)
- C. Duplex Unit removed (showing jammed paper)

Note

After removing a sheet of paper, you may need to check other areas to ensure that all paper has been removed. Whenever a sheet of jammed paper becomes badly shredded, it is a good idea to carefully piece all parts together to be sure you haven't overlooked some small part. All portions of a jammed piece of paper must be removed, or you may run into repeated jams.

Clearing the Left Door (Fuser Area)

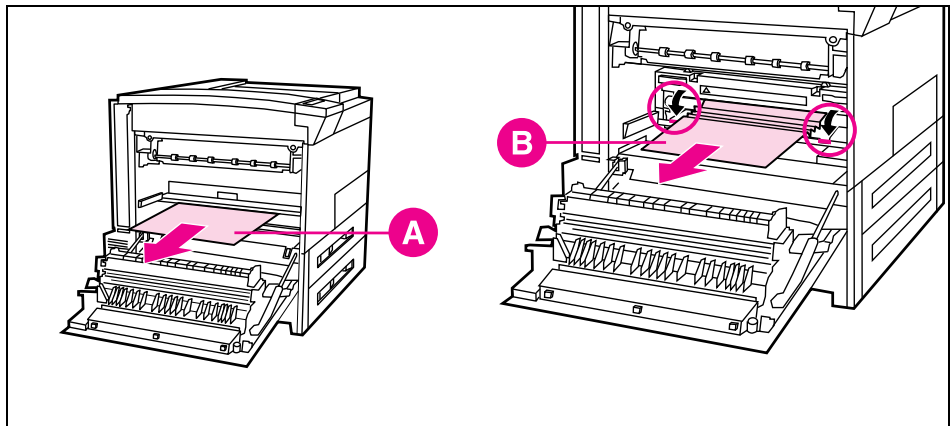
- 1 Open the left door.

WARNING

Avoid touching the adjacent fusing area. It may be HOT.

- 2 Remove any jammed or damaged paper from this area by pulling it in the direction shown by the arrow (A) in Figure 7-7.
- 3 Lower the two green tabs and carefully check for additional pieces of paper. Remove all scraps.
- 4 Close the door.

Figure 7-7



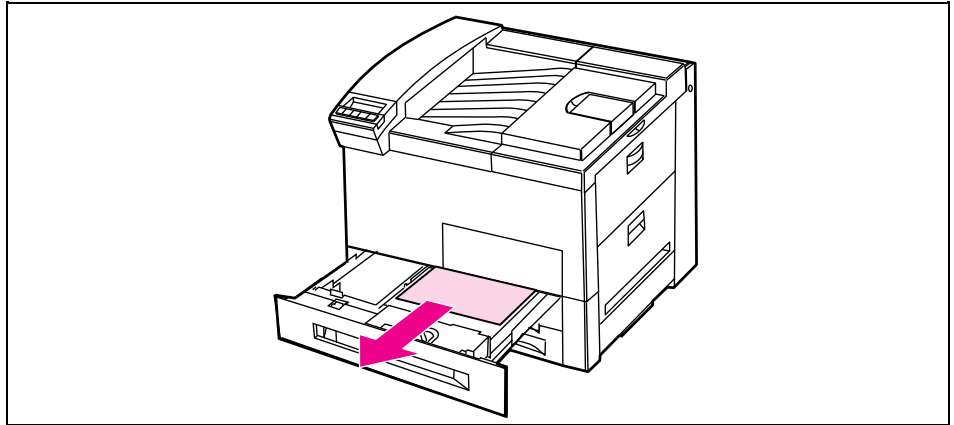
Left Door

- A. Left door jam (fuser area)
- B. Fuser area jam

Clearing Tray 2 (or Tray 3)

- 1 Slide the tray open.
- 2 Remove jammed or damaged paper from this area by pulling it in the direction shown by the arrow in Figure 7-8.
- 3 Be sure to clear any torn pieces of paper.
- 4 Push the tray into the printer.

Figure 7-8



Tray 2 (Tray 3 is below Tray 2)

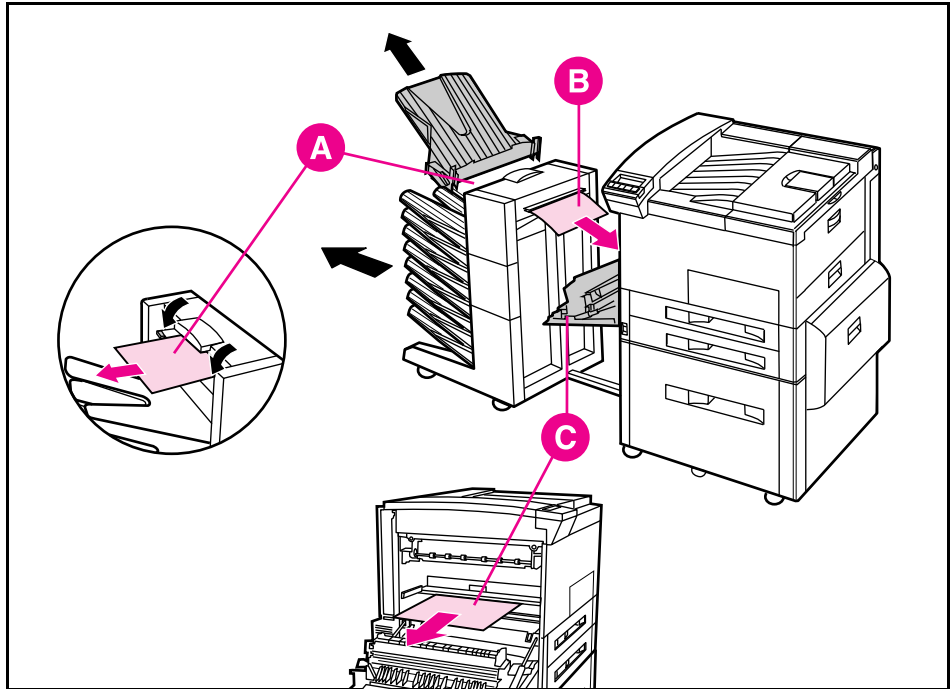
Clearing the Optional Multi-Bin Mailbox

- 1 Refer to (A) and clear paper from the jammed area by carefully pulling it in the direction shown by the arrow in Figure 7-9.
- 2 Check for loose pieces of paper as illustrated in (B). Carefully remove all scraps.
- 3 Also check the area illustrated in (C).
- 4 Close the vertical transfer unit.

Note

After removing a sheet of paper you may need to check other areas to ensure that all paper has been removed. Whenever a sheet of jammed paper becomes badly shredded, it is a good idea to carefully piece all parts together to be sure you haven't overlooked some small part. All portions of a jammed piece of paper must be removed or you may run into repeated jams.

Figure 7-9



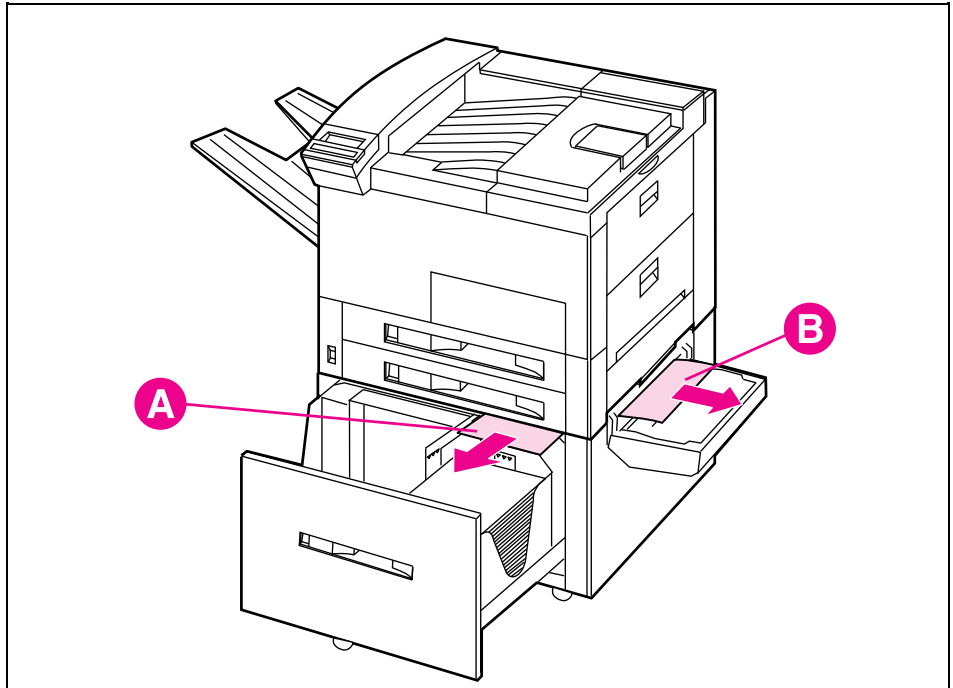
Optional Multi-Bin Mailbox

- A. Multi-Bin Mailbox output area
- B. Multi-Bin Mailbox input area
- C. Fuser area jam

Clearing the Optional 2000-Sheet Input Tray (Tray 4)

- 1 Slide open Tray 4.
- 2 Remove damaged or jammed paper from area (A) by pulling it in the direction shown by the arrow in Figure 7-10.
- 3 Be sure to clear any torn pieces of paper.
- 4 Check the vertical transfer door and other areas for additional damaged or jammed paper; refer to area (B) in Figure 7-10.
- 5 Close the tray.

Figure 7-10



Optional 2000-Sheet Input Tray (Tray 4)

- A. Tray 4 jammed paper
- B. Vertical transfer door paper jam

Clearing the Optional Envelope Feeder

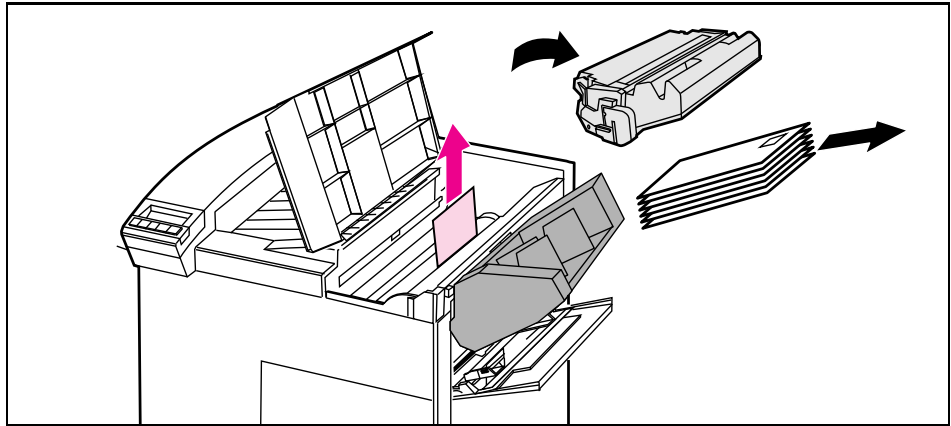
- 1 Open the top cover.
- 2 Remove toner cartridge.

WARNING

Avoid touching the adjacent fusing area. It may be HOT.

- 3 Remove any paper in this area by pulling it in the direction shown by the arrow in Figure 7-11.
- 4 Remove any and all pieces of torn paper. Carefully check to be sure you have removed all scraps. Lift both green user tabs to clear any jams that may be hidden.
- 5 You may need to remove the Envelope Feeder to release any jammed envelopes or scraps of paper.
- 6 After you are sure you have located all pieces of the envelope or paper, replace the Envelope Feeder and toner cartridge.

Figure 7-11



Optional Envelope Feeder

Repeated Paper Jams

Situation	Solution
General repeated paper jam problems	<ol style="list-style-type: none">1. Check to see that media is correctly loaded in trays, and that all width guides are correctly set (not skewed). (see Chapter 5, "Print Tasks.")2. Try turning over the stack of paper in the tray. If you are using letterhead paper, try printing from Tray 1.3. Do not use previously printed paper or torn, worn, or irregular paper. For the recommended paper and other media for your printer, see Chapter 5.4. Check the media specifications (if outside of the recommended specifications, problems may occur).5. Printer may be dirty. Clean the printer as described in the first section of this chapter.6. Check that paper loaded in Tray 1 is NOT longer than 17.7 in (450 mm) or wider than 11.7 in (297 mm). (These are the maximum dimensions that the printer can feed, otherwise the printer will jam.)7. Ensure that Tray 4 is set for the size of paper installed and that the tray is not overloaded with paper.

If jams continue, contact your authorized HP service provider.

Printer Messages

Table 7-2 lists and describes printer messages and suggests recommended actions.

Table 7-2

Message	Description	Recommended Action
READY	The default ready message. The printer is ready to use.	No action required.
OFFLINE	The printer is offline and cannot print data.	Press On Line .
WARMING UP	The printer is warming up and is not ready to accept data.	Wait until the printer signals READY. If necessary, press On Line .
POWER SAVE ON	The printer is in Power Save mode. In Power Save mode all control panel keys operate normally. (See "Configuration Menu" in Chapter 4.)	No action required. The job prints when the fuser has warmed (about 45 seconds).
PERFORM USER MAINTENANCE	This message indicates that the printer requires routine maintenance. It will replace the READY message until it is cleared.	Purchase a maintenance kit and install the new parts. Then remove the message by turning SERVICE MESSAGE= OFF in the CONFIGURATION MENU.
PRINTING CONFIGURATION PAGE	The printer is printing a configuration page.	No action required.
PRINTING FONT LIST	The printer is printing a font list. (Note that PCL/PostScript formats are the same.)	No action required.
PRINTING DEMO PAGE	The printer is printing a Demonstration Page.	No action required.
RESTORING FACTORY SETTINGS	The printer returns almost all defaults to their factory default configurations.	Reconfigure your printer and MIO. When you install an MIO card(s), to reinitialize the printer's control panel you may need to perform a cold reset. (Note: In a shared environment, this task should only be performed by the system administrator.) To perform a cold reset, hold down On Line while switching the printer ON until RESTORING FACTORY SETTINGS appears in the display.
CLOSE PRINTER COVERS	One of the printer's covers or doors is not firmly closed, or your toner cartridge is not installed correctly.	Make sure your toner cartridge is fully seated and the printer top cover or doors (left, front, and right) are firmly closed.
ACCESS DENIED	Your network administrator has locked out access to the control panel menu system, except for the Test Menu and Tray 1 size.	See your network or printer administrator.
INSTALL TONER CARTRIDGE	The toner cartridge is not installed correctly or is not installed.	Insert a toner cartridge or make sure the cartridge is fully seated and the covers are fully closed, then press On Line to resume.

Continued on the next page.

Table 7-2

Printer Messages, *continued*

Message	Description	Recommended Action
LOAD TRAY X <media type> <paper size> or LOAD ENV FEEDER <media type> <paper size>	The printer received a request for a media type, or paper/envelope size not available in the printer.	Load the indicated tray with the correct media, or see Chapter 4 or 5 to change the media size and type through the control panel.
MANUAL FEED TRAY 1 <media type> <paper size>	The printer received a request for a media of a certain type and size to be manually fed in Tray 1.	Load the correct media in the tray. See Chapter 5 for information on loading Tray 1. If the correct media is already loaded, press On Line so the printer will use that media.
TONER LOW	The toner cartridge is running out of toner.	Shake the toner cartridge or replace it. Press Select * to override the stopped condition and continue printing.
HP MIO 1 INITIALIZING or HP MIO 2 INITIALIZING	The MIO card(s) are initializing. This is a status message; during initialization the MIO is not active, but since the printer supports I/O switching, the printer remains online.	No action required. Display clears automatically (this may take up to five minutes, depending on the card). However, if the message remains after five minutes a problem does exist. Contact your network administrator or consult the network documentation that came with your MIO card.
FINISHER SUPPLY OUT <output device>	The outputdevice listed is out of finishing material. For example, there are no more staples.	Refill the needed material.
FINISHER LIMIT REACHED <output device>	The outputdevice listed has reached the maximum amount of media it is capable of processing.	Remove the media so the device may continue processing print jobs.
FINISHER ALIGN ERROR <output device>	The output device listed has misaligned the media to be bound.	Clear the media.
FINISHER MALFUNCTION <output device>	The output device listed is in an error condition.	Refer to the finisher's documentation for more information.
13.x PAPER JAM CLEAR n PAGES 13.x PAPER JAM CLEAR 1 PAGE or 13.x PAPER JAM CLEAR THE PRINTER	Paper is jammed in the printer.	Remove jammed paper from under the toner cartridge, the right door, the front door, and the left door (see "Paper Jams" in this chapter).
20 MEMORY OVERFLOW DATA LOST	The printer received more data from the computer than can fit in its available user memory.	Press Select * to print the transferred data (data loss may result). Then make more memory available in the printer by removing some fonts, macros, or any other data from memory; simplify the page sent to the printer; or install additional memory. (Note: if AUTO CONTINUE=ON the printer will automatically continue printing when this error occurs.)
21 PRINT OVERRUN DATA LOST	The data (dense text, rules, raster or vector graphics) sent to the printer was too complex.	Press Select * to resume printing. (Note: if AUTO CONTINUE=ON the printer will automatically continue printing when this error occurs). You may lose some data. Try to simplify your print job.

Continued on the next page.

Table 7-2

Printer Messages, *continued*

Message	Description	Recommended Action
22 PARALLEL I/O ERROR CHECK SETUP	For Bi-Tronics parallel (PAR) configuration, the computer and printer are not communicating because of improper signal protocols. Check both computer and printer I/O settings.	Press Select * to clear the error message (data will be lost). If the error continues, call your authorized HP dealer or service representative.
22 HP MIO 1 I/O ERROR CHECK SETUP (or HP MIO 2)	For the MIO error, this is an I/O buffer overrun error.	For the parallel configuration, check for loose cable; use a high-quality cable (see Chapter 1 or the <i>Getting Started Guide</i> for HP cable part numbers and information). (Note: some non-HP parallel cables may be missing pin connections.) If you are using an I/O other than the Bi-Tronics parallel I/O, see the manual for that device or contact your dealer. If you are on a network, contact your network administrator.
30.x.y DISK NOT INITIALIZED	The indicated disk not initialized.	Press Select * to continue. Use the Windows based HP JetAdmin utility or the Macintosh based HP LaserJet Utility to initialize the disk.
30.x.y DISK FAILURE	The indicated disk has failed self test.	Press Select * to continue. Turn power off and verify that the ribbon cable that connects the disk to the printer is securely fastened. If the control panel message continues to be displayed, the disk drive needs to be replaced.
31. X.Y DISK FAILURE	The printer detected a disk failure.	Printer operation may continue, if access to the disk is not required. Press Select * to continue printing when this error occurs. Call service to repair or replace the disk.
40.1 HP MIO ERROR 40.2 HP MIO ERROR	An abnormal connection break occurred while transferring data from the computer. Error 40.1 is for port 1 (upper slot), and error 40.2 is for port 2 (lower slot).	(If you are using an I/O other than the Bi-Tronics parallel I/O, refer to the user's manual for that product.) Press Select * to clear the error message. I/O connections on that MIO card will not be used.

Continued on the next page.

Table 7-2

Printer Messages, *continued*

If the following errors persist, call your HP-authorized service provider.		
Message	Description	Recommended Action
41.1 GENERAL MISPRINT ERROR 41.2 BEAM DETECT MALFUNCTION 41.3 IMPROPER PAPER SIZE 41.4 NO VIDEO SYNC 41.5 NOISY VIDEO SYNC REQ SIGNAL	A nonfatal error has occurred in the printed page.	Press Select * and attempt to continue. If problem persists, power-cycle the printer. These error messages are saved in the Error Log.
50.x FUSER ERROR CYCLE POWER	The printer identified an internal service error (hardware problem with fuser). 50.1 Fuser low-temperature failure 50.2 Fuser warm-up failure (timed out) 50.3 Fuser over-temperature failure 50.4 Bad fuser	Power-cycle the printer. These error messages are saved in the Error Log.
51.x ERROR CYCLE POWER	The printer detected a laser sub-system problem. 51.1 Beam detection malfunction 51.2 Laser malfunction	Power-cycle the printer. These error messages are saved in the Error Log.
52.x ERROR CYCLE POWER	The printer detected a scanning sub-system problem. 52.1 Scanner startup failure 52.1 Scanner rotation failure	Power-cycle the printer. These error messages are saved in the Error Log.

Continued on the next page.

Table 7-2

Printer Messages, *continued*

If the following errors persist, call your HP-authorized service provider.		
Message	Description	Recommended Action
53.XY.ZZ MEMORY ERR CYCLE POWER	<p>An error occurred during configuration and validation of SIMM memory:</p> <p>X (Hardware Type): 0: ROM 1: RAM</p> <p>Y (Hardware Device): 0: Internal Memory 1: SIMM Slot 1 (closest to processor) 2: SIMM Slot 2 3: SIMM Slot 3 4: SIMM Slot 4</p> <p>ZZ (Error Number): 0: Unsupported memory 1: Unrecognized memory 2: Unsupported memory size 3: Failed RAM test 4: Exceeded maximum RAM size 5: Exceeded maximum ROM size 6: Invalid SIMM speed 7: SIMM reporting information incorrectly 8: SIMM RAM parity error 9: Not used 10: SIMM address conflict 11: ROM out of bounds 12: Could not make temporary mapping</p>	Make sure your SIMM board is installed correctly (see Appendix C, "Memory and Personality SIMM Installation"). Replace the SIMM that caused the error. Select * will allow you to continue but the SIMM that caused the error will not be configured. If the SIMM device has more than one bank of memory, the good banks will be configured.
54 2-SIDED ERROR CHECK DUPLEXER	There is a Duplex Unit guide malfunction.	Remove and re-install the Duplexer Unit. If error continues, call service.
55.xx ERROR PRESS SELECT KEY	Printer command error; commands cannot be exchanged between the print engine and its formatter board.	Press Select * to resume operation. If necessary turn the printer OFF and then ON..
56.x ERROR PRESS SELECT KEY	<p>An input source/destination output bin has been requested.</p> <p>56.1 Invalid input source 56.2 Invalid output destination (for example, improper media size being sent to duplexer)</p>	<p>Press Select * to resume operation.</p> <p>Correct invalid request(s).</p> <p>If necessary turn the printer OFF and then ON..</p>

Continued on the next page.

Table 7-2

Printer Messages, *continued*

If the following errors persist, call your HP-authorized service provider.		
Message	Description	Recommended Action
57.x FAN FAILURE CALL SERVICE	One of the cooling fans has failed.	Turn printer off and call service immediately. Do not operate with this condition.
58.x PRINTER ERROR CYCLE POWER	One of the input paper tray lifters has failed.	Press Select to resume operation. Note: the tray indicated by this error will be ignored until the next power cycle.
59.x PRINTER ERROR CYCLE POWER	There is a problem with the main motor.	Cycle printer's power. If this does not resolve the error, call service.
61.x PRINTER ERROR CYCLE POWER X=0 - 4	The printer encountered a parity error when accessing internal RAM or some SIMM memory in slot x. 0: Internal memory 1: SIMM slot 1 2: SIMM slot 2 3: SIMM slot 3 4: SIMM slot 4	Switch the printer OFF and then ON (data stored in printer will be lost). If the error is still present, first verify that the SIMM board is correctly installed. Switch the printer ON. If the error is still present, switch the printer OFF and remove the SIMM board. Switch the printer back ON. If the error message does not appear, the problem is on the SIMM. See Appendix C, "Memory and Personality SIMM Installation," for more information.
62.x PRINTER ERROR CYCLE POWER X=0 - 6	The printer identified a CRC error while checking its memory. x refers to the memory the printer was checking when it encountered the error. 0: Internal memory 1: SIMM slot 1 2: SIMM slot 2 3: SIMM slot 3 4: SIMM slot 4	Switch the printer OFF and then ON (data stored in printer will be lost). If the error is still present, first verify that the SIMM board is correctly installed. Switch the printer ON. If the error is still present, switch the printer OFF and remove the SIMM board. Switch the printer back ON. If the error message does not appear, the problem is on the SIMM. See Appendix C, "Memory and Personality SIMM Installation," for more information.
64 PRINTER ERROR CYCLE POWER	The printer identified a scan buffer error.	Cycle printer's power. If this does not resolve the error, call service.
65 PRINTER ERROR CYCLE POWER	The printer identified a dynamic RAM controller error.	Cycle printer's power. If this does not resolve the error, call service.
66.x.yy DEVICE ERROR CYCLE POWER	The printer identified a paper handling controller error. x identifies the device (1–5) and yy is the error code (0–99). 0: Paper Handling Controller (PHC) 1: First device attached to the PHC 2: Second device attached to the PHC 3: Third device attached to the PHC 4: Fourth device attached to the PHC 5: Fifth device attached to the PHC	Cycle printer's power. Try disconnecting paper handling devices to aid in isolating the problem. If this does not resolve the error, call service.

Continued on the next page.

Table 7-2

Printer Messages, *continued*

If the following errors persist, call your HP-authorized service provider.		
Message	Description	Recommended Action
67 PRINTER ERROR	The printer identified a miscellaneous interface hardware error.	Cycle printer's power. If this does not resolve the error, call service.
68 ERROR CHECK CONFIGURATION	There is a checksum error in the printer's nonvolatile memory (NVRAM). Some or all of the menu items have been reset to the factory default values.	Check all menu settings; reset if necessary. Press Select to continue. If you switch the printer OFF and then ON, you may lose settings (to check settings, print a configuration page). If the error reappears, call your authorized HP dealer or service representative.
68 NVRAM FULL CHECK CONFIGURATION	The printer's nonvolatile memory (NVRAM) is full.	Press Select to continue. The system will automatically perform a cold reset and display RESTORING FACTORY SETTINGS. The system will complete initialization and return to the online condition.
70 ERROR or 71 ERROR CHECK CONFIGURATION	A firmware SIMM problem was identified (incompatibility between SIMM/hardware/BIOS).	Cycle printer's power. If this does not resolve the error, call service.
79 SERVICE (xxxx) CALL SERVICE	An internal controller error occurred. xxxx indicates the error type.	Switch the printer OFF and then back ON. If the error appears again, turn power OFF and remove any non-HP SIMM memory boards from the printer. Then switch the printer back ON. If the error appears again, record the numbers following the error message and call your authorized HP dealer or service representative.
80 SERVICE (xxxx) CALL SERVICE	The printer detected a problem in the MIO card. xxxx indicates the error type.	Switch the printer OFF and then back ON. If the error appears again, record the numbers following the error message and call your card supplier, or authorized HP dealer or service representative.

Calling for Help

If you try all the suggestions given in this manual and still need assistance, call the authorized Hewlett-Packard dealer where you purchased your printer. See appendix E for a listing of HP Sales and Service offices.

Customer Support Options US and Canada		
Customer Support Assistance	(208) 323-2551 Mon-Fri 6 a.m. to 6 p.m. (Mountain Time) <i>Free of charge during the Warranty Period. Please have your serial number ready when calling.</i>	
	Post-warranty telephone assistance is available to answer your product questions. (900) 555-1500 (\$2.50** per minute, US only) or call (800) 999-1148 (\$25** per call, Visa or Master Card, US and Canada) Mon-Fri 7 a.m. to 6 p.m. and Saturday from 9 a.m. to 3 p.m. (Mountain Time) <i>Charges begin only when you connect with a support technician.</i>	
Obtaining Printer Drivers	Phone:	(970) 339-7009
	Fax:	(970) 330-7655
	Mail:	Hewlett Packard P.O. Box 1754 Greeley, CO 80632
	Internet: Anonymous FTP to 192.6.71.2 or ftp.boi.external.hp.com	
	World-Wide Web: URL http://www.hp.com	
	HPBulletin Board Service: (208) 344-1691 and set your communication software to N,8,1	
	America On-Line: Type HP to start your tour, or call (800) 827-6364 and ask for representative 1118 to subscribe.	
	CompuServe: HP forum (GO HP), or call (800) 524-3388 and ask for representative #51.	
Accessories and Supplies	(800) 538-8787	
HP Support Assistant CD-ROM	This support tool offers a comprehensive online information system designed to provide technical and product information on HP products. To subscribe to this quarterly service in the US or Canada, call (800) 457-1762.	
HP Authorized Dealers and Service	(800) 243-9816 (US) (800) 387-3867 (Canada)	
Parts and Manuals	(800) 227-8164 (US) (800) 387-3154 (Canada)	
HP Repair Contracts	(800) 743-8308 (US) (800) 268-1221 (Canada)	
Software Application Notes and Audio Tips		
HP FIRST*	(800) 333-1917 (208) 344-4809	

* HP FIRST (Fax Information Retrieval Support Technology) is a no-charge, 24 hours self-help service that provides answers to the most common questions about your printer. Through HP FIRST, you can receive ordering information, software application notes and printer driver update request forms. Simply dial the HP FIRST number from a touch tone phone connected with a Group 3 Facsimile machine and follow the voice prompts that guide you to select an index of available support and product documents.

** Prices subject to change without notice.

Continued on the next page.

Customer Support Options Europe		
Customer Support Assistance	See the flyer included with printer.	
Obtaining Printer Drivers	Call HP First.	World-Wide Web: URL http://www.hp.com
Accessories and Supplies	See Appendix E.	
HP Authorized Service	See Appendix E.	
HP Dealer	See Appendix E.	
Software Application Notes		
HP FIRST*	United Kingdom	0-800-96-02-71
	Belgium	078-11-19-06
	Belgium (French)	078-11-70-43
	China	010-505-5280
	Germany	0130-8100-61
	France	05-90-5900
	Switzerland (German)	155-1527
	Switzerland (French)	155-1526
	Austria	0660-8128
	Finland	9800-13134
	Netherlands	06-02-22-420
	Norway	800-11319
	Denmark	800-10453
	Sweden	020-795743
	Taiwan	02-791-5589
English outside of U.K.	(31) 20-681-5792	

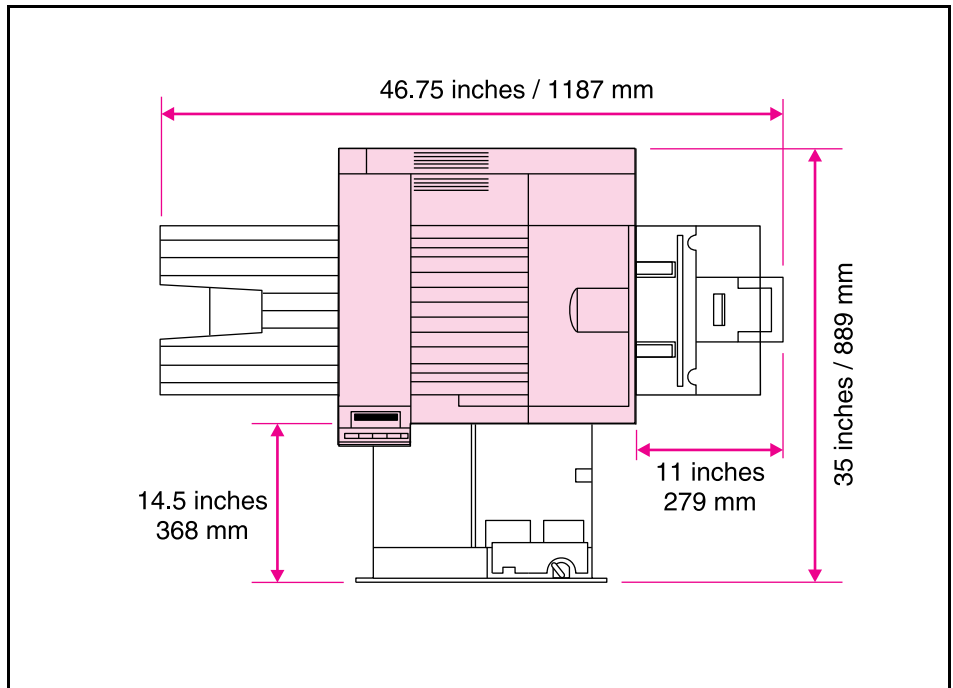
* HP FIRST (Fax Information Retrieval Support Technology) is a no-charge, 24 hours self-help service that provides answers to the most common questions about your printer. Through HP FIRST, you can receive ordering information, software application notes and printer driver update request forms. Simply dial the HP FIRST number from a touch tone phone connected with a Group 3 Facsimile machine and follow the voice prompts that guide you to select an index of available support and product documents.

Specifications

Location Requirements

Place your printer on a sturdy, level surface in a well ventilated room. The environment should be stable, with no abrupt changes in temperature or humidity and no exposure to direct sunlight or chemicals. Figure A-1 shows the suggested amount of space to leave around the printer. Leave adequate space to remove paper trays and to allow air circulation around vents to prevent overheating.

Figure A-1



Printer Clearance Dimensions

Printer Specifications

The following tables contain specifications for the HP LaserJet 5Si and 5Si MX printers.

Physical Dimensions

Height	21.3 in (540 mm)
Height of 2000-Sheet Input Tray	18.9 in (480 mm)
Width of the Printer	22.3 in (566 mm)
Width of the Multi-Bin Mailbox	19.5 in (495 mm)
Depth (body)	20.5 in (520 mm)
Weight (without toner cartridge and with paper cassette)	99 lb (45 kg)

Electrical Specifications

Power Requirements	100/120V (+/- 10%) 50/60Hz (+/- 2Hz) 127V, 60Hz (+/- 2Hz)	220/240V (+/- 10%) 50 Hz (+/- 2Hz)
Typical Power Consumption, 5Si	During printing, 500 W (average) During standby, 135 W (average) During Power Save, 21 W (average)	During printing, 500 W (average) During standby, 135 W (average) During Power Save, 21 W (average)
Typical Power Consumption, 5Si MX	During printing, 500 W (average) During standby, 135 W (average) During Power Save, 24 W (average)	During printing, 500 W (average) During standby, 135 W (average) During Power Save, 24 W (average)
Min. recommended circuit capacity, typical installation (5Si and 5Si MX)	13.5 Amps at 120 V	6.0 Amps at 220 V

Environmental Specifications

Item	Operating Printing	Storage/ Standby
Temperature (printer and toner cartridge)	50° to 91° F (10° to 32.5° C)	32° to 105° F (0° to 40° C)
Relative humidity	15% to 80%	15% to 90%

Acoustic Emissions

Operating Position	(Per ISO 9296)	Bystander 1m Position	(Per ISO 9296)	Sound Power Level	(Per ISO 9296)
Printing	L _{PA} 57 dB(A)	Printing	L _{PA} 50 dB(A)	Printing	L _{WAD} =6.6 bels(A)
Standby	L _{PA} 42 dB(A)	Standby	L _{PA} 38 dB(A)	Standby	L _{WAD} =5.5 bels(A)

Regulatory Statements

FCC Regulations

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

There is, however, no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate receiving antenna.
- Increase separation between equipment and receiver.
- Connect equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult your dealer or an experienced radio/TV technician.

Note

Any changes or modifications not expressly approved by HP could void the user's authority to operate this equipment. Use of a shielded interface cable is required to comply within the Class B limits of Part 15 of FCC rules.

Canadian DOC Regulations

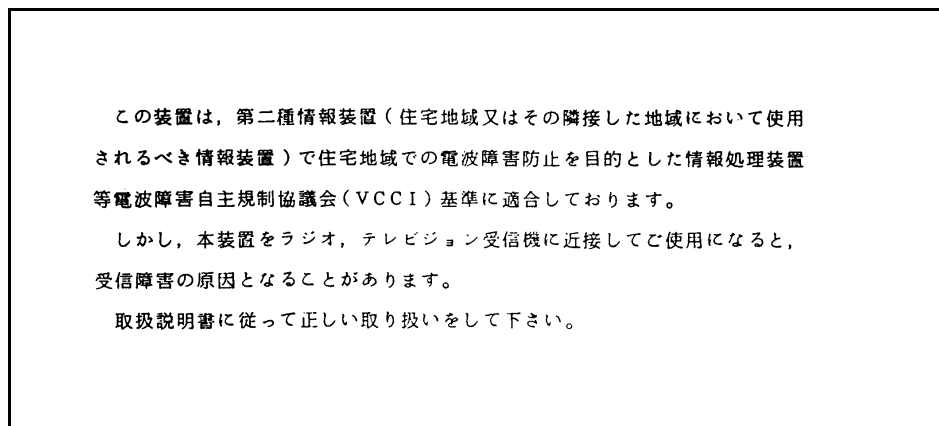
Complies with Canadian EMC Class B requirements.

<<Conforme à la classe B des normes canadiennes de compatibilité électromagnétiques. << CEM >> . >>

VCCI Statement (Japan)

The following VCCI statement, similar to the FCC regulations, is required in Japan.

Figure A-2



VCCI Statement (Japan)

Safety Information

Laser Safety

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration has implemented regulations for laser products manufactured since August 1, 1976. Compliance is mandatory for products marketed in the United States.

This printer is certified as a “Class 1” laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. Since radiation emitted inside this printer is completely confined within protective housings and external covers, the laser beam cannot escape during any phase of normal user operation.

WARNING

Never operate or service the printer with the protective cover removed from the Laser/Scanner Assembly. The reflected beam, although invisible, can damage your eyes.

Ozone Emission

The HP LaserJet 5Si and 5Si MX printers do not use high voltage corona wires in the electrophotographic process, and therefore generate no measurable ozone gas (O₃). Instead, these printers use charging rollers in the toner cartridge and in the print engine.

Material Safety Data Sheet (MSDS)

Toner Material Safety Data Sheet (MSDS) can be obtained by calling HP First at (800) 333-1917 or (208) 344-4809. HP First is a 24-hour Fax information service. International customers should refer to Appendix E for appropriate numbers and information.

Laser Statement for Finland

LASERTURVALLISUUS

LUOKAN 1 LASERLAITE KLASS 1 LASER APPARAT

HP LaserJet 5Si/5Si MX laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalisissa käytöissä kirjoittimen suojakotelointi estää lasersäteen pääsyn laitteen ulkopuolelle. Laitteen turvallisuusluokka on määritetty standardin EN 60825-1 (1994) mukaisesti.

VAROITUS !

Laitteen käyttäminen muulla kuin käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

WARNING !

Om apparaten används på annat sätt än i bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

HUOLTO

HP LaserJet 5Si/5Si MX -kirjoittimen sisällä ei ole käyttäjän huollettavissa olevia kohteita. Laitteen saa avata ja huoltaa ainoastaan sen huoltamiseen koulutettu henkilö. Tällaiseksi huoltotoimenpiteeksi ei katsota väriainekasetin vaihtamista, paperiradan puhdistusta tai muita käyttäjän käsikirjassa lueteltuja, käyttäjän tehtäväksi tarkoitettuja ylläpitotoimia, jotka voidaan suorittaa ilman erikoistyökaluja.

VARO !

Mikäli kirjoittimen suojakotelo avataan, olet alttiina näkymättömälle lasersäteilylle laitteen ollessa toiminnassa. Älä katso säteeseen.

WARNING !

Om laserprinterns skyddshölje öppnas då apparaten är i funktion, utsättas användaren för osynlig laserstrålning. Betrakta ej strålen.

Tiedot laitteessa käytettävän laserdiodin säteilyominaisuuksista:

Aallonpituus 775-795 nm
Teho 5 mW
Luokan 3B laser

DECLARATION OF CONFORMITY

according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name: Hewlett-Packard Company

Manufacturer's Address: 11311 Chinden Boulevard
Boise, Idaho 83714-1021, USA

declares that the product

Product Name: HP LaserJet 5Si and HP LaserJet 5Si MX* printers

Model Number: C3166A and C3167A*

Product Options: All

conforms to the following Product Specifications:

Safety: IEC 950:1991+A1 / EN 60950:1992
IEC 825-1:1993 / EN 60825-1 + A1:1990 laser class 1

EMC: CISPR-22:1985 / EN 55022:1988 class B¹
CISPR-22:1985 / EN 55022:1988 class A*
EN 50082-1:1992
IEC 801-2:1991 / prEN55024-2:1992 - 3 kV CD, 8 kV AD
IEC 801-3:1984 / prEN55024-3:1991 - 3 V/m
IEC 801-4:1988 / prEN55024-4:1992 - 0.5 kV Signal Lines, 1 kV Power Lines

Supplementary Information:

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC, and carries the CE marking accordingly.

¹ The product was tested in a typical configuration with Hewlett-Packard Personal Computer and Test Systems.

* This printer contains Local Area Network (LAN) options. When the interface cable is attached to either of the IEEE 802.3 connectors, the printer meets the requirements of EN55022 Class A.

Office of Quality Manager
Boise, Idaho USA
August 1, 1995

European Contact: Your local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department ZQ / Standards Europe, Herrenberger Straße 130, D-7030 Böblingen (FAX: + 49-7031-14-3143)

PCL Printer Commands (Escape Sequences)

Most software applications do not require you to enter printer commands. See your computer and software documentation to find the method to use for entering printer commands.

PCL printer commands tell the printer which tasks to perform or which fonts to use. This appendix is not intended to provide complete information about PCL commands, but only to provide a quick reference for users who are already familiar with PCL command structure.

Note

Table B-3 contains frequently used PCL commands. For a complete listing and explanation of how to form PCL, HP-GL/2, and PJI commands, see the *PCL/PJI Technical Reference Package*, which is described in “Supplementary Documents” at the front of this manual. (See Chapter 7, “Calling for Help,” for ordering information.)

PCL Printer Command Syntax

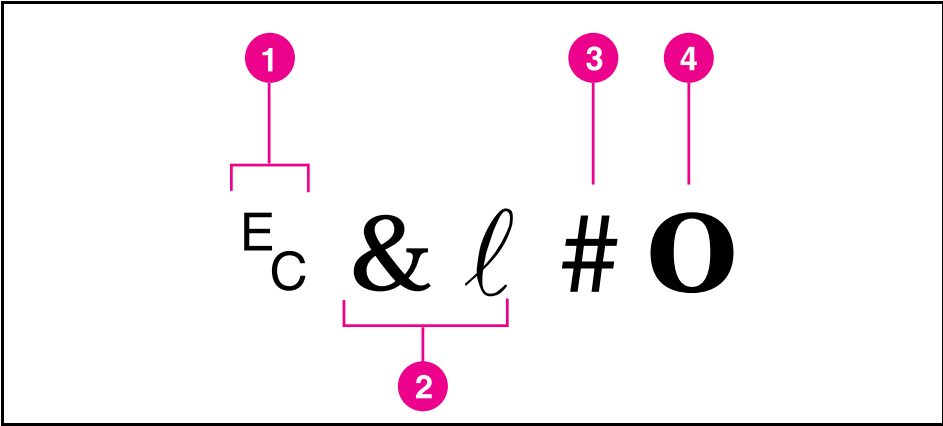
Before using printer commands, note these characters:

Lowercase l:	ℓ	Uppercase O:	O
Number one:	1	Number 0:	Ø

Many printer commands use the lowercase letter l (ℓ) and the number one (1), or the uppercase letter O (O) and the number zero (Ø). These characters may not appear on your screen as shown here. *You must use the exact character and case specified for PCL printer commands.*

Figure B-1 shows the elements of a typical printer command (in this instance a command for page orientation).

Figure B-1



Printer Command Syntax

- 1. Escape character (begins escape sequence)
- 2. Command category
- 3. Value field (contains both alpha and numeric characters)
- 4. Uppercase letter (terminates escape sequence)

Escape Character

Printer commands always begin with the escape character (`^C`). Table B-1 shows the escape character for various software applications. (The keyboard `Esc` key does not produce the escape character.) Check your software manual for additional information.

Table B-1

Software Escape Character Commands

DOS Software Package	What You Enter	What Appears on Screen
Lotus 1-2-3 and Symphony	Type <code>\027</code>	<code>Ø27</code>
Microsoft Word for DOS	Hold down <code>Alt</code> key and type <code>027</code> on the numeric keypad	<code>←</code>
WordPerfect for DOS	Type <code><27></code>	<code><27></code>
MS-DOS Editor	Hold down <code>CTRL</code> <code>P</code> then press <code>Esc</code>	<code>←</code>
MS-DOS Edlin	Hold down <code>CTRL</code> <code>V</code> then type <code>[</code>	<code>^[</code>
dBase	Type <code>?? CHR(27)+command</code>	<code>?? CHR(27)+command</code>

Setup Strings

Some software applications, like older versions of Lotus 1-2-3 for DOS, require setup strings with PCL printer commands. In the following example, the Lotus escape character (\027) is shown. This setup string is used to change the orientation to landscape and to select the small Line Printer font.

\027&l10\027(s0p16.67h8.5v0s0b0T

PCL Font Selection

PCL printer commands for selecting fonts appear in the PCL Typeface List (see Chapter 3, “Software and Printer Drivers”). An example from this list is shown below. Notice the two variable boxes for symbol set “E_c” and point size.

Univers Medium	Scale	<esc>(<div></div> <esc>(s1p <div></div> v0s0b4148T	I 01
----------------	-------	-----------------------------------------------------	------

If these variables are not filled in, the printer uses defaults. For example, if you want a symbol set that contains line-draw characters, select the 10U (PC-8) or 12U (PC-850) symbol set. Other common symbol set codes are listed in Table B-2. Order the *PCL/PJL Technical Reference Package* if you require symbol set charts or want more information.

Table B-2 Common Symbol Set Values

Code	Symbol Set	Code	Symbol Set
8U	HP Roman-8	19U	Windows 3.1 Latin 1
10U	IBM Layout (PC-8) (code page 437) Default Symbol Set	9E	Windows 3.1 Latin 2 (commonly used in Eastern Europe)
12U	IBM Layout for Europe (PC-850) (code page 850)	5T	Windows 3.1 Latin 5 (commonly used in Turkey)
8M	Math-8	579L	Wingdings Font

Point size (or pitch) is another variable. In the following example, “12U” has been filled in for the PC-850 symbol set and “12” for the point size. This printer command selects a 12-point Univers Medium font:

E_c(12U_{E_c}(s1p12v0s0b4148T

Frequently used PCL printer commands are shown in Table B-3.

Table B-3

Frequently Used PCL Printer Commands

Printer Command	Function	# Refers To
E_C	Escape character	(See Table B-1 or your software manual.)
L_F	Line feed	n/a
F_F	Formfeed	n/a
C_R	Carriage return	n/a
$\text{E}_\text{C}\text{E}$	Resets the printer	n/a
$\text{E}_\text{C}\&\text{ll}\text{OH}$	Ejects page	n/a
$\text{E}_\text{C}\&\text{ll}\text{#X}$	Indicates number of copies	1 to 32,767
$\text{E}_\text{C}\&\text{ll}\text{#G}$	Selects paper destination	0 = Automatic selection 2 = Top Output Bin (face-down) 3 = Left Output Bin (face-up)
$\text{E}_\text{C}\&\text{ll}\text{#H}$	Selects paper source	0 = prints/ejects current page 1 = Tray 2 2 = Manual Feed - paper 3 = Manual Feed - envelope 4 = Tray 3 5 = optional 2000-Sheet Input Tray (Tray 4) 6 = Envelope Feeder 7 = Auto Select 8 = Tray 1
$\text{E}_\text{C}\&\text{ll}\text{#A}$	Sets paper size or envelope size	1 = Executive 2 = Letter 3 = Legal 6 = 11 in x17 in 26 = A4 27 = A3 45 = JIS B5 46 = JIS B4 72 = JPOSTD 80 = Monarch 81 = Commercial 10 90 = DL 91 = International C5 100 = Commercial B5 101 = Maximum
$\text{E}_\text{C}\&\text{ll}\text{#O}$	Selects orientation	0 = portrait 1 = landscape 2 = reverse portrait 3 = reverse landscape
$\text{E}_\text{C}\&\text{a}\text{#L}$	Sets left margin	Column number
$\text{E}_\text{C}\&\text{a}\text{#M}$	Sets right margin	Column number
$\text{E}_\text{C}\&\text{ll}\text{#E}$	Sets top margin	Number of lines
$\text{E}_\text{C}\&\text{ll}\text{#F}$	Sets text length (bottom margin)	Number of lines from top margin
$\text{E}_\text{C}\&\text{ll}\text{#D}$	Sets line spacing	Lines per inch (1, 2, 3, 4, 6, 8, 12, 16, 24, or 48)
$\text{E}_\text{C}\&\text{d}\text{#D}$	Begins underline	0 = fixed 3 = floating
$\text{E}_\text{C}\&\text{d}\text{@}$	Ends underline	n/a
$\text{E}_\text{C}\&\text{k}\text{#H}$	Sets horizontal motion index	1/120 in (.21 mm) increments (compresses print horizontally)

Continued on the next page.

Table B-3

Frequently Used PCL Printer Commands, *continued*

Printer Command	Function	# Refers To
Esc&l#C	Sets vertical motion index	1/48 in (.53 mm) increments (compresses print vertically)
Esc&a#R	Sets # of vertical position, rows	Sets current vertical print position to specified row number (#)
Esc*p#Y	Sets # of vertical position, dots	Sets current vertical print position to specified dot number (#)
Esc&a#V	Sets # of vertical position, decipoints	Sets current vertical print position to specified decipoint number (#)
Esc&a#C	Sets # of horizontal position, rows	Sets current horizontal print position to specified row number (#)
Esc*p#X	Sets # of horizontal position, dots	Sets current horizontal print position to specified dot number (#)
Esc&a#H	Sets # of horizontal position, decipoints	Sets current horizontal print position to specified decipoint number (#)

Memory and Personality SIMM Installation

Your HP LaserJet 5Si/5Si MX printer has four SIMM slots. Use them to install additional printer memory and printer personalities (such as Adobe's PostScript Level 2 language).

- The HP LaserJet 5Si printer comes with 4 MBytes of memory and can be expanded to 132 MBytes.
- The HP LaserJet 5Si MX printer contains 12 MBytes of installed memory. By adding optional SIMMs with 2, 4, 8, 16, or 32 MBytes, you can increase memory to a total of 76 MBytes.

Note

Memory SIMMs for the HP LaserJet 4 Plus and 4M Plus printers *can* be used in the HP LaserJet 5Si and 5Si MX printers. PostScript language SIMMs for the HP LaserJet 4 Plus and 4M Plus printers *cannot* be used in the HP LaserJet 5Si and 5Si MX printers.

When you get a new memory board, compare the part number on the outside of the package to the part number in Table C-1 below. If you have not received the correct SIMM, notify your authorized Hewlett-Packard dealer.

Table C-1

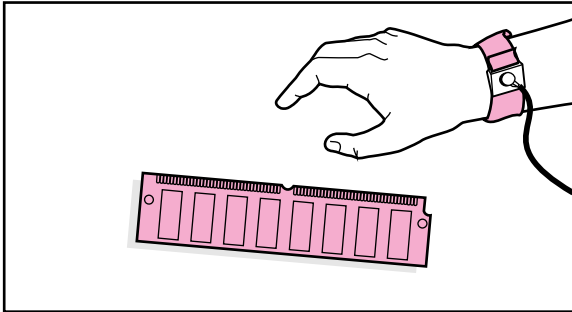
Memory SIMM Part Numbers

Size	Part Number
2 MBytes	C3131A
4 MBytes	C3132A
8 MBytes	C3133A
16 MBytes	C3146A

Note

32-MByte SIMMs are *not* available from HP. The 32-MByte SIMMs *are* supported, but must be obtained through third-party providers.

Installing a SIMM Board

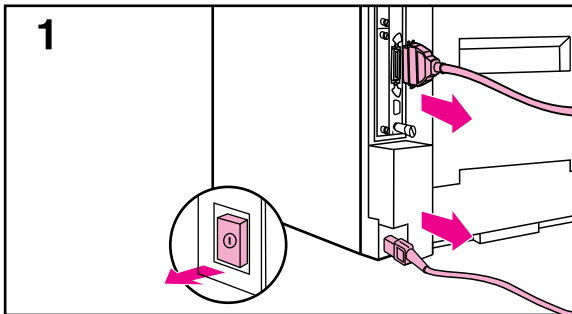


CAUTION

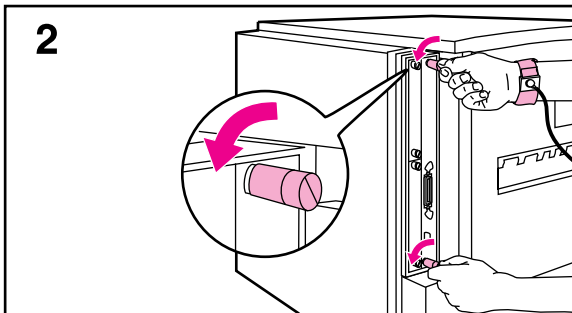
SIMM boards and your printer formatter board can be damaged by small amounts of static electricity. When handling a SIMM or other board, wear an antistatic wrist strap connected to the metal frame of the printer (or to your antistatic system).

During installation, to prevent generation of static electricity, avoid moving about the work area.

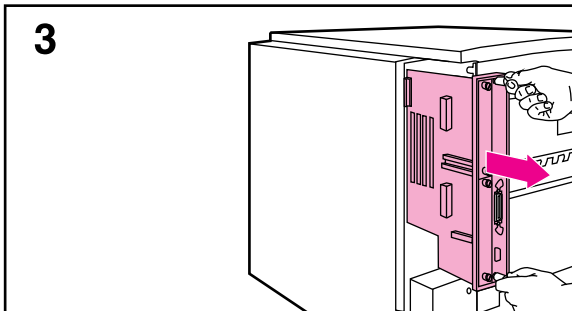
To avoid damaging the parts, follow these steps:



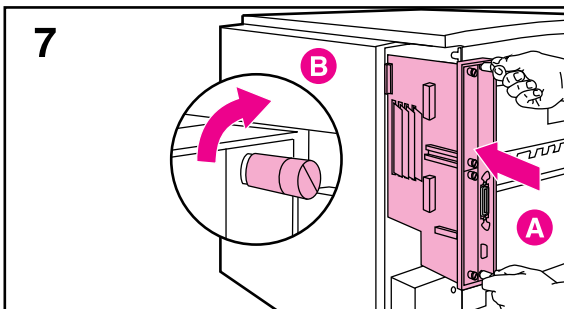
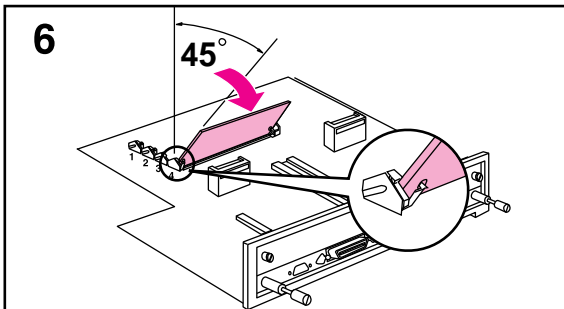
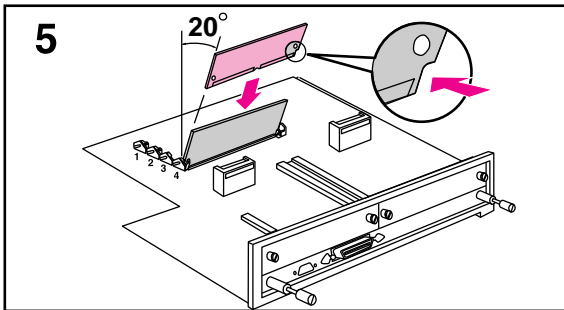
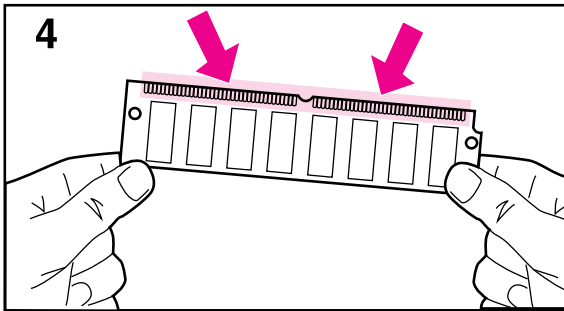
- 1 In this order, switch the printer power OFF, unplug the power cord, and disconnect any attached cables.



- 2 Loosen (but do not remove) the two captive screws. *If you are not wearing an antistatic wrist strap, touch the printer's bare metal plate.*



- 3 Grasp the screws and pull the printer controller board out of the printer. *Do not touch any component on the board.* Place the board on a flat, nonconductive surface. (For ease of replacement, note how the board fits into slots in the printer.)



4 Remove the SIMM board from the antistatic package. *Do not touch any component on the SIMM board.* Hold the board with your forefingers on the side edges and your thumbs against the back edge, so the notch on one end is on the *right* and the metal teeth face toward the SIMM slot.

5 Insert the board *firmly* into the SIMM slot (4) at about a 20-degree angle. Use the closest open slot, starting with 4 as illustrated.

6 Rotate the SIMM toward the back of the printer to about a 45-degree angle until it clicks into the metal locking tabs. If it is properly seated, it will not lift away from the slot. (To remove a SIMM, you must first release the metal locking tabs.)

7 Align the printer formatter board with the top slot, slide the board back into the printer (A), and tighten the two screws (B).

8 Re-attach any cables and the power cord; *then* switch the printer power ON and test the SIMM (see the following section).

Testing a SIMM Board

Use the procedures below to print a self test to verify SIMM board installation. Procedures are given for both memory and PostScript or other personality SIMMs.

Verifying a Memory SIMM

- 1 Plug in the power cord and switch the printer ON.
- 2 After a few seconds, the On Line indicator should light and READY should appear in the control panel display. If a printer message appears, see the “Optional SIMM Board Troubleshooting” section in Chapter 7, “Maintenance and Troubleshooting.”
- 3 Press **Menus** until TEST MENU appears.
- 4 Press **Items** until PCL CONFIGURATION PAGE appears.
- 5 Press **Select *** to print a self test.

Locate “Total Memory” on the configuration page printout. This is the amount of memory now installed in your printer. (See Chapter 4, “Printer Control Panel,” for more information.)

If the amount of memory has not increased since installing the SIMM, it may not be installed correctly (repeat installation procedure) or it may be defective. (See “Optional SIMM Board Troubleshooting” in Chapter 7.)

Verifying a PostScript SIMM

- 1 Plug in the power cord and turn the printer ON.
- 2 After a few seconds, the On Line light should go on and READY should appear in the control panel display. If a printer message appears instead, see the “Optional SIMM Board” section in Chapter 7.
- 3 Press **Menus** until POSTSCRIPT MENU appears. This indicates that your printer recognizes that the PostScript language is installed. If POSTSCRIPT MENU does not appear, check the SIMM installation.

Note

PostScript language SIMMs for the HP LaserJet 4 plus and 4M plus printers *cannot* be used in the HP LaserJet 5Si and 5Si MX printers. Only a PostScript language SIMM designed for this printer can be used.

Warranty and Software License

HP Maintenance Agreements

HP has several types of maintenance agreements that meet a wide range of support needs.

On-Site Service Agreements

To provide you with the support level best suited to your system usage and support budget, HP has on-site service agreements with three response times:

Priority On-Site Service is designed for production-critical applications, giving you four-hour service response to your site for calls made during normal HP business hours.

Next Day On-site Service provides on-site support by the next working day following your service request. Extended coverage hours and extended travel beyond HP designated service zones are available for additional charges on most on-site service agreements.

Weekly (Volume) On-site Service Agreement, for organizations with many HP LaserJet printers, provides economical, scheduled on-site coverage. Designated for customer sites using 25 or more workstation products, this service provides scheduled weekly repair visits to your central location. HP can write an agreement for any combination of 25 or more workstation products including printers, plotters, computers, and disk drives.

Warranty

This warranty entitles you to standard warranty services for your printer and is available from HP worldwide. However, there may be local variations in the level of warranty service. You should contact the local HP Service Center to check for the applicable local warranty in your country or province.

One-Year On-Site Limited Warranty

Hewlett-Packard warrants its computer hardware products against defects in materials and workmanship for a period of one year from purchase by the end user. During the warranty period, HP will, at its option, either repair or replace products which prove to be defective. *The warranty period begins either on the date of delivery or, where the purchase price includes installation by Hewlett-Packard, on the date of installation.*

Should HP be unable to repair or replace the product within a reasonable amount of time, you will be entitled to a refund of the purchase price if you return the product.

To have your printer serviced by HP you should contact the closest HP Service Center.

Exclusions

The warranty on your HP LaserJet 5Si printer shall not apply to defects resulting from:

- Improper or inadequate maintenance by customer.
- Customer supplied software or interfacing.
- Unauthorized modification or misuse.
- Operation outside of the environmental specifications for the product.
- Operation of non-supported printing media.
- Duty cycle abuse (see note on page D-3).
- Operating the printer from a mechanical switch box without a designated surge protector.
- Improper site preparation and maintenance.
- Failure to perform key operator maintenance every 350,000 pages.
- Use of non-HP toner cartridges (see the note following), memory boards or interface boards.

Note

The use of a non-HP or refilled toner cartridge alone does not affect either your warranty or any maintenance contract you may have purchased. However, if an HP LaserJet printer failure or damage is found to be attributable directly to the use of a non-HP toner cartridge, HP will not repair the printer free-of-charge. In this case, standard time and materials charges will be applied to service your printer for that particular failure or damage.

Operation of the printer beyond the limit of its duty cycle (printing greater than the equivalent of 100,000 single-sided pages per month) shall be deemed printer abuse and all repairs thereafter will be billed on a time and materials basis.

If you are using a mechanical switch box, ensure that it is equipped with a surge protector. Damage to your printer could occur from the use of unprotected mechanical switch boxes.

Warranty Limitations

The warranty set forth above is exclusive and no other warranty, whether written or oral, is expressed or implied. Hewlett-Packard specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.

Service During the Warranty Period

If your hardware should fail during the warranty period, contact an authorized HP dealer or an HP Customer Service Center.

Service After the Warranty Period

If your hardware fails after the warranty period, contact an authorized HP dealer or your local Customer Service Center. If you have an HP Maintenance Agreement, request service under your agreement.

Repacking Guidelines

To repack the printer:

- Remove and retain the toner cartridge.
- Remove and retain the 2000-Sheet Input Tray (Tray 4), if installed.
- Remove and retain the Multi-Bin Mailbox, if installed.
- Use the original shipping container and packing materials, if possible.
- Include print samples and 50–100 sheets of the paper or forms you are having trouble printing, if possible.

Note

If you have already disposed of your printer's packaging material, packaging material can be ordered from HP (see "Calling for Help" in Chapter 7). Order part number C3166-90005.

If it is necessary to return any of the accessories, repack in the original shipping container(s) if available.

HP Software Product License

IMPORTANT: Please read this License carefully before using this Software. The right to use this Software is granted only if the Customer agrees to the terms of this License. If you do not agree to the terms of this License, you may return the unused software for a refund. **HOWEVER, USE OF THIS SOFTWARE INDICATES YOUR ACCEPTANCE OF THESE TERMS AND CONDITIONS.**

In return for the payment of the applicable one-time license fee(s), HP grants you a license to use one copy of the Software subject to the following terms and conditions. No title or ownership of the Software is conferred with this license.

1. The Software may be used on one HP LaserJet printer.
2. The Software may not be copied except for archival purposes or for backup, error identification, or replacement of defective media. All authorized copies must bear the copyright notice on or in the original.
3. The Software may not be disassembled, decompiled, decrypted, or reverse engineered unless HP's prior written consent is either obtained or not required by law. Upon request, the user will provide HP with reasonably detailed information regarding any disassembly, decompilation, decryption, or reverse engineering.
4. Any third party supplier of the Software is a third party beneficiary of this License and may protect its rights in the Software against violations of this License.
5. HP reserves the right to terminate this License upon breach. In the event of termination at HP's election, all copies of the Software must be returned to HP or destroyed.
6. This License and the Software product may be transferred to a third party, provided the third party agrees to all the terms of this License and that no copies of the Software are retained by the transferring party.
7. Use, duplication, or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c) (1) (ii) of the Rights in Technical Data and Computer Software clause on DFARS 252.227-7013. Hewlett-Packard Company 3000 Hanover Street, Palo Alto, CA 94304 U.S.A. Rights for non-DOD U. S. Government Departments and Agencies are as set forth in FAR 52.227-19 (c) (1, 2).
8. No title or ownership of the Software is conferred with this License.
9. The Software may not be exported in violation of U.S. Export Administration regulations.
10. If your Hewlett-Packard product includes Adobe's PostScript, you are expressly notified that Adobe Systems Incorporated, a California corporation located at 1585 Charleston Road, Mountain View, California 94039-7900 ("Adobe") is a third-party beneficiary to this License.

HP Sales and Customer Service

HP Sales and Service Offices

To find a service-authorized HP dealer in the U.S., call (800) 752-0900. To find a service-authorized HP dealer outside of the U.S. contact one of the following offices:

Worldwide Hewlett-Packard Sales and Service Offices	
Australia/New Zealand: Hewlett-Packard Australia Ltd. 31-41 Joseph Street Blackburn, Victoria 3130 Australia Telephone: 61 3 272-2895	Austria: Hewlett-Packard Ges.m.b.H. Lieblgasse 1 P.O. Box 72 A-1222 Vienna Austria Telephone: 43 222 2500-0
Belgium: Hewlett-Packard Belgium SA/NV Boulevard de la Woluwe, 100, Woluwedal B-1200 Brussels Belgium Telephone: 32 2 761 31 11	Brazil: Hewlett Packard Alameda Rio Negro 750 06454 - 000 Alphaville - Barueri - S.P. Brazil Telephone: 55 11 726-8000
Canada: Hewlett-Packard (Canada) Ltd. 17500 Trans-Canada Highway Kirkland, Quebec H9J 2X8 Canada Telephone: 1 514 697-4232 Hewlett-Packard (Canada) Ltd. 6877 Goreway Drive Mississauga, Ontario L4XX 1M8 Canada Telephone: 1 416 678-9430	 Canadian Customer Information Center: 1 800 387-3867 HP Direct Marketing: 1 416 671-8383 Hardware Service: 1 800 268-1221 Customer Support Center (English service only): 1 208 323-2551

Continued on the next page.

Worldwide Hewlett-Packard Sales and Service Offices, *continued*

China: China Hewlett-Packard Company 5-6/F, West Wing Office China World Trade Center No. 1, Jian Guo Men Wai Avenue Beijing, 100004, China Telephone: 86 1 505-3888	Czechoslovakia: Hewlett-Packard Ceskoslovensko s.p.o. Novodvorska 82 14200 Praha 4 Czechoslovakia Telephone: 42 (2) 471 76 76
Denmark: Hewlett-Packard A/S Kongevejen 25 DK-3460 Birkerød Denmark Telephone: 45 45 99 10 00	European Headquarters: Hewlett-Packard S.A. Route du Nant-d'Avril 150 CH-1227 Meyrin 2 (Geneva) Switzerland Telephone: 41 22/780 81 11
Far East Area: Hewlett-Packard Asia Pacific Ltd. 17-21/. Shell Tower, Times Square 1 Matheson Street, Causeway Bay Hong Kong Telephone: 852 599-7777	Finland: Hewlett-Packard Oy Piispankalliontie 17 P.O. Box 68 SF-02200 Espoo Finland Telephone: 358 0/887 21
France: Hewlett-Packard France 28, rue Jacques Ibert BP 5820 75858 Paris CÉDEX 17 France Telephone: 33 (1) 40 89 77 00	Germany: Hewlett-Packard GmbH Herrenberger Strasse 130 W-7030 Böblingen Germany Telephone: 49 7031/14-0
Greece: Hewlett-Packard Hellas 62, Kifissias Avenue GR Maroussi-Athens 15125 Greece Telephone: 30 1 689 64 11	Hungary: Hewlett-Packard & Control Kft. Erzsebet kiralyne utja 1/c 1118 Budapest Hungary Telephone: 36 (1) 142 09 86
Italy: Hewlett-Packard Italiana S.p.A. Via Giuseppe di Vittorio, 9 I-20063 Cernusco sul Naviglio Milano Italy Telephone: 39 2/92 121	Japan: Yokogawa-Hewlett-Packard Ltd. 3-29-21, Takaïdo-Higashi Suginami-Ku, Tokyo 168 Japan Telephone: 81 3 3331-6111

Continued on the next page.

Worldwide Hewlett-Packard Sales and Service Offices, *continued*

Korea: Samsung Hewlett-Packard Ltd. 11-20th Floors, SHP House 25-12, Yeoeuido-dong, Youngdeungpo-ku Seoul 150, Korea Telephone: 82 2 769-0114	Latin American Sales Region Headquarters: Hewlett-Packard Latin America Monte Pelvoux No. 111 Fracc. Lomas de Virreyes 11000 Mexico D.F. Mexico Telephone: 52 5 326-4000
Mexico Guadalajara: Hewlett-Packard de México, S.A. Montemorelos No. 299 Fracc. Loma Bonita 45060 Telephone: 669-95-00 Mexico, D.F.: Hewlett-Packard de México, S.A. Prolongacion Reforma 700 Colonia Lomas de Santa Fe C.P. 01210 Mexico, D.F. Mexico Telephone: (525) 396-4044	Mexico Monterrey: Hewlett-Packard de México, S.A. Monterrey, Nvo. León Calz. Del Valle O. No. 409 4° Piso, Col. Del Valle Garza García, 76030 Telephone: 378-42-40
Middle East/Africa: Middle East, Central Africa Sales Headquarters Hewlett-Packard S.A. 7, rue du Bois-du-Lan P.O. Box 364 CH-1217 Meyrin 1 (Geneva) Switzerland Telephone: 41 22/780 71 11	Netherlands: Hewlett-Packard Nederland B.V. Startbaan 16 NL-1187 XR Amstelveen P.O. Box 667 The Netherlands Telephone: 31 20/547 69 11
Norway: Hewlett-Packard Norge A/S P.O. Box 34 Østerndalen 16-18 N-1345 Østerås Norway Telephone: 47 2 87 97 00	Poland: Hewlett-Packard Polska Sp. z o.o. Ul. Nowelska Nr. 6 PL-01447 Warszawa Poland Telephone: 48 22 37 50 65
Portugal: Hewlett-Packard Portugal, S.A. Rua Gregório Lopes, Lote 1732A 1400 Lisboa Portugal Telephone: 351 1-3017330	Singapore: Hewlett-Packard Singapore (Pte.) Ltd. 150 Beach Rd #29-00 Gateway West Singapore 0718 Telephone: 65 291-8554

Continued on the next page.

Worldwide Hewlett-Packard Sales and Service Offices, *continued*

Spain: Hewlett-Packard Española, S.A. Madrid E28230 Las Rozas Ctra. de la Coruña, km 16,500 Spain Telephone: 34 1 626 16 00	Sweden: Hewlett-Packard Sverige AB Skalholtsgatan 9 Box 19 S-164 93 Kista Sweden Telephone: 46 8/750 20 00
Switzerland: Hewlett-Packard (Schweiz) AG In der Luberzen CH-8902 Urdorf Switzerland Telephone: 01- 735 72 74 Fax: 01- 735 77 06	Taiwan: Hewlett-Packard Taiwan Ltd. 8F, 337 Fu-Hsing North Road Taipei, Taiwan R. O.C. Telephone: 886 2 712 0404
Thailand: Hewlett-Packard Thailand Ltd. 11th Floor, Pacific Place 140 Sukhumvit Road Bangkok, 10110 Thailand Telephone: 66 2 254-6720	Turkey: Hewlett-Packard Bilgisayar ve Ölçüm Sistemleri A.S. 19 Mayıs cad.Nova/Baran Plaza K.12 (Headquarters) 80220 S is li-Istanbul Turkey Telephone: 90 1 224 59 25
United Kingdom: Hewlett-Packard Limited Cain Road Bracknell GB-Berkshire RG12 1HN United Kingdom Telephone: 44 344/360000	

Index

- !
- 2000-Sheet Input Tray
 - clearing jams 7-29
 - described 5-13
 - loading paper 5-14
 - troubleshooting 7-14
- 32-MByte SIMM 2-1
- A**
- accessories
 - adding them to the Macintosh driver 3-6
 - adding them to the PCL driver 3-4
 - adding them to the PostScript driver 3-5
 - compatible 1-10
 - part numbers 1-12
 - Printer Hard Disk 1-11
- acoustic emissions A-2
- Adobe PostScript 1-6, 1-12
- B**
- Bi-Tronics parallel port, location 1-9
- binding options 5-31
- bitmapped screen fonts 3-6
- bleed images 5-29
- C**
- cables
 - part numbers 1-12
 - recommended 1-12
- calling for help 7-39
- Canadian DOC regulations A-3
- canceling print jobs 5-32
- cassette, tape
 - optional lower 5-13
- character set
 - printer commands B-3
 - selection B-3
- cleaning
 - generally 7-1
 - printer 7-2
- compatibility
 - accessories 1-10
- Configuration Menu 4-24
- Configuration Page
 - example from PCL 4-12
 - example from PostScript 4-16
 - example of a Menu Map 4-14
 - troubleshooting 7-7
- conservation, saving toner 7-3
- control panel
 - activating REt 6-4
 - adjusting print density 6-3
 - changing paper type 4-9
 - changing print resolution setting 6-2
 - Configuration Menu 4-24
 - display 4-2, 4-4
 - display language wrong 7-6
 - IO Menu 4-28
 - keys 4-3
 - layout 4-2
 - lights 4-2
 - location 1-8
 - menus 4-7
 - messages 7-29, 7-32 - 7-33, 7-35 - 7-38
 - paper type, selecting 5-21
 - PostScript Menu 4-27
 - Print Quality menu 4-26
 - security 3-7
 - selecting items 4-7
 - selecting Multi-Bin Mailbox 5-26
 - selecting paper output bin 5-23
 - selecting paper size 5-21
 - selecting two-sided printing 5-31
 - setting defaults 4-5
 - settings problems 7-12
 - stopping current print job 5-32
 - Test Menu 4-10
 - Tray Menu 4-8
- crop marks 5-29
- custom paper 5-28
- customer support options
 - Canada 7-39
- customer support options
 - Europe 7-40
 - United States 7-39
- D**
- dBase B-2
- default settings 4-6
- defaults
 - Tray Menu 4-8
- deleting print jobs 5-32
- demonstration page 4-21
- density, print 6-3
- disk directory page 4-22
- disk drive
 - description 1-11
 - troubleshooting 7-15
- display
 - control panel 4-2
 - wrong language displayed 7-6
- display messages, clearing 7-7
- documents, two-sided copying and binding 4-24
- DOS Editor B-2
- DOS symbol sets 3-10
- utility 3-9
- draft mode 1-4
- drivers
 - accessing features 3-1, 3-4
 - definition 3-1
 - network 3-7
 - PCL printer driver 3-4
 - PostScript printer driver 3-4
 - printer 1-3
 - Windows PostScript 3-5
- duplex unit
 - clearing jams 7-25
 - configuration 5-31
 - description 5-30
 - printing 5-31
- duty cycle D-3
- E**
- EconoMode 1-4
 - printing described 6-9
 - toner cartridge life 7-3
- electrical specifications A-2
- envelope feeder 5-19
 - clearing jams 7-30
 - troubleshooting 7-14
- envelopes
 - avoiding paper jams 5-18
 - loading 5-17
 - manual feed 5-18
 - margins 5-18
 - media use guidelines 5-7
 - printing 5-16, 5-18
- environmental specifications A-1 - A-2
- error log page 4-23
- error messages 7-29, 7-32 - 7-33, 7-35 - 7-38
 - SIMM boards 7-16
 - troubleshooting 7-6
- escape character B-2
- dBase B-2
 - MS Word for DOS B-2
 - MS-DOS Editor B-2
 - MS-DOS Edlin B-2
 - software selection B-2
 - Symphony B-2
 - WordPerfect for DOS B-2
- escape sequences B-1 - B-6
- Ethernet part numbers 1-13
- European customer support options 7-40
- F**
- factory default settings 4-6
- factory defaults
 - Test Menu 4-10
 - Tray Menu 4-8
- fan, printer (internal) 7-6
- FCC regulations A-3
- field service repair agreement D-1
- Finland laser statement A-6
- fomatter board, location 1-9
- fonts
 - available 1-4
 - bitmapped screen fonts 3-6
 - HP FontSmart 3-4

- PCL selection B-3
- PostScript 4-20
- printer commands B-3
- screen fonts 3-4
- troubleshooting 7-12
- Form Feed, light 4-2
- G**
- graphics, print quality 6-4
- H**
- height of printer A-2
- help
 - support calls 7-39
- HP FIRST 7-39
 - Canada 7-39
 - European countries 7-40
 - United States 7-39
- HP FontSmart utility 3-4
- HP JetDirect interfaces 1-6
- HP LaserJet Utility 3-6
- HP Modular I/O (HP MIO) slots, location 1-9
- HP sales and customer services E-1 - E-4
- HP service support D-1
- HP-UX 1-6
- humidity A-2
- I**
- I/O buffering, improving performance 2-4
- IBM
 - AIX 1-6
 - LAN Server 1-6
- paper stop, adjusting 5-24
- Input/Output (IO Menu) 4-28
- interfaces
 - JetDirect 1-6
 - location 1-9
- J**
- jam recovery, PostScript 4-27
- jams, paper 7-19
- Japan VCCI statement A-4
- JetDirect interfaces 1-6
 - part numbers 1-13
- JetDirect Print Server 1-6
- JetPrint network utility 3-7
- Job Cancel 5-32
- Job Control menu 4-9
- K**
- keys, control panel 4-3
- L**
- labels
 - media use guidelines 5-7
 - specifications 5-4
- LAN
 - Manager 1-6
 - Server 1-6
 - software 3-7
- landscape orientation 5-18
- laser
 - regulations A-5
 - safety A-5
- laser safety statement A-5
- laser statement for Finland A-6
- license, software D-5
- line draw characters B-3
- LocalTalk, part numbers 1-13
- Lotus 1-2-3 B-2 - B-3
 - setup strings B-3
- M**
- Macintosh 1-6
- Macintosh applications software 3-6
- maintenance
 - after warranty D-3
 - agreements D-1
 - during warranty D-3
- manual feed
 - troubleshooting 7-13
- manual feed, envelopes 5-18
- media
 - custom-sized paper 5-28
 - loading into Tray 1 5-9
 - sizes 5-4
 - smallest size paper 5-28
 - specifications 5-4
 - memory
 - expansion 2-1
 - PostScript 1-6
 - requirements 2-3
- Memory Enhancement technology (MEt) 1-3
- memory management 1-3
- Menu Map example 4-14
- menus
 - Configuration 4-24
 - control panel 4-7
 - Job Control 4-9
 - PostScript 4-27
 - Print Quality 4-26
 - selecting 4-7
 - Test 4-10
 - Tray 4-8
- message types 4-4
- messages
 - control panel 7-32
 - error 7-32
 - printer 7-32 - 7-33, 7-35 - 7-38
- Microsoft
 - LAN Manager 1-6
 - Windows for Workgroups 1-6
 - Windows NT 1-6
- Microsoft Windows applications software 3-4
- MIO, part numbers 1-13
- MP Tray, printing envelopes 5-17
- Multi-Bin Mailbox
 - clearing 7-28
 - illustrated, described 5-25
 - width measurement A-2
- N**
- networking capabilities 1-6
- networking software, available 3-8
- networks 1-6
 - HP JetPrint utility 3-7
 - IBM LAN Server 3-7
- interfaces part numbers 1-13
- Microsoft LAN Manager 3-7
- security 3-7
- software 3-7 - 3-8
- troubleshooting 7-9
- Novell
 - HP JetAdmin utility 3-7
 - Netware 1-6
 - NetWare NLM 3-8
 - software 3-7
- O**
- offline 7-32
- On Line 7-32
- on/off switch, location 1-8
- optional 2000-Sheet Input Tray 5-13
- optional Printer Hard Disk 1-11
- optional Printer Hard Disk, location 1-9
- options
 - adding them to the Macintosh driver 3-6
 - adding them to the PCL driver 3-4
 - adding them to the PostScript driver 3-5
 - part numbers 1-12
- orientation of media
 - landscape 5-18
 - portrait 4-8
- OS/2 1-6
 - printer drivers 3-8
- ozone emission A-5
- ozone emission statement A-5
- P**
- packing guidelines D-4
- paper
 - custom size 5-28
 - heavy stock 5-4
 - heavy weight 5-2
 - loading into Tray 1 5-9
 - loading into Tray 2 or Tray 3 5-11
 - media use guidelines 5-7
 - minimum size 5-4
 - sizes 5-4
 - smallest size paper 5-28
 - specifications 5-4
 - weights 5-4
- paper handling 1-2
 - envelopes 5-2
- Paper Handling Controller Board 1-9
- paper jams
 - 2000-Sheet Input Tray 7-29
 - avoiding 5-9
 - clearing 7-19 - 7-20
 - Envelope Feeder 7-30
 - locations 7-19
 - messages 7-33
 - repeated 7-31
 - Tray 4 7-29
- paper output bins
 - illustrated 5-22
 - left 5-23
- paper source 5-2
- paper Tray 1
 - loading envelopes 5-17

- loading media 5-9
 - selecting paper size 5-21
 - paper trays 1-2
 - loading envelopes in Tray 1 5-17
 - loading Tray 2 or Tray 3 5-11
 - loading Tray 4 5-14
 - location 1-8
 - part numbers 1-12
 - replacement 1-12
 - paper trays 1, 2, and 3 5-8
 - paper type, setting through control panel 4-9
 - parallel cable 1-12
 - parts 1-8
 - PCL
 - commands B-1
 - Configuration Page 4-12
 - font list 4-18
 - font selection B-3
 - Menu Map page 4-14
 - printer commands B-4
 - PCL fonts 1-5
 - PCL printer driver 3-4
 - phone numbers
 - Customer Support Center 7-39
 - European CSC 7-40
 - HP FIRST - European countries 7-40
 - HP FIRST - US/Canada 7-39
 - obtaining printer drivers 7-39
 - software application notes 7-39
 - United States CSC 7-39
 - point size B-3
 - portrait orientation 4-8
 - PostScript 1-6
 - and memory 1-6
 - compatibility 1-6
 - configuration page 4-16
 - font list 4-20
 - menu 4-27
 - option 2-2
 - printer driver 3-4
 - SIMM installation C-1
 - testing SIMM board C-5
 - troubleshooting 7-18
 - Power Save feature 1-4, 4-24, 7-32
 - power socket, location 1-9
 - print density
 - adjusting 6-3
 - toner life 6-3
 - print overrun message 7-33
 - print quality
 - adjusting 6-4
 - See quality
 - Print Quality Menu 4-26
 - print server 1-6
 - printer
 - accessories 1-10
 - acoustic emissions A-2
 - cleaning 7-1 - 7-2
 - clearance dimensions A-1
 - drivers 2-3, 3-1
 - duty cycle D-3
 - electrical specifications A-2
 - environmental specifications A-1
 - location requirements A-1
 - messages 7-32 - 7-38
 - PCL commands B-1
 - power consumption A-2
 - print quality 6-4
 - printing quantity limitations D-3
 - repacking guidelines D-4
 - safety information A-5
 - service D-1, D-3
 - specifications A-2
 - speed problems 7-10
 - troubleshooting 7-6, 7-8
 - use limitations D-3
 - weight A-2
 - printer commands, font selection B-3
 - printer control panel
 - introduction 4-1
 - printer control panel, introduction 4-1
 - Printer Controller Board, location 1-9
 - printer disk directory 4-22
 - printer drivers 1-3
 - accessing features 3-1, 3-4
 - definition 3-1
 - OS/2 3-8
 - PCL printer driver 3-4
 - PostScript printer driver 3-4
 - printer drivers, ordering 7-39
 - Printer Hard Disk 1-11
 - Printer Hard Disk
 - troubleshooting 7-15
 - printer MIO cards 7-7
 - printer parts
 - Aux I/O slot 1-9
 - Bi-Tronics parallel port 1-9
 - cartridge slot 1-8
 - control panel 1-8
 - interface slots 1-9
 - multiple I/O slot (MIO) 1-9
 - on/off switch 1-8
 - output bins 1-8
 - paper trays 1-8
 - parallel port 1-9
 - power connector plug 1-9
 - rear access cover 1-9
 - rear access cover latch 1-9
 - serial number 1-9
 - serial number location 1-9
 - serial port 1-9
 - top cover 1-8
 - printer personality 2-2
 - printing
 - 2000-Sheet Input Tray 5-13
 - bleed images 5-29
 - choosing a paper source 5-2
 - crop marks 5-29
 - custom-sized paper 5-28
 - different first page 5-27
 - envelopes 5-16 - 5-18
 - faster 7-10
 - manual feed problems 7-13
 - quantity limitations D-3
 - selecting a tray 5-2
 - selecting paper output bin 5-23
 - smallest size paper 5-28
 - standard-size paper 5-2
 - stopping 5-32
 - symbol sets 3-9
 - tabloid bleeds 5-29
 - to Multi-Bin Mailbox 5-26
 - transparencies 5-9
 - two-sided, with duplex unit 5-30
 - printing drafts 6-9
 - programming, font selection B-3
- Q**
- quality
 - solutions 6-5
 - troubleshooting 6-6 - 6-8
- R**
- radiation performance A-5
 - radio reception A-3
 - recycling toner cartridges 7-3
 - regulatory statements A-3
 - repacking guidelines D-4
 - reset, cold 7-32
 - resolution
 - changing 6-2
 - enhancing 6-4
 - Resolution Enhancement technology, described 6-4
 - resource saving, memory 2-3
 - restoring factory settings 4-5
 - REt
 - See Resolution Enhancement technology
- S**
- safety
 - Finland statement A-6
 - laser information A-5
 - ozone emission A-5
 - saving toner 6-9
 - SCO UNIX 1-6
 - screen fonts 3-4
 - security, networks 3-7
 - selecting
 - paper size 4-9
 - paper type 4-9
 - self test 4-12
 - example 4-12
 - serial number, printer
 - location 1-9
 - serial port, location 1-9
 - service
 - after warranty D-3
 - agreements D-1
 - during warranty D-3
 - error messages 7-36 - 7-38
 - settings, default 4-6
 - setup strings B-2 - B-3
 - font selection B-3
 - SIMM installation
 - error messages 7-17
 - introduction C-1
 - procedure C-2
 - testing memory board C-4
 - testing PostScript board C-5

- troubleshooting SIMM boards 7-16
- validation error messages 7-17
- SIMM slots, location 1-9
- software
 - HP FontSmart 3-4
 - HP LaserJet 5Si MX printer 3-3
 - HP LaserJet 5Si/5Si MX printer 3-2
 - license D-5
 - Macintosh applications 3-6
 - Microsoft Windows applications 3-4
 - networks 3-8
 - Novell NetWare 3-7
 - Novell NetWare network 3-2
 - Novell NetWare NLM 3-8
 - obtaining updates 7-39
 - Windows PCL 3-4
 - Windows PostScript 3-5
- software applications
 - printing envelopes from 5-18
 - setup strings B-3
 - stopping current print job 5-32
- Solaris 1-6
- sound emission A-2
- specifications A-1
 - environmental A-1
- stop printing 5-32
- stopping print requests 5-32
- storing print data 2-2
- SunOS 1-6
- supplies, accessories 1-8
- switchboxes D-3
- symbol sets
 - common values B-3
 - printing 3-9
- Symphony, Lotus B-2
- T**
 - television reception A-3
 - temperature A-2
 - terminating a job 5-32
 - Test Menu 4-10
 - test page 4-13
 - testing SIMM boards C-4
- tests
 - PostScript 4-16
 - self 4-12
- toner
 - cartridge life 7-3
 - cleaning TONER LOW message 7-5
 - extending toner life 6-3
 - redistributing in cartridge 7-4
 - reducing using EconoMode 6-9
 - saving 1-4
- toner cartridge
 - installation 7-3
 - maintenance 7-3
 - non-HP, use 7-3
 - temperature 6-5
- TONER LOW message 7-4 - 7-5
- top cover, location 1-8
- transparencies
 - media use guidelines 5-7
 - specifications 5-4
- tray locking 4-9, 5-21
- Tray Menu 4-8
- troubleshooting
 - 2000-Sheet Input Tray 7-14
 - cancel a job 5-32
 - check list 7-6, 7-8 - 7-10, 7-12 - 7-14
 - faster printing 7-10
 - formatting 7-12
 - generally 7-1
 - manual feed 7-13
 - messages 7-29, 7-33, 7-35 - 7-38
 - networks 7-9
 - PostScript 7-18
 - print quality 6-6 - 6-8
 - Printer Hard Disk 7-15
 - SIMM boards 7-16
 - SIMM error messages 7-17
 - SIMM validation error messages 7-17
- two-sided printing 5-30
- typefaces
 - PCL selection B-3
 - selection B-3
- V**
 - VCCI statement A-4
 - ventilation A-1
 - vertical transfer door 7-19
 - voltage A-2
 - voltage, conformity A-7
- W**
 - warranty D-2
 - exclusions D-2
 - limitations D-3
 - limited D-2
 - printing use limitations D-3
 - repacking guidelines D-4
 - service after D-3
 - service during D-3
 - weight, printer A-2
- Windows
 - drivers definition 3-1
 - HP FontSmart 3-4
 - PCL driver 3-4
 - PostScript printer driver 3-4
 - Print Manager 5-32
- Windows for Workgroups 1-6
- Word, Microsoft B-2
- WordPerfect B-2