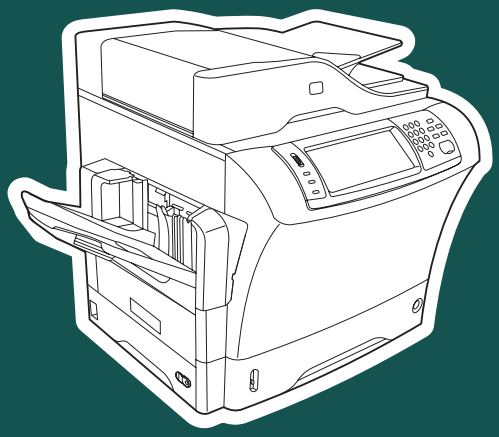


hp LaserJet 4345mfp

invent

User Guide

HP LaserJet 4345mfp Series

User Guide

Copyright and License

© 2004 Copyright Hewlett-Packard Development Company, L.P.

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

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

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Part number Q3942-90951

Edition 1, 11/2004

Trademark Credits

Adobe®, Acrobat®, and PostScript® are trademarks of Adobe Systems Incorporated.

Corel® is a trademark or registered trademark of Corel Corporation or Corel Corporation Limited.

Linux is a U.S. registered trademark of Linus Torvalds.

Microsoft®, Windows®, and Windows NT® are U.S. registered trademarks of Microsoft Corporation.

UNIX® is a registered trademark of The Open Group.

ENERGY STAR® and the ENERGY STAR logo® are U.S. registered marks of the United States Environmental Protection Agency.

HP customer care

Online services

For 24-hour access to information by using a modem or Internet connection

World Wide Web: Updated HP printer software, product and support information, and printer drivers in several languages can be obtained from http://www.hp.com/support/lj4345mfp. (The site is in English.)

Online troubleshooting tools

HP Instant Support Professional Edition (ISPE) is a suite of Web-based troubleshooting tools for desktop computing and printing products. ISPE helps you quickly identify, diagnose, and resolve computing and printing problems. The ISPE tools are available at http://instantsupport.hp.com.

Telephone support

Hewlett-Packard Company provides free telephone support during the warranty period. When you call, you will be connected to a responsive team that is waiting to help you. For the telephone number for your country/region, see the flyer that came in the box with the product, or visit http://www.hp.com/support/callcenters. Before calling HP, have the following information ready: the product name and serial number, the date of purchase, and a description of the problem.

You can also find support on the Internet at http://www.hp.com. Click the **support & drivers** block.

Software utilities, drivers, and electronic information

Go to http://www.hp.com/go/lj4345mfp_software. (The site is in English, but printer drivers can be downloaded in several languages.)

For information over the telephone, see the flyer that came in the box with the printer.

HP direct ordering for accessories or supplies

Order supplies from the following Web sites:

United States: http://www.hp.com/sbso/product/supplies

Canada: http://www.hp.ca/catalog/supplies

Europe: http://www.hp.com/go/supplies

Asia-Pacific: http://www.hp.com/paper/

Order accessories from http://www.hp.com/support/lj4345mfp. For more information, see Ordering parts, accessories, and supplies.

To order supplies or accessories over the telephone, call the following numbers:

United States businesses: 800-282-6672

United States small and medium businesses: 800-888-9909

United States home and home offices: 800-752-0900

Canada: 800-387-3154

To find the phone numbers for other countries/regions, see the flyer that came in the box with the printer.

HP service information

To locate HP-Authorized Dealers in the United States or Canada, call 800-243-9816 (United States) or 800-387-3867 (Canada). Or, go to http://www.hp.com/go/cposupportguide.

For service for your HP product in other countries/regions, call the customer support number for your country/region. See the flyer that came in the box with the printer.

HP service agreements

Call: 800-HPINVENT [800-474-6836 (U.S.)] or 800-268-1221 (Canada).

Out-of-Warranty Service: 800-633-3600.

Extended Service: Call: 800-HPINVENT [800-474-6836 (U.S.)] or 800-268-1221 (Canada). Or, go to the HP Care Pack Services Web site at http://www.hpexpress-services.com.

HP Toolbox

To check the printer status and settings and to view troubleshooting information and online documentation, use the HP Toolbox software. You can view the HP Toolbox when the printer is directly connected to your computer or when it is connected to a network. You must have performed a complete software installation to use the HP Toolbox. See Using the HP Toolbox.

HP support and information for Macintosh computers

Visit: http://www.hp.com/go/macosx for Mac OS X support information and HP subscription service for driver updates.

Visit: http://www.hp.com/go/mac-connect for products designed specifically for the Macintosh user.

Table of contents

1 MFP basics

HP LaserJet 4345mfp configurations....2
HP LaserJet 4345mfp (Q3942A—base model)....2
HP LaserJet 4345x mfp (Q3943A)....2
HP LaserJet 4345xs mfp (Q3944A)....2
HP LaserJet 4345xm mfp (Q3945A)....3
Features and benefits of the MFP....4
Functions....4
Speed and throughput....4
Resolution....4
Memory....4
User interface....4
Language and fonts....5
Copying and sending....5
Print cartridge....5
Paper-handling....6
Connectivity....6
Environmental features....6
Security features....6
Minimum system requirements....7
MFP parts and accessories....8
Accessories and supplies....9
Interface ports....10
Moving the MFP....10
Locking and unlocking optional accessories....11
Software....12
Operating systems and MFP components....12
Printer drivers....13
HP disk management utility....17
Software for Macintosh computers....17
Installing the printing system software....17
Uninstalling the software....22
Loading input trays....23
Loading tray 1....23
Loading trays 2, 3, 4 and 5....24
Configuring the trays by using the Paper handling menu....28

2 Using the control panel

Control-panel layout....30
Control-panel features....31
Home-screen navigation....32
Help system....33
"What is this?" Help....33
"Show me how" Help....33
Menu map....34

Retrieve job menu 35
Information menu 36
Paper handling menu 37
Configure device menu 40
Originals submenu 40
Copying submenu 41
Enhancement submenu 41
Sending submenu 42
Printing submenu 44
PCL submenu 46
Print quality submenu 48
System setup submenu 51
Copy/send settings....55
MBM-3 Configuration submenu....56
Stapler/stacker submenu....56
I/O submenu 57
EIO X Jetdirect submenu 58
Embedded Jetdirect submenu 58
Resets submenu 61
Fax menu 63
Diagnostics menu 64
Service menu 67

3 Printing

Orienting media 70
Printing documents 72
To print a document 72
Selecting which tray is used for printing 73
Understanding tray order 73
Customizing tray 1 operation 73
Printing by type and size of media (locking trays) 74
Manually feeding media from tray 1 75
Selecting the correct fuser mode 76
Selecting the output bin 77
3-bin mailbox output bins 77
Selecting an output location 77
Selecting face-up or face-down output for copy jobs....78
Printing on envelopes 79
Loading envelopes in tray 1 79
Printing on special media 81
Printing on labels 81
Printing on transparencies 81
Printing on letterhead, prepunched, or preprinted paper 82
Printing on paper that has a special finish 83
Printing on small sizes, custom sizes, or heavy paper 83
Setting custom paper sizes 84
Printing on both sides of paper (optional duplexer) 86
Guidelines for printing on both sides of paper 86
Orientation of paper for duplexing 87
Layout options for printing on both sides of paper 87
To print on both sides by using the optional duplex-printing accessory 88
Setting the registration 89
To set the registration 89
Using features in the printer driver 90
Creating and using quick sets 90

Creating and using watermarks 90
Resizing documents....91
Setting a custom paper size from the printer driver....91
Printing on different paper for the first page of a print job 91
Printing multiple pages on one sheet of paper 92
Setting the stapling options....92
Selecting face-up or face-down output in the printer driver....93
Using job storage features 94
To gain access to the job storage features 94
Printing a private job 94
Deleting a private job 95
Storing a print job 95
Creating a QuickCopying job 96
Printing additional copies of QuickCopy jobs 96
Deleting a QuickCopy job 97
Proofing and holding a job 97
Printing the remaining copies of a held job 97
Deleting a held job 98

4 Copying

Copy-screen navigation 100
Cancel button 100
OK button 100
Basic copying instructions 101
Copying by using the default settings 101
Copying by using user-defined settings 101
Copying by using the scanner glass 103
Copying by using the ADF 103
Using Job Mode 103
Modifying copy settings for the current job 104
Adjusting the copy contrast 104
Reducing or enlarging copies 104
Background removal 104
Sharpness 104
Contrast 104
Copying multiple sized originals 105
Creating a stored copy job 105

5 Scanning and sending to e-mail

What is SMTP?....108
What is LDAP?....108
E-mail configuration....109
Automatic e-mail configuration....109
Manual e-mail configuration....109
To find gateways by using an e-mail program....110
E-mail screen navigation 111
Help button 111
From: field 111
To:, CC:, and BCC: fields....111
Clear All button 111
E-mail basics 112
Loading documents 112
Sending documents 112
Using the address book 114
Creating a recipient list 114

Using the local address book 114
Additional e-mail features....116
Secondary e-mail....116
Send to folder....116
Send to workflow....116

6 Faxing

Analog faxing....118
Installing the fax accessory....118
Connecting the fax accessory to a phone line....120
Configuring and using the fax features....121
Digital faxing....122

7 Optional output and input devices

3-bin mailbox....124
Mailbox mode....124
Stacker mode....124
Function-separator mode....124
Using the 3-bin mailbox....124
Stapler/stacker accessory 127
To configure the printer driver to recognize the optional stapler/stacker....127
To select the stapler in the software (Windows) 127
To select the stapler in the software (Mac) 127
To select the stapler at the control panel for printed jobs 128
To select the stapler in the printer driver for printed jobs (Windows)....128
To select the stapler in the printer driver for printed jobs (Mac)....128
To set the stapler at the control panel for all copy jobs....128
To set the stapler at the control panel for a single copy job....129
To configure the MFP to stop or continue when the staple cartridge is empty....129
Loading staples 129
500-sheet feeders and the cabinet/stand....131
Envelope feeder....132
Installing the optional envelope feeder 132
Removing the optional envelope feeder 133
Loading envelopes in the optional envelope feeder 133
Troubleshooting the output and input accessories....136

8 Security features

Securing the embedded Web server....138
To secure the embedded Web server....138
Foreign Interface Harness (FIH) 139
Requirements 139
Using the FIH 139
Secure Disk Erase 141
Data affected 141
Gaining access to Secure Disk Erase 141
Additional Information 141
Job-storage features 142
DSS authentication 143
Locking the control-panel menus....144
To lock the control-panel menus....144
Locking the formatter cage....145

9 Managing and maintaining the MFP

Using the embedded Web server 148
Opening the embedded Web server 148
Information tab 149
Settings tab 149
Digital Sending tab....150
Networking tab 150
Other links 151
Using the HP Toolbox 152
Supported operating systems 152
Supported browsers 152
To view the HP Toolbox 153
Status tab 153
Alerts tab 153
Device Settings window 154
Toolbox links 154
Other links 154
Using HP Web Jetadmin software 155
Configuring and verifying an IP address 156
TCP/IP assignment 156
Verifying the TCP/IP configuration 156
Changing an IP address 156
Setting the real-time clock 158
Setting the date and time 158
Setting the wake time....159
Setting the sleep delay....160
Checking the MFP configuration 161
To print an information page 161
Menu map 161
Configuration page 161
HP Jetdirect page 163
Supplies status page 163
Usage page 164
PCL or PS font list 165
Managing the print cartridge 166
HP print cartridges 166
Non-HP print cartridges 166
Print-cartridge authentication 166
Print-cartridge storage 166
Print-cartridge life expectancy 166
Checking the supply level 167
Cartridge-low and cartridge-out conditions 167
Upgrading the firmware....169
Determining the current level of firmware....169
Downloading the new firmware from the HP Web site....169
Transferring the new firmware to the MFP....169
Upgrading the HP Jetdirect firmware....171
Cleaning the MFP....173
Cleaning the outside of the MFP 173
Cleaning the touchscreen 173
To clean the scanner glass 173
Cleaning the fuser 173
Cleaning the ADF delivery system 174
Calibrating the scanner....178
To print the calibration target....178
Performing preventive maintenance....179

Printer preventive maintenance 179
The ADF maintenance kit.....179

10 Solving problems

Solving general problems 182
Troubleshooting checklist 182
Determining MFP problems 184
Clearing jams.....185
Clearing jams from the top-cover and print-cartridge areas.....186
Clearing jams from the optional envelope-feeder area.....188
Clearing jams from the tray 1 area.....189
Clearing jams from the tray 2, 3, 4, or 5 areas.....191
Clearing jams from the optional duplexer.....192
Clearing jams from the output areas.....193
Clearing jams from the fuser.....195
Clearing jams from the ADF.....198
Clearing staple jams.....199
Solving repeated jams 201
Using the paper-path test.....201
Understanding MFP messages 203
Using the MFP help system 203
If a message persists 203
Resolving control-panel messages.....204
Understanding accessory lights for the 3-bin mailbox and stapler/stacker 216
Accessory lights 216
Replacing accessories or accessory components 217
Understanding lights on the formatter.....218
HP Jetdirect LEDs.....218
Heartbeat LED.....218
Fax LED.....219
Correcting print-quality and copy-quality problems 220
Print-quality checklist 220
Image defect examples 220
Light print (partial page) 222
Light print (entire page) 223
Specks 223
Dropouts 223
Lines 224
Gray background 224
Toner smear 225
Loose toner 225
Repeating defects 226
Repeating image 226
Misformed characters 227
Page skew 227
Curl or wave 227
Wrinkles or creases 228
Vertical white lines 228
Tire tracks 229
White spots on black 229
Scattered lines 229
Blurred print 230
Random image repetition 230
Blank page (ADF).....231
Horizontal lines (ADF).....231

Page skew (ADF).....232
Vertical lines (ADF).....232
Image shifted (ADF).....232
Unexpected image (ADF).....233
Repetitive defect ruler.....234
Solving e-mail problems.....235
To validate the SMTP gateway address.....235
To validate the LDAP gateway address.....235
Solving network connectivity problems.....236
Troubleshooting network printing problems 236
Verifying communication over the network.....236

Appendix A Supplies and accessories

Ordering parts, accessories, and supplies 240
Ordering directly from HP 240
Ordering through service or support providers 240
Ordering directly through the embedded Web server (for printers that are connected to a network) 240
Ordering directly through the HP Toolbox software (for printers that are directly connected to a computer) 240
Part numbers 241
Accessories 241
Print cartridges 241
Maintenance kits 242
Memory 242
Cables and interfaces 243
Print media 243

Appendix B Service and support

Hewlett-Packard limited warranty statement 247
Print Cartridge Limited Warranty Statement 248
Availability of support and service 249
HP maintenance agreements 249
Priority Onsite Service 249
Next business day.....249
Installation and maintenance-kit replacement.....249
Repacking the MFP 250
To repack the MFP 250
Service information form 251

Appendix C MFP specifications

Physical specifications.....254
Electrical specifications.....255
Acoustic specifications.....256
Environmental specifications 257
Image area.....258
Skew specifications.....259

Appendix D Media specifications

Print media specifications 261
Printing and paper storage environment 261
Envelopes 262
Labels 264

Transparencies 264
Supported types and sizes of print media....265

Appendix E MFP memory and expansion

Memory overview....272
Determining memory requirements 273
Installing memory 274
To install memory DIMMs 274
To install a flash memory card 276
Replacing the hard-disk drive....278
Checking memory installation 282
To verify that memory devices are installed correctly 282
Saving resources (permanent resources) 283
Installing EIO cards 284
To install EIO cards 284

Appendix F Regulatory information

Introduction 285
FCC regulations 286
Telecom....287
Environmental Product Stewardship program 288
Protecting the environment 288
Ozone production 288
Energy consumption 288
HP LaserJet printing supplies 289
Material safety data sheet 290
For more information 290
Declaration of conformity (HP LaserJet 4345mfp) 291
Declaration of conformity (HP LaserJet 4345x mfp, 4345xs mfp, and 4345xs mfp)....292
Country-/region-specific safety statements 293
Laser safety statement 293
Canadian DOC statement 293
Japanese VCCI statement 293
Korean EMI statement 293
Finnish laser statement 294
Australia....294

Index

1 MFP basics

Congratulations on your purchase of the HP LaserJet 4345mfp. If you have not done so, see the *HP LaserJet 4345mfp Start Guide* that is provided with the multifunction peripheral (MFP) for setup instructions.

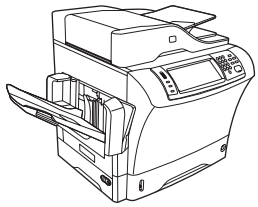
After the MFP is set up and ready to use, take a few moments to get to know the MFP. This chapter introduces the following topics:

- HP LaserJet 4345mfp configurations
- Features and benefits of the MFP
- MFP parts and accessories
- Software
- Loading input trays

HP LaserJet 4345mfp configurations

The HP LaserJet 4345mfp Series is available in the following configurations.

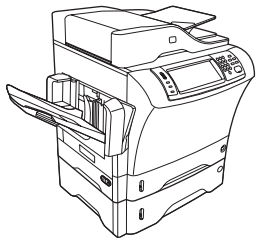
HP LaserJet 4345mfp (Q3942A—base model)



The HP LaserJet 4345mfp comes standard with the following items:

- A 100-sheet input tray (tray 1)
- A 500-sheet input tray (tray 2)
- An automatic document feeder (ADF) that holds up to 50 pages
- An HP Jetdirect embedded print server for connecting to a 10/100Base-T network
- 128 megabytes (MB) synchronous dynamic random access memory (SDRAM)

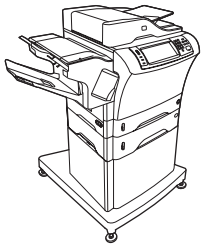
HP LaserJet 4345x mfp (Q3943A)



The HP LaserJet 4345x mfp has the same features as the base model and also includes the following items:

- An automatic duplex printing accessory (duplexer)
- An additional 500-sheet feeder (tray 3)
- An analog fax accessory

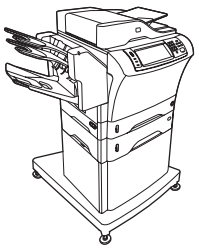
HP LaserJet 4345xs mfp (Q3944A)



The HP LaserJet 4345xs mfp has the same features as the base model and also includes the following items:

- An automatic duplex printing accessory (duplexer)
- An additional 500-sheet feeder (tray 3)
- An analog fax accessory
- A stapler/stacker accessory
- A cabinet/stand

HP LaserJet 4345xm mfp (Q3945A)



The HP LaserJet 4345xm mfp has the same features as the base model and also includes the following items:

- An automatic duplex printing accessory (duplexer)
- An additional 500-sheet feeder (tray 3)
- An analog fax accessory
- A 3-bin mailbox accessory
- A cabinet/stand

Features and benefits of the MFP

The HP LaserJet 4345mfp Series is designed to be shared by a workgroup. Use the MFP to copy and print black-and-white documents or to digitally send color or black-and-white documents. The MFP is a standalone copier that does not require connection to a computer. With the optional HP LaserJet mfp analog fax accessory 300 (included with some models), the MFP can also send and receive faxes. With the exception of digital sending and network printing, you can select all functions at the MFP control panel.

Functions

- Two-sided copying (duplexing)
- Image modification
- Color digital sending
- Document finishing

Speed and throughput

- 45 pages per minute (ppm) when scanning and printing on letter-size paper; 43 (ppm) when copying and printing on A4-size paper
- 25% to 400% scalability when using the scanner glass
- 25% to 200% scalability when using the automatic document feeder (ADF)
- Less than 10 seconds to print the first page
- Transmit Once, Raster Image Processing (RIP) ONCE technology
- Duty cycle of up to 200,000 pages per month
- 400 megahertz (MHz) microprocessor

Resolution

- 600 dots per inch (dpi) with Resolution Enhancement technology (REt)
- FastRes 1200 provides 1200 dpi quality at full speed
- Up to 220 levels of gray

Memory

- 256 megabytes (MB) of random-access memory (RAM), expandable to 512 MB by using industry standard 100-pin double data rate dual inline memory modules (DDR DIMMs)
- Memory Enhancement technology (MEt) that automatically compresses data to use RAM more efficiently

User interface

- Graphic display on the control panel
- An embedded Web server to gain access to support and order supplies (for network-connected products)
- HP Toolbox software to provide MFP status and alerts and print internal information pages

Language and fonts

- HP Printer Command Language (PCL) 6
- HP PCL 5e for compatibility
- Printer Management Language
- PDF
- XHTML
- 80 scalable TrueType typefaces
- HP PostScript® 3 emulation (PS)

Copying and sending

- Modes for text, graphics, and mixed text and graphics formats
- A job-interrupt feature (at copy boundaries)
- Multiple pages per sheet
- Operator attendance animations (for example, jam recovery)
- E-mail compatibility
- A sleep feature that saves energy
- Automatic duplex (two-sided) scanning

Note An automatic duplex printing accessory is required for two-sided copying.

Print cartridge

- Prints up to 18,000 pages at 5% coverage.
- No-shake cartridge design
- Authentic HP print cartridge detection

Paper-handling

- **Input**
  - **Tray 1 (multipurpose tray):** A multipurpose tray for paper, transparencies, labels, and envelopes. Holds up to 100 sheets of paper or 10 envelopes.
  - **Tray 2 and optional trays 3, 4, and 5:** 500-sheet trays. These trays automatically detect standard paper sizes up to Legal and allow printing on custom-size paper.
  - **Automatic document feeder (ADF):** Holds up to 50 sheets of paper.
  - **Duplex printing and copying:** With the optional duplexing accessory, provides two-sided printing and copying (printing on both sides of the paper).
  - **ADF duplex scanning:** The ADF has an autmatic duplexer for scanning two-sided documents.
  - **Optional envelope feeder:** Holds up to 75 envelopes.
- **Output**
  - **Standard output bin:** The standard output bin is located on the left side of the MFP. This bin can hold up to 500 sheets of paper.
  - **ADF output bin:** The ADF output bin is underneath the ADF input tray. The bin holds up to 50 sheets of paper, and the MFP automatically stops when this bin is full.
  - **Optional stapler/stacker:** The stapler/stacker staples up to 30 sheets and stacks up to 500 sheets.
  - **Optional 3-bin mailbox:** One bin stacks up to 500 sheets, and two bins stack up to 100 sheets each for a total capacity of 700 sheets.

Connectivity

- IEEE 1284B-compliant parallel connection
- A Foreign Interface Harness (FIH) connection (AUX) for connecting other devices
- Local area network (LAN) connector (RJ-45) for the embedded HP Jetdirect print server
- Optional analog fax card
- Optional HP Digital Sending Software (DSS)
- Optional HP Jetdirect enhanced input/output (EIO) print server cards
  - Universal serial bus (USB), serial, and LocalTalk
  - Fast Ethernet 10/100TX

Environmental features

- The sSleep setting saves energy (meets ENERGY STAR® guidelines, Version 1.0).

Note See Protecting the environment for more information.

Security features

- Foreign Interface Harness (FIH)
- Secure Disk Erase
- Security lock

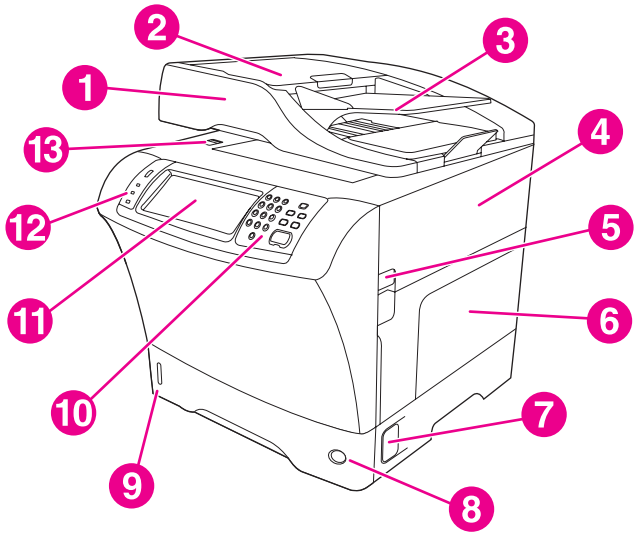
- Job retention
- DSS authentication

Minimum system requirements

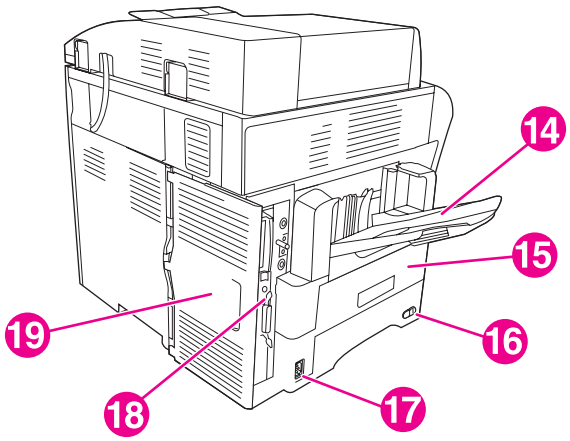
To use the e-mail functionality, the MFP must be connected to an IP-based server that has simple mail transfer protocol (SMTP). This server can either be on the local area network or at an outside Internet service provider (ISP). HP recommends tha tthe MFP be located on the same local area network (LAN) as the SMTP server. If you are using an ISP, you must connect to the ISP by using a digital subscriber line (DSL) connection. If you are obtaining e-mail services from an ISP, ask the ISP to provide the correct SMTP address. Dial-up connections are not supported. If you do not have an SMTP server on your network, third-party software is available that allows you to create an SMTP server. However, purchase and support of this software is your responsibility.

MFP parts and accessories

Before using the MFP, familiarize yourself with the parts of the MFP.



1 ADF assembly
2 ADF top cover
3 Automatic document feeder (ADF) input tray
4 Top cover (provides access to the print cartridge)
5 Top-cover lever
6 Tray 1 (multipurpose tray)
7 Jam-access lever
8 Tray-number indicator
9 Paper-level indicator
10 Control-panel keypad
11 Control-panel display
12 Control-panel status lights
13 Scanner lock

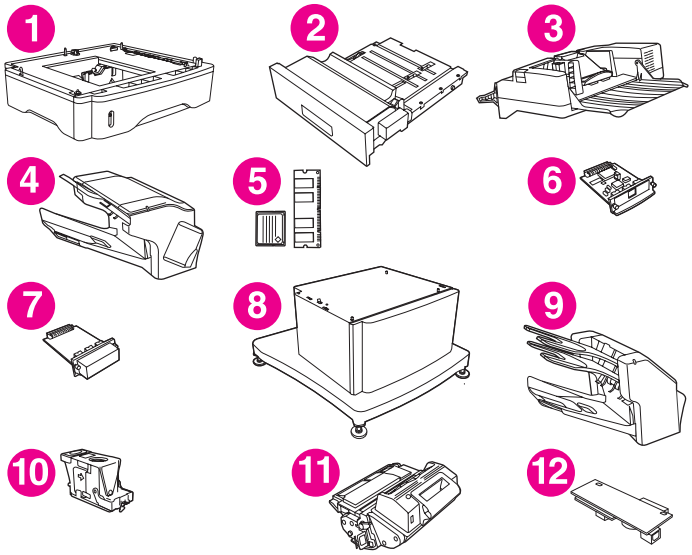


13 Output bin
14 Optional duplexer
15 On/off switch
16 Power connection
17 Interface ports
18 Formatter cover (provides access to the flash memory cards and the hard disk)

Accessories and supplies

You can increase the capabilities of the MFP by adding optional accessories. For information about ordering accessories and supplies, see Ordering parts, accessories, and supplies.

Note Use the accessories and supplies that have been specifically designed for the MFP in order to ensure optimum performance.

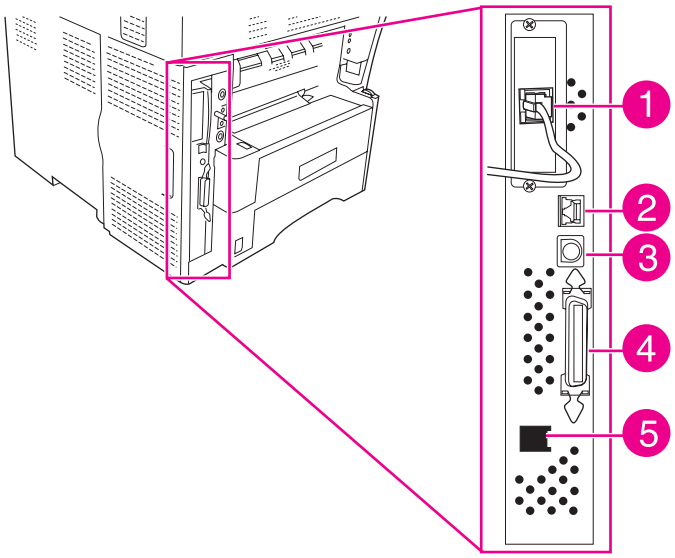


1 500-sheet feeder (Q5968A) (See the note that follows)
2 Duplexer (Q5969A)
3 Envelope feeder (Q2438B)
4 Stapler/stacker (Q5691A)
5 Memory DIMMs and flash memory cards
6 HP Jetdirect print server (EIO card)
7 Hard-disk accessory (EIO card)
8 Storage cabinet/stand (Q5970A)
9 3-bin mailbox (Q5692A)
10 Staple cartridge (C8091A)
11 Print cartridge (Q5945A)
12 HP LaserJet analog fax accessory 300(Q3701A)

Note The MFP can accept up to three optional 500-sheet feeders. HP recommends also using a cabinet/stand when using the optional 500-sheet feeders.

Interface ports

The MFP has five ports for connecting to a computer or a network. The ports are at the left, rear corner of the MFP.



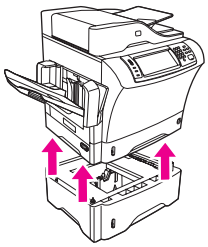
1 EIO slot
2 Network connection (embedded HP Jetdirect print server)
3 Foreign interface harness (FIH) port
4 IEEE 1284B-compliant parallel port
5 Fax connection (for connecting to an optional analog fax accessory)

Moving the MFP

Before moving the MFP, be sure to lock the scanner. The scanner lock is underneath the scanner lid, to the left of the scanner glass.

The MFP is heavy and should be lifted by three people. One person should stand at the front of the MFP and should grip the sides, and the other two people should stand at the sides of the MFP and should grip the sides and back. Remove the ouput bin or other optional output accessories before moving the MFP. To lift the MFP, grip the lift handles that are on the sides and on the back of the MFP. *Do not attempt to lift the MFP by gripping any other part of the MFP.* If the bottom of the MFP is attached to an optional accessory (such as a 500-sheet feeder or a storage cabinet), the accessory latches must be unlocked before moving the MFP.

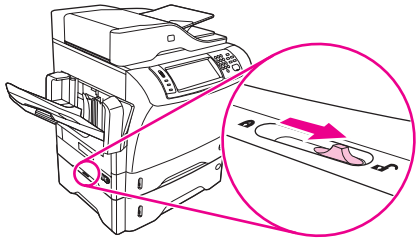
WARNING! To prevent possible injury to yourself or damage to the MFP, separate the MFP from any currently installed optional accessories (for example an optional feeder or a stapler/stacker) before lifting the MFP.



Locking and unlocking optional accessories

For more stability to prevent the MFP from tipping over, the optional 500-sheet feeders and the cabinet are automatically locked to the bottom of the MFP. When accessories are installed, verify that the lock on each accessory is in the rear (locked) position.

To unlock the accessories, slide the lever to the forward (unlocked) position.



Software

The MFP comes with helpful software, including printer drivers and optional software. For easy MFP setup and access to the full range of MFP features, HP recommends that you install the software that is provided.

Check the installation notes and Readme files on the MFP CD-ROM for additional software and languages. HP software is not available in all languages.

Operating systems and MFP components

The MFP CD-ROM contains the software components and drivers for users and network administrators. The printer drivers that are provided on the CD-ROM must be installed in order to take full advantage of MFP features. The other programs are recommended, but are not required for operation. Check the installation notes and Readme files on the MFP CD-ROM for more information.

The CD-ROM includes software that is designed for users and network administrators who are operating in the following environments:

- Microsoft® Windows® 98 and Windows Millennium Edition (Me)
- Microsoft Windows NT® 4.0 (printer driver only)
- Microsoft Windows 2000, Windows XP, and Windows Server 2003
- Apple Mac OS version 9.1 and later, and Mac OS X version 10.1 or later

The most recent printer drivers for all supported operating systems are available at http://www.hp.com/go/lj4345mfp_software. If you do not have access to the Internet, see the support flyer that came in the MFP box for information about obtaining the most recent software.

The following table lists the available software for the MFP.

Software	Windows 98/Me	Windows 2000/XP/ Server 2003	Mac OS	UNIX®/ Linux	OS/2
Windows Installer	x	x			
PCL 5[3]	x	x			
PCL 6	x	x			
PostScript emulation	x	x	x		
HP Toolbox	x	x	x[2]		
HP Web Jetadmin[1]		x		x	
Macintosh Installer			x		
Macintosh PostScript Printer Description (PPD) files			x		
IBM drivers[1]					x

Software	Windows 98/Me	Windows 2000/XP/ Server 2003	Mac OS	UNIX®/ Linux	OS/2
Model scripts[1]				x	

[1]Available only on the World Wide Web.
[2]Mac OS X V.10.2 or higher, TCP/IP required
[3]Install by using the **Add Printer** wizard.

Note You can also purchase the optional HP Digital Sending Software, which provides digital fax capability. For more information go to http://www.hp.com/go/lj4345mfp_software

Printer drivers

Printer drivers provide access to the MFP features and allow the computer to communicate with the MFP (by using a printer language). Check the install notes, Readme, and late-breaking Readme files on the MFP CD-ROM for additional software and languages.

The following printer drivers are included with the MFP. The most recent drivers are available at http://www.hp.com/go/lj4345mfp_software. Depending on the configuration of Windows-based computers, the installation program for the MFP software automatically checks the computer for Internet access to obtain the latest drivers.

Note PCL5 printer drivers and printer drivers for Microsoft Windows NT 4.0 are available for download at http://www.hp.com/go/lj4345mfp_software.

Operating system[1]	PCL 6	PS	PPD[2]
Windows 98, Me	x	x	x
Windows 2000, XP, Server 2003	x	x	x
Mac OS		x	x

[1] Not all MFP features are available from all drivers or operating systems. See the context-sensitive help in the printer driver for available features.
[2] PostScript (PS) Printer Description files (PPDs)

Note If your system did not automatically check the Internet for the latest drivers during software installation, download them from http://www.hp.com/go/lj4345mfp_software.

You can obtain Model Scripts for UNIX and Linux by downloading them from the Internet or by requesting them from an HP-authorized service or support provider. For Linux support see http://www.hp.com/go/linux. For UNIX support see http://www.hp.com/go/jetdirectunix_software. For additional information see the support flyer that came in the MFP box.

Note If the printer driver that you want is not on the MFP CD-ROM or is not listed here, check the install notes, Readme, and late-breaking Readme files to see if the printer driver is supported. If it is not supported, contact the manufacturer or distributor of the program that you are using and request a driver for the MFP.

Additional drivers

The following drivers are not included on the CD-ROM, but are available from the Internet.

- OS/2 PCL 5 or PCL 6 printer driver.
- OS/2 PS printer driver.
- UNIX model scripts.
- Linux drivers.
- HP OpenVMS drivers.

Note The OS/2 drivers are available from IBM and are packaged with OS/2. They are not available for Simplified Chinese, Korean, Japanese, or Traditional Chinese.

Select the correct printer driver for your needs

If you are using a Windows operating system, select a printer driver based on the way that you use the MFP. Certain MFP features are available only in the PCL 6 drivers. See the printer driver Help for available features.

- Use the PCL 6 driver to take full advantage of MFP features. For general office printing, the PCL 6 driver is recommended to provide optimum performance and print quality.
- Use the PS driver if you are printing primarily from PostScript-specific programs such as Adobe® and Corel®, for compatibility with PostScript Level 3 needs, or for PS flash font support.

Note The MFP automatically switches between PS and PCL printer languages.

Using the printer drivers

Use one of the following methods to open the printer drivers from your computer:

Operating System	**To change the settings for all print jobs until the software program is closed**	**To change the print job default settings (for example, turn on Print on Both Sides by default)**	**To change the configuration settings (for example, add a physical option such as a tray or enable/ disable a driver feature such as Allow Manual Duplexing)**
Windows 98, NT 4.0, and Me	On the **File** menu in the software program, click **Print**. Select the MFP, and then click **Properties**. The steps can vary; this procedure is most common.	Click **Start**, click **Settings**, and then click **Printers**. Right-click the MFP icon, and then select **Properties** (Windows 98 and Me) or **Document Defaults** (Windows NT 4.0).	Click **Start**, click **Settings**, and then click **Printers**. Right-click the MFP icon, and then select **Properties**. Click the **Configure** tab.

Operating System	To change the settings for all print jobs until the software program is closed	To change the print job default settings (for example, turn on Print on Both Sides by default)	To change the configuration settings (for example, add a physical option such as a tray or enable/ disable a driver feature such as Allow Manual Duplexing)
Windows 2000, XP, and Server 2003	On the **File** menu in the software program, click **Print**. Select the MFP, and then click **Properties** or **Preferences**. The steps can vary; this procedure is most common.	Click **Start**, click **Settings**, and then click **Printers** or **Printers and Faxes**. Right-click the MFP icon, and then select **Printing Preferences**.	Click **Start**, click **Settings**, and then click **Printers** or **Printers and Faxes**. Right-click the MFP icon, and then select **Properties**. Click the **Device Settings** tab.
Mac OS V9.1	On the **File** menu, click **Print**. Change the settings that you want on the various pop-up menus.	On the **File** menu, click **Print**. As you change settings on the pop-up menu, click **Save Settings**.	Click the desktop MFP icon. From the **Printing** menu, click **Change Setup**.
Mac OS X V10.1	On the **File** menu, click **Print**. Change the settings that you want on the various pop-up menus.	On the **File** menu, click **Print**. Change the settings that you want on the various pop-up menus, and then on the main pop-up menu, click **Save Custom Setting**. These settings are saved as the **Custom** option. To use the new settings, you must select the **Custom** option every time that you open a program and print.	Delete the MFP and reinstall it. The driver will be auto-configured with the new options when it is reinstalled. **Note** Use this procedure for AppleTalk connections only. Configuration settings might not be available in Classic mode.
Mac OS X V10.2	On the **File** menu, click **Print**. Change the settings that you want on the various pop-up menus.	On the **File** menu, click **Print**. Change the settings that you want on the various pop-up menus, and then, on the **Presets** pop-up menu, click **Save as** and type a name for the preset. These settings are saved in the **Presets** menu. To use the new settings, you must select the saved preset option every time you open a program and print.	Open **Print Center** by selecting the hard drive, clicking **Applications**, clicking **Utilities**, then double-clicking **Print Center**. Click on the print queue. On the **Printers** menu, click **Show Info**. Click the **Installable Options** menu. **Note** Configuration settings might not be available in Classic mode.

Operating System	To change the settings for all print jobs until the software program is closed	To change the print job default settings (for example, turn on Print on Both Sides by default)	To change the configuration settings (for example, add a physical option such as a tray or enable/ disable a driver feature such as Allow Manual Duplexing)
Mac OS X V10.3	On the **File** menu, click **Print**. Change the settings that you want on the various pop-up menus.	On the **File** menu, click **Print**. Change the settings that you want on the various pop-up menus, and then, on the **Presets** pop-up menu, click **Save as** and type a name for the preset. These settings are saved in the **Presets** menu. To use the new settings, you must select the saved preset option every time that you open a program and print.	Open **Printer Setup Utility** by select ing the hard drive, clicking **Applications**, clicking **Utilities**, then double-clicking **Printer Setup Utility**. Click on the print queue. On the **Printers** menu, click **Show Info**. Click the **Installable Options** menu.

Printer driver Help (Windows)

Each printer driver has Help screens that can be activated by using the Help button, the F1 key on the computer keyboard, or a question-mark symbol in the upper-right corner of the printer driver (depending on the Windows operating system that you are using). You can also open printer-driver Help by right-clicking any item in the driver, and then clicking **What's This?** These Help screens give detailed information about the specific driver. Printer driver Help is separate from your program Help.

Printer driver features

The printer driver has features that enable you to perform many helpful tasks, such as the following:

- Print on both sides (duplex printing)
- Print watermarks
- Resize documents
- Configure a custom paper size
- Print on different paper for the first page or print covers on different paper
- Print multiple pages on one sheet of paper
- Set up output options such as stapling or using the 3-bin mailbox
- Specify whether pages are delivered face-up or face-down

For complete information about using these driver features, see Printing on both sides of paper (optional duplexer) and Using features in the printer driver.

HP disk management utility

The HP Disk Management Utility should be installed only on the computer of the system administrator. It allows administrators to control the hard disk and flash memory features that are not found in the drivers. Bidirectional communication is required.

Note HP Disk Management Utility is not available for Macintosh operating systems.

Use the HP Disk Management Utility for the following tasks:

- Initialize disk and flash memory.
- Download to, delete from, and manage fonts on disk and flash memory across networks.
- Download PostScript Type 1, PostScript Type 42 (TrueType fonts converted to PostScript format), TrueType, and PCL bitmap fonts. (To download Type 1 fonts, Adobe Type Manager must be loaded and running.)

Software for Macintosh computers

The HP installer provides PostScript Printer Description (PPD) files, and Printer Dialog Extensions (PDEs) for use with Macintosh computers.

The embedded Web server can be used with Macintosh computers if the MFP is connected to a network. See Using the embedded Web server for more information.

PPDs

Use PPDs in combination with the Apple PostScript drivers to gain access to the MFP features and to allow the computer to communicate with the MFP. An installation program for the PPDs, PDEs, and other software is provided on the CD-ROM. Use the appropriate PS driver that comes with the operating system.

Installing the printing system software

The MFP comes with printing system software and MFP drivers on a CD-ROM. The printing system software on the CD-ROM must be installed in order to take full advantage of the MFP features.

If you do not have access to a CD-ROM drive, you can download the printing system software from the Internet at http://www.hp.com/go/lj4345mfp_software.

Note Sample model scripts for UNIX (HP-UX®, Sun Solaris) and Linux networks are available for download from the World Wide Web. For Linux support see http://www.hp.com/go/linux. For UNIX support see http://www.hp.com/go/jetdirectunix_software.

You can download the latest software free of charge at http://www.hp.com/go/lj4345mfp_software.

After you have followed the installation instructions and loaded the software, see Using features in the printer driver to get the most out of your MFP.

Installing Windows printing system software for direct connections

This section explains how to install the printing system software for Microsoft Windows 98, Windows Me, Windows 2000, Windows XP, and Windows Server 2003.

When installing the printing software in a direct-connect environment, always install the software before connecting the parallel cable. If the parallel cable was connected before the software installation, see Installing the software after the parallel cable has been connected.

Use an IEEE 1284-compatible parallel cable.

To install the printing system software

1. Close all software programs that are open or running.
2. Insert the MFP CD-ROM into the CD-ROM drive.

   If the welcome screen does not open, start it by using the following procedure:

   a. On the **Start** menu, click **Run**.

   b. Type the following (where X is the letter of the CD-ROM drive): `X:\setup`

   c. Click **OK**.
3. When prompted, click **Install Printer** and follow the instructions on the computer screen.
4. Click **Finish** when the installation has completed.
5. Restart the computer.
6. Print a page from any software program to make sure that the software is correctly installed.

If installation fails, reinstall the software. If this fails, check the installation notes and Readme files on the MFP CD-ROM or the flyer that came in the MFP box, or go to http://www.hp.com/go/lj4345mfp_software for help or more information. You can also obtain assistance from the HP Instant Support service, which is available through the embedded Web server. See Using the embedded Web server.

Installing Windows printing system software for networks

The software on the MFP CD-ROM supports network installation with a Microsoft network (except Windows 3.1*x*). For network installation on other operating systems, go to http://www.hp.com/go/lj4345mfp_software.

Note Windows NT 4.0 drivers must be installed through the Windows Add-Printer Wizard.

The installer does not support printer installation or printer object creation on Novell servers. It supports only direct-mode network installations between Windows computers and a printer. To install your MFP and create objects on a Novell server, use an HP utility, such as HP Web Jetadmin, or a Novell utility, such as NWadmin.

The easiest way to install the software is by using the **Installer Customization Wizard**, which is available on the first installation screen. If you choose not to use this wizard, use the following procedure to install the software.

To install the printing system software

1. If you are installing the software on Windows NT 4.0, Windows 2000, Windows XP, or Windows Server 2003 make sure that you have administrator privileges.

   Print a configuration page to make sure that the HP Jetdirect print server is configured correctly for the network. See Checking the MFP configuration. On the second page, locate the MFP IP address. You might need this address to complete network installation.
2. Close all software programs that are open or running.
3. Insert the MFP CD-ROM into the CD-ROM drive.
4. If the welcome screen does not open, start it by using the following procedure:
   a. On the **Start** menu, click **Run**.
   b. Type the following (where X is the letter of the CD-ROM drive): `X:\setup`
   c. Click **OK**.
5. When prompted, click **Install Printer** and follow the instructions on the computer screen.
6. Click **Finish** when the installation is complete.
7. Restart the computer.
8. Print a page from any software program to make sure that the software is correctly installed.

If installation fails, reinstall the software. If this fails, check the installation notes and Readme files on the MFP CD-ROM or the flyer that came in the MFP box, or go to http://www.hp.com/go/lj4345mfp_software for help or more information. You can also obtain assistance from the HP Instant Support service, which is available through the embedded Web server. See Using the embedded Web server.

To set up a Windows computer to use the network MFP with Windows-sharing

You can share the MFP on the network so that other network users can print to it.

See your Windows documentation to set up Windows-sharing. After the MFP is shared, install the MFP software on all computers that share the MFP.

Installing Macintosh printing system software for networks

This section describes how to install Macintosh printing system software. The printing system software supports Apple Mac OS 9.*x* and later and Mac OS X V10.1 and later.

The printing system software includes PostScript Printer Description files (PPDs). PPDs, in combination with the Apple LaserWriter 8 printer driver, provide access to the MFP features and allow the computer to communicate with the MFP. An installation program for the PPDs and other software is provided on the CD-ROM that came with the MFP. In addition, use the Apple LaserWriter 8 printer driver that comes with the computer.

To install printer drivers in Mac OS 9.*x*

1. Connect the network cable between the HP Jetdirect print server and a network port.

2. Insert the CD-ROM into the CD-ROM drive. The CD-ROM menu runs automatically. If the CD-ROM menu does not run automatically, double-click the CD-ROM icon on the desktop, and then double-click the **Installer** icon. This icon is located in the Installer/<language> folder of the Starter CD-ROM, where <language> is your language preference. For example, the Installer/English folder contains the Installer icon for the English MFP software.
3. Follow the instructions on the screen.
4. From **HD**, click **Applications**, click **Utilities**, and then open **Desktop Printer Utility**.
5. Double click **Printer (AppleTalk)**.
6. Next to AppleTalk Printer Selection, click **Change**.
7. Select the MFP, click **Auto Setup**, and then click **Create**.
8. On the **Printing** menu, click **Set Default Printer**.

To install printer drivers in Mac OS X V10.1 and later

1. Connect the network cable between the HP Jetdirect print server and a network port.
2. Insert the CD-ROM into the CD-ROM drive. The CD-ROM menu runs automatically. If the CD-ROM menu does not run automatically, double-click the CD-ROM icon on the desktop, and then double-click the **Installer** icon. This icon is located in the Installer/<language> folder of the Starter CD-ROM, where <language> is your language preference. For example, the Installer/English folder contains the Installer icon for the English MFP software.
3. Double-click the **HP LaserJet Installers** folder.
4. Follow the instructions on the computer screen.
5. Double-click the **Installer** icon for the appropriate language.

Note If Mac OS X and Mac OS 9.x (Classic) are installed on the same computer, the installer will show both the Classic and the Mac OS X installation options.

6. On your computer hard drive, double-click **Applications**, double-click **Utilities**, and then double-click **Print Center** or **Print Setup Utility**.

Note If you are using Mac OS X V10.3, "Print Setup Utility" has replaced "Print Center".

7. Click **Add Printer**.
8. Select your connection type.
9. Select **HP LaserJet 4345 MFP** from the list.
10. Click **Add Printer**.
11. Close the Print Center or the Print Setup Utility by clicking the **close** button in the upper-left corner.

Installing Macintosh printing system software for direct connections

Note Macintosh computers do not support parallel port connections. To connect the MFP directly to a Macintosh computer, order an HP Jetdirect Connectivity card, which has USB port. See Ordering parts, accessories, and supplies for information about ordering this card. (Order part number J4135A.)

This section explains how to install the printing system software for OS 9.*x* and later and OS X V10.1 and later.

The Apple LaserWriter driver must be installed in order to use the PPD files. Use the Apple LaserWriter 8 driver that came with your Macintosh computer.

To install the printing system software

1. Connect a USB cable between the USB port on the EIO card and the USB port on the computer. Use a standard 2-meter USB cable.
2. Insert the MFP CD-ROM into the CD-ROM drive and run the installer.

   The CD-ROM menu runs automatically. If the CD-ROM menu does not run automatically, double-click the CD-ROM icon on the desktop, and then double-click the **Installer** icon. This icon is located in the Installer/<language> folder of the Starter CD-ROM, where <language> is your language preference.
3. Follow the instructions on the computer screen.
4. **For Mac OS 9.x**:
   a. From the computer hard drive, double-click **Applications**, double-click **Utilities**, and then double-click **Desktop Printer Utility**.
   b. Double-click **Printer (USB)**, and then click **OK**.
   c. Next to **USB Printer Selection**, click **Change**.
   d. Select **HP LaserJet 4345 MFP**, and then click **OK**.
   e. Next to **Postscript Printer Description (PPD) File**, click **Auto Setup**, and then click **Create**.
   f. On the **Printing** menu, click **Set Default Printer**.

   For Mac OS X:

   a. From **HD**, click **Applications**, then click **Utilities**, and then click **Print Center** or **Printer Setup Utility** to start the Print Center or Printer Setup Utility.
   b. If the MFP appears in the Printer list, delete the MFP.
   c. Click **Add**.
   d. On the drop-down menu at the top, click **USB**.
   e. In the **Printer Model List**, click **HP**.
   f. Under **Model Name**, click **HP LaserJet 4345mfp Series**, and then click **Add**.
5. Print a page from any software program to make sure that the software is correctly installed.

Installing the software after the parallel cable has been connected

If you have already connected a parallel cable to a Windows computer, the **New Hardware Found** dialog box appears when you turn on the computer.

To install the software for Windows 98 or Windows Me

1. In the **New Hardware Found** dialog box, click **Search CD-ROM drive**.
2. Click **Next**.
3. Follow the instructions on the computer screen.

4. Print a page from any software program to make sure that the MFP software is correctly installed.

If installation fails, reinstall the software. If this fails, check the installation notes and Readme files on the MFP CD-ROM or the flyer that came in the MFP box, or go to http://www.hp.com/go/lj4345mfp_software for help or more information. You can also obtain assistance from the HP Instant Support service, which is available through the embedded Web server. See Using the embedded Web server.

To install the software for Windows 2000, Windows XP, or Windows Server 2003

1. In the **New Hardware Found** dialog box, click **Search**.
2. On the **Locate Driver Files** screen, select the **Specify a Location** check box, clear all other check boxes, and then click **Next**.
3. Type the following text, where X is the letter of the CD-ROM drive: `X:\2000XP`
4. Click **Next**.
5. Follow the instructions on the computer screen.
6. Click **Finish** when installation is complete.
7. Select a language and follow the instructions on the computer screen.
8. Print a page from any software program to make sure that the software is correctly installed.

If installation fails, reinstall the software. If this fails, check the installation notes and Readme files on the MFP CD-ROM or the flyer that came in the MFP box, or go to http://www.hp.com/go/lj4345mfp_software for help or more information. You can also obtain assistance from the HP Instant Support service, which is available through the embedded Web server. See Using the embedded Web server.

Uninstalling the software

This section explains how to uninstall the printing system software.

To remove software from Windows operating systems

Use the Uninstaller to select and remove any or all of the Windows HP printing-system components.

1. Click **Start** and then point to **Programs**.
2. Point to **HP LaserJet 4345mfp Series**, and then click **Uninstaller**.
3. Click **Next**.
4. Select the HP printing-system components that you want to uninstall.
5. Click **OK**.
6. Follow the instructions on the computer screen to complete the uninstallation.

Loading input trays

This section contains information about loading standard- and custom-size media into the input trays.

CAUTION To avoid a jam, never add or remove paper from a tray while printing or copying from that tray. To avoid damaging the MFP, print labels and envelopes from tray 1 only. Print on only one side of labels, envelopes, and transparencies.

Loading tray 1

Tray 1 holds up to 100 sheets of paper or 10 envelopes. For more information about supported media, see Supported types and sizes of print media.

To load tray 1 when the same media is used for multiple print jobs

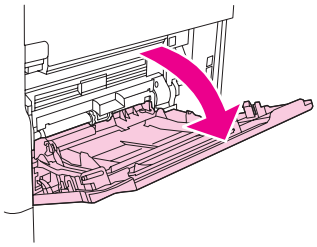
Use the following procedure if tray 1 is loaded continually with the same type of media, and the media is not usually removed from tray 1 between print jobs. The following procedure can also increase the MFP performance when printing from tray 1.

CAUTION To avoid a jam, never add or remove media from a tray while printing from that tray.

1. Touch **Menu**.
2. Touch **PAPER HANDLING**.
3. Touch **TRAY 1 SIZE**.
4. Touch the correct media size. **SETTING SAVED** appears on the control-panel display.

Note If you select **CUSTOM** as the media size, also select the unit of measure and the X and Y dimensions.

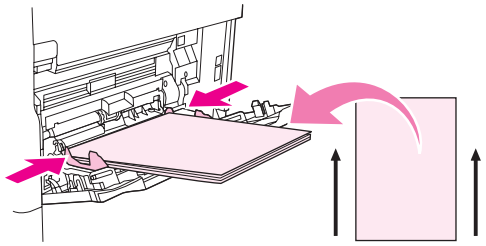
5. Touch **TRAY 1 TYPE**.
6. Touch the correct paper type. **SETTING SAVED** appears on the control-panel display.
7. Touch **EXIT** to exit the menus.
8. Open tray 1.



9. Load paper according to size and finishing options. See Orienting media for information about loading preprinted, letterhead, and prepunched paper.

CAUTION To avoid jams, print sheets of labels one sheet at a time.

10. Adjust the media guides so they lightly touch the media stack, but do not bend the media.



11. Make sure the media fits under the tabs on the guides and not above the load level indicators.

Note If printing on long media also pull out the tray extension until it stops.

12. Touch **EXIT** to exit the menus. The tray is ready to use.

Loading trays 2, 3, 4 and 5

Trays 2 , 3, 4, and 5 hold up to 500 sheets of standard media. For information about paper specifications, see Supported types and sizes of print media.

The following are the *detectable* standard sizes, which are marked inside the tray:

- A4
- Letter
- Legal
- Executive
- B5 (JIS)
- A5

The following are the *undetectable* standard sizes:

- 16K
- Executive (JIS)
- 8.5 x 13 (216 x 330 mm).

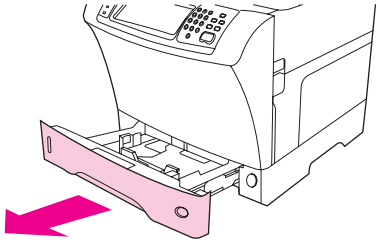
When loading undectable sizes, you need to manually set the size at the control panel. For information about loading custom-size media, see Loading custom-size media in trays 2, 3, 4, and 5.

CAUTION To avoid a jam, never add or remove paper from a tray while printing from that tray.

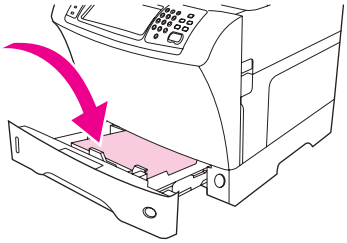
To load standard-size media in trays 2, 3, 4, and 5

Note Do not load envelopes in trays 2, 3, 4, or 5. Use only tray 1 for printing on envelopes.

1. Open the tray until it stops.



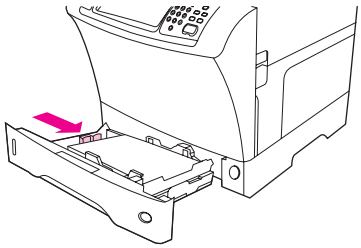
2. Load the media into the tray.



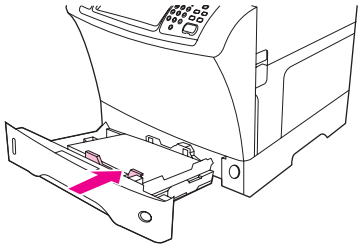
Note

See Orienting media for information about loading preprinted, letterhead, and prepunched paper.

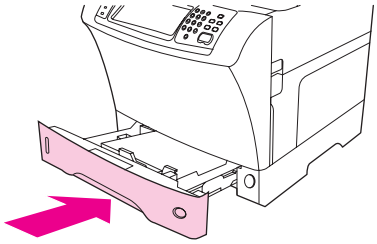
3. Adjust the media-length guide by pressing the tab on the guide and moving it until it touches the media stack.



4. Adjust the media-width guide by pressing the tab on the guide and moving it until it touches the media stack.



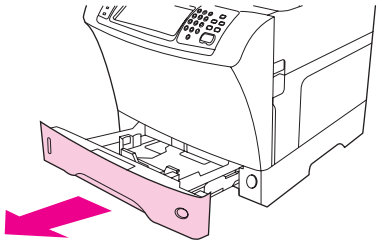
5. Close the tray.



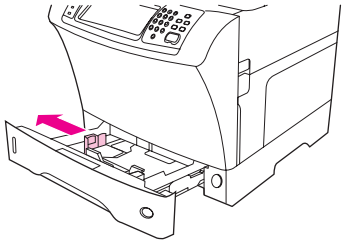
Note Depending on the size that you selected, the MFP might prompt you to move the media guides. Follow the instructions on the control panel.

Loading custom-size media in trays 2, 3, 4, and 5

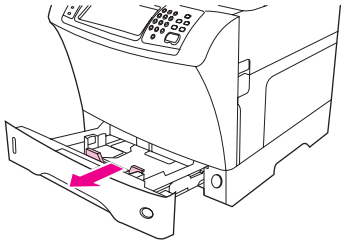
1. Open the tray until it stops.



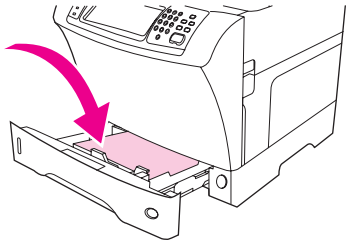
2. Press the tab on the left media guide and slide the guide all the way out.



3. Press the tab on the front media guide and slide the guide all the way out.

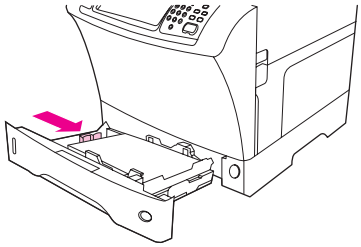


4. Load the media into the tray.

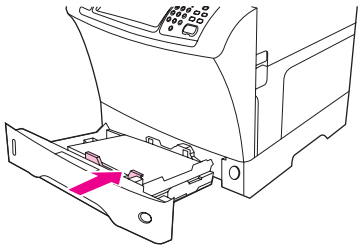


Note See Orienting media for information about loading preprinted, letterhead, and prepunched paper.

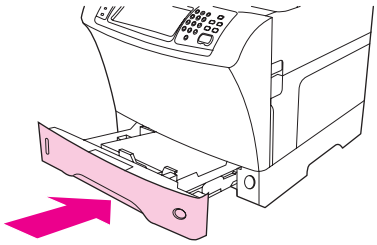
5. Adjust the left media guide by pressing the tab on the guide and sliding the guide until it gently touches the media stack



6. Adjust the front media guide by pressing the tab on the guide and sliding the guide until it gently touches the media stack.



7. Look at the package for the ream of paper. Note the value of the width (X dimension) and the length (Y dimension). You will need this information for a later step.
8. Close the tray.



9. If the size that appears on the control panel is **CUSTOM**, then the tray size is set to **ANY CUSTOM**. The tray will match any custom-size print job, even if the print-job dimensions are different from the dimensions of the media that is loaded in the tray. If you prefer, you can specify the exact dimensions of the custom-size media that is loaded in the tray. When you specify exact dimensions, the dimensions appear as the size, rather than **CUSTOM**.

   Touch **CUSTOM**. The **UNIT OF MEASURE** menu appears.

Note The MFP might prompt you to move the media guides. Follow the instructions on the control panel.

10. Touch **MILLIMETERS** or touch **INCHES**.
11. Use the numeric keypad to select the X dimension (short edge).
12. Touch **OK**.
13. Use the numeric keypad to select the Y dimension (long edge).
14. Touch **OK**. **SETTING SAVED** appears on the control-panel display for a moment. The tray size then appears.
15. Touch **EXIT** to accept the settings. The tray is ready to use.

Configuring the trays by using the Paper handling menu

You can configure the media type and size for the input trays without a prompt on the MFP control panel display. Use the following procedure to gain access to the **PAPER HANDLING** menu and configure the trays.

To configure the media size for a tray

1. Touch **Menu**.
2. Touch **PAPER HANDLING**.
3. Touch **TRAY <N> SIZE**.
4. Touch the media size that is loaded.
5. Touch **EXIT** to exit the menus.

Note Depending on the size that you selected, the MFP might prompt you to move the media guides. Follow the instructions on the control panel, and then close the tray.

To configure the media type for a tray

1. Touch **Menu**.
2. Touch **PAPER HANDLING**.
3. Touch **TRAY <N> TYPE**.
4. Touch the media type that is loaded.
5. Touch **EXIT** to exit the menus.

2 Using the control panel

The MFP control panel has a touchscreen graphical display that offers an integrated approach to copying, e-mail, and printing.

The control panel provides you with all of the features of a standard photocopier, plus printing and e-mail capabilities. Use the control panel to describe the features of the original document, to specify any modifications to the scanned image, and to select the features that you want in the copy. For example, you can describe the original document as an A4-sized, duplexed, text document, and then you can apply scaling or contrast changes in the copy. Next, select copy options such as tray and paper size to be used for copying. The graphical display shows a representative image (page icon) of both the original document and the copy.

In addition, use the control-panel menus to set system defaults, to customize settings for a particular job, and to store and retrieve printed and scanned jobs.

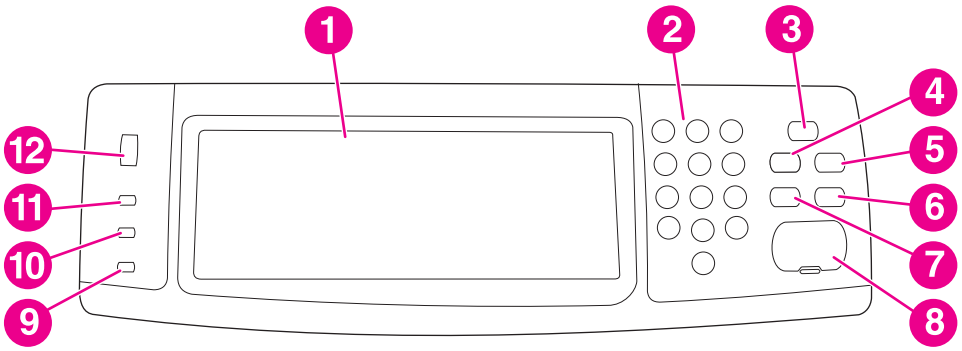
This chapter introduces the following control-panel topics:

- Control-panel layout
- Control-panel features
- Home-screen navigation
- Help system
- Menu map
- Retrieve job menu
- Information menu
- Paper handling menu
- Configure device menu
- Fax menu
- Diagnostics menu
- Service menu

Specific information about printing, copying, and sending tasks appears in later chapters.

Control-panel layout

The control panel includes a touchscreen graphical display, job-control buttons, a numeric keypad, and three light-emitting diode (LED) status lights.



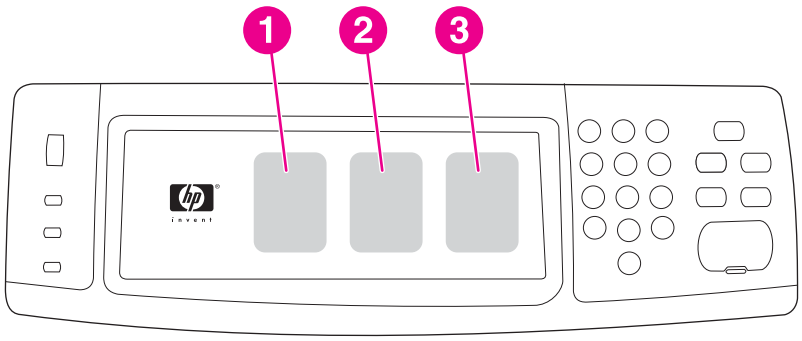
1 Touchscreen graphical display
2 Numeric keypad
3 SLEEP button
4 MENU button
5 STATUS button
6 STOP button
7 RESET button
8 START button
9 Attention light
10 Data light
11 Ready light
12 Display contrast adjustment

Control-panel features

Features/buttons	Function
(Help button)	Provides access to "What is this?" Help. This function is embedded in the touchscreen menus.
Reset	Resets the job settings to factory or user-defined default values.
Stop	Cancels the active job.
Start	Begins a copy job, starts digital sending, or continues a job that has been interrupted.
Numeric keypad	Allows you to type numeric values for number of copies required and other numeric values.

Home-screen navigation

Use the following control-panel elements in the graphical display to gain access to MFP features.



1 Touch this to use the copy screen. For more information, see Copy-screen navigation.
2 Touch this to use the e-mail screen. For more information, see E-mail screen navigation.
3 Touch this to use the fax screen. For more information, see Faxing and see the *HP LaserJet Analog Fax Accessory 300 User Guide*.

Note If you install the optional HP Digital Sending Software (DSS), additional fields appear on the control-panel display. You might need to scroll sideways to see all the fields.

Help system

At any time, you can gain access to the help system on the touchscreen of the graphical display by touching .

"What is this?" Help

The MFP provides information about any topic on the touchscreen of the graphical display.

On the top level screen, touch (Help button), and then touch **What is this?**. After touching an item, a pop-up dialog box opens and displays information about the item you touched. After reading the information, touch a clear space on the screen to remove the What is this? pop-up dialog box.

On other levels of the touchscreen, you can gain access to the Help system by touching (Help button), which is located in the upper-left corner of each screen.

"Show me how" Help

The Show me how Help contains information about how to use the MFP features.

1. On the graphical touchscreen display on the control panel, touch (Help button).
2. Touch **Show me how**. Choose a topic from the Show Me How Index screen by using the scroll bar to highlight a topic.
3. Touch **OK**.

Show me how also appears in a What is this? pop-up dialog box if the item that you select is a function that includes instructions. For example, if you touch **What is this?** Help, and then touch **Enhance**, you see a **Show me how** button in the pop-up dialog box. Touch the **Show me how** button for information about how to enhance your copies.

Menu map

To see the current settings for the menus and items that are available in the control panel, print a control-panel-menu map:

1. Touch **Menu**.
2. Touch **INFORMATION**.
3. Touch **PRINT MENU MAP**.

Many of these values can be overridden from the driver or program. You might want to store the menu map near the MFP for reference.

The content of the menu map varies, depending on the options currently installed in the MFP. For a complete list of control-panel items and possible values, see the sections for each menu in this chapter.

Retrieve job menu

Note

If no private, stored, quick copy, or proof-and-hold jobs are stored on the MFP hard disk or in RAM memory, the message **NO STORED JOBS** appears when the menu is selected.

1. A list of user names appears on the control-panel display.
2. Select a user name, and then a list of stored jobs for that user appears.
3. Select a job name, and then print or delete the job. If a job requires a PIN to print, (lock symbol) appears next to the **PRINT** command and a PIN must be provided. If a job requires a PIN to delete, (lock symbol) appears next to the **DELETE** command and a PIN must be provided.
4. If you select **PRINT**, the MFP prompts for the number of copies to print (1 to 32,000).

Information menu

To print an information page, scroll to and touch the information page that you want.

Item	Explanation
PRINT MENU MAP	Generates a menu map that shows layout and current settings of the control menu items. The MFP will return to the **Ready** state when the page is completed.
PRINT CONFIGURATION	Generates a page detailing the current configuration of the MFP. The MFP will return to the online **Ready** state when the page is completed.
PRINT SUPPLIES STATUS PAGE	Generates a page that shows the number of pages remaining for each supply in the MFP. The MFP will return to the online **Ready** state when the page is completed.
PRINT USAGE PAGE	Generates a page that contains information that could be used for cost accounting. The MFP will return to the online **Ready** state when the page is completed.
PRINT FILE DIRECTORY	Generates a directory page containing information for all installed mass storage devices. The MFP will return to the online **Ready** state when the page is completed.
PRINT PCL FONT LIST	Generates a typeface list of all PCL fonts available on the MFP. The MFP will return to the online **Ready** state when the page is completed.
PRINT PS FONT LIST	Generates a typeface list of all PS fonts available on the MFP. The MFP will return to the online **Ready** state when the page is completed.

Paper handling menu

When paper-handling settings are correctly configured through the control panel, you can print by selecting the type and size of paper from the driver or software application. For more information, see Selecting which tray is used for printing.

Some items in this menu (such as duplex and manual feed) are available from a software program, or from the printer driver (if the correct printer driver is installed). Printer-driver and software-program settings override control-panel settings. For more information, see Using features in the printer driver.

Note Items that have an asterisk (*) are the default values.

Item	Values	Explanation
ENVELOPE FEEDER SIZE	**ENVELOPE #10** **ENVELOPE MONARCH** **ENVELOPE C5** **ENVELOPE DL** **ENVELOPE B5**	Allows you to set the envelope size for the optional envelope feeder. **Note** This item appears only if an optional envelope feeder is installed.
ENVELOPE FEEDER TYPE	**ENVELOPE**	Allows you to set the media type for the optional envelope feeder. **Note** This item appears only if an optional envelope feeder is installed.

Item	Values	Explanation
TRAY 1 SIZE	**ANY SIZE*** **LETTER** **LEGAL** **EXECUTIVE** **STATEMENT** **8.5X13** **A4** **A5** **B5(JIS)** **EXECUTIVE(JIS)** **DPOSTCARD(JIS)** **16K** **ENVELOPE #10** **ENVELOPE MONARCH** **ENVELOPE C5** **ENVELOPE DL** **ENVELOPE B5** **CUSTOM** **ANY CUSTOM**	Allows you to set the media size for tray 1.
TRAY 1 TYPE	**ANY TYPE*** **PLAIN** **PREPRINTED** **LETTERHEAD** **TRANSPARENCY** **PREPUNCHED** **LABELS** **BOND** **RECYCLED** **COLOR** **ROUGH 90-105 G/M2** **ENVELOPE**	Allows you to specify the type of media in tray 1.

Item	Values	Explanation
TRAY <N> SIZE	**ANY SIZE** **LETTER*** **LEGAL** **EXECUTIVE** **8.5X13** **A4** **A5** **B5(JIS)** **EXECUTIVE(JIS)** **16K** **CUSTOM** **ANY CUSTOM**	Allows you to set the media size for tray 2, tray 3, tray 4, and tray 5. Substitute the tray number for **<N>**.
TRAY <N> TYPE	**ANY TYPE** **PLAIN*** **PREPRINTED** **LETTERHEAD** **TRANSPARENCY** **PREPUNCHED** **LABELS** **BOND** **RECYCLED** **COLOR** **ROUGH 90-105 G/M2**	Allows you to specify the type of media in each tray. Substitute the tray number for **<N>**.

Configure device menu

This menu contains all of the administrative functions.

Note Items that have an asterisk (*) are the default values.

Originals submenu

Although you can gain access to each item using the touchscreen graphical display, you can also select copying and sending items through the MFP menus. To gain access to this menu, touch **CONFIGURE DEVICE**, and then touch **ORIGINALS**.

Item	Values	Explanation
PAPER SIZE	**LETTER*** **LEGAL** **MIXED LTR/LGL** **EXECUTIVE** **A4** **A5** **B5(JIS)**	Sets the paper size of the original document.
NUMBER OF SIDES	**1*** **2**	Indicates whether one side or both sides of the original document are scanned. The MFP prompts you to turn the page over if **2** is selected and the original is placed on the glass.
ORIENTATION	**PORTRAIT*** **LANDSCAPE**	Indicates whether the orientation of the original is portrait (short-edge top) or landscape (long-edge top).
CONTENT	**MIXED*** **PHOTO** **TEXT**	Describes the type of image on the original. Select **PHOTO** if the original consists of graphic images, or **TEXT** if the image consists of text only. Select **MIXED** if the original contains graphics and text. Describe the **TEXT/PHOTO MIX** with a value from 0 to 8, where **0** represents mostly text, and **8** represents mostly graphics.

Item	Values	Explanation
DENSITY	**0** to **8**	Specifies the contrast and brightness of the image. You can choose from nine increments. **0**=darkest **8**=lightest

Copying submenu

To gain access to this menu, touch **CONFIGURE DEVICE**, and then touch **COPYING**.

Item	Values	Explanation
NUMBER OF SIDES	**1*** **2**	Indicates whether images should be printed on one side or both sides of the copy.
COLLATE	**ON*** **OFF**	Indicates whether copies should be collated or not collated.
PAPER DESTINATION	**OUTPUT BIN 1*** **OUTPUT BIN 2** **OUTPUT BIN 3**	Select the output bin on the optional 3-bin mailbox. **Note** This item appears only if an optional 3-bin mailbox is installed.
COPIES	**1-999**	Indicates the number of copies made when you press START without selecting the number of copies by using the numeric keypad.
FIRST COPY SPEED	**NO EARLY WARM UP*** **EARLY WARM UP**	Select **NO EARLY WARM UP** to disable the Fast First Copy feature. Using the Fast First Copy feature can cause excessive wear on the MFP. This is the default setting. Select **EARLY WARM UP** to enable the Fast First Copy feature, which decreases the time that the MFP requires to make a copy when it has been idle for awhile.
STAPLE	**NONE*** **CORNER**	To enable stapling, select **CORNER**. **Note** This item is available only if the stapler/stacker is installed.

Enhancement submenu

To gain access to this menu, touch **CONFIGURE DEVICE**, and then touch **ENHANCEMENT**.

Item	Values	Explanation
SHARPNESS	**0** to **4**	Specifies the sharpness setting. **0**=minimum sharpness **4**=maximum sharpness
BACKGROUND REMOVAL	**0** to **8**	Controls the amount of background material from the original that is eliminated on the copy. Background removal is useful when you copy both sides and do not want the material on the first side to be visible on the second side of the copy. **0**=minimum background removal (more background is visible) **8**=maximum background removal (less background is visible)

Sending submenu

To gain access to this menu, touch **CONFIGURE DEVICE**, and then touch **SENDING**.

Item	Values	Options	Explanation
E-MAIL	**SCAN PREFERENCE**	**COLOR*** **BLACK AND WHITE**	Determines whether the document is scanned in color or black and white.
	FILE TYPE	**PDF*** **TIFF** **M-TIFF** **JPEG**	Specifies the file format of the e-mail attachment.
	FILE SIZE	**SMALL** **STANDARD*** **LARGE**	Specifies the compression of a file, which determines the file size.
	RESOLUTION	**75 DPI** **150 DPI*** **200 DPI** **300 DPI**	Specifies the resolution of a document or image; a lower DPI setting results in a smaller file size, but image quality might be affected.
	ADDRESS VALIDATION	**ON*** **OFF**	Enables the MFP to check e-mail syntax. Valid e-mail addresses require the "@" sign and a ".".
	FIND SEND GATEWAYS		The MFP searches the network for SMTP and LDAP gateways that the MFP can use to send e-mail.
	SMTP GATEWAY		The IP address of the SMTP server used to send e-mail.
	LDAP GATEWAY		The IP address of the LDAP gateway that the MFP uses to look up e-mail information.
	TEST SEND GATEWAYS		Tests the configured gateways to see if they are functional.
REPLICATE MFP			Copies the send settings from one MFP to another. **Note** This feature might not work with older MFPs.

Item	Values	Options	Explanation
LDAP SETTINGS	**LDAP SEARCH ROOT**		Provides information for setting up the LDAP searching capability.
	LDAP LOGON METHOD	**ANONYMOUS** **SIMPLE** **GSS**	Touch the correct logon method.
	LDAP USERNAME		Type the LDAP username.
	PASSWORD		Type the password.
	DOMAIN		Type the correct domain name.

Printing submenu

Some items in the Printing submenu are available in a software program, or in the printer driver (if the correct printer driver is installed). Driver and program settings override control-panel settings. For more information, see Using features in the printer driver.

To gain access to this menu, touch **CONFIGURE DEVICE**, and then touch **PRINTING**.

Item	Values	Explanation
COPIES	**1** to **32,000**	Set the default number of copies by selecting any number from 1 to 32,000. Use the numeric keypad to select the number of copies. **Note** It is recommended that you set the number of copies in the printer driver or in the software program. (Printer driver settings and software program settings override control-panel settings.)

Item	Values	Explanation
DEFAULT PAPER SIZE	**LETTER*** **LEGAL** **EXECUTIVE** **8.5X13** **A4** **A5** **B5(JIS)** **EXECUTIVE(JIS)** **DPOSTCARD(JIS)** **16K** **ENVELOPE #10** **ENVELOPE MONARCH** **ENVELOPE C5** **ENVELOPE DL** **ENVELOPE B5** **CUSTOM**	Set the default image size for paper and envelopes. (The item name will change from **PAPER** to **ENVELOPE** as you scroll through the available sizes.)
DEFAULT CUSTOM PAPER SIZE	**UNIT OF MEASURE** **X DIMENSION** **Y DIMENSION**	Allows you to set a custom paper size for any of the installed trays. Substitute the tray number for **<N>**. Select the X and Y dimensions of the custom paper size.
PAPER DESTINATION	**OUTPUT BIN 1*** **OUTPUT BIN 2** **OUTPUT BIN 3**	Select the output bin on the optional 3-bin mailbox. **Note** This item appears only if an optional 3-bin mailbox is installed, and if it is not configured for stacker mode.
DUPLEX	**OFF*** **ON**	Set the value to **ON** to print on both sides (duplex) or **OFF** to print on one side (simplex) of a sheet of paper. For more information, see Printing on both sides of paper (optional duplexer).
OVERRIDE A4/LETTER	**YES*** **NO**	This command is used to print on Letter-size media when an A4 job is sent but no A4-size media is loaded in the MFP (or to print on A4-size media when a Letter job is sent, but no Letter-size media is loaded in the MFP).

Item	Values	Explanation
MANUAL FEED	**OFF*** **ON**	Feed the paper manually from tray 1, rather than automatically from a tray. When **MANUAL FEED=ON** and tray 1 is empty, the MFP goes offline when it receives a print job. It then displays **MANUALLY FEED <PAPER SIZE>**. For more information, see Manually feeding media from tray 1.
COURIER FONT	**REGULAR*** **DARK**	Select the version of Courier font to use: **REGULAR**: The internal Courier font available on the HP LaserJet 4 Series printers. **DARK**: The internal Courier font available on the HP LaserJet III Series printers. Both fonts are not available at the same time.
WIDE A4	**YES** **NO***	The Wide A4 setting changes the number of characters that can be printed on a single line of A4 paper. **YES**: Up to 80 10-pitch characters can be printed on one line. **NO**: Up to 78 10-pitch characters can be printed on one line.
PRINT PS ERRORS	**ON** **OFF***	Select **ON** to print the PS error page when PS errors occur.
PRINT PDF ERRORS	**ON** **OFF***	Select **ON** to print the PDF error page when PDF errors occur.
PCL SUBMENU		For information about this option, see PCL submenu.

PCL submenu

To gain access to this menu, touch **CONFIGURE DEVICE**, touch **PRINTING**, and then touch **PCL SUBMENU**.

Item	Values	Explanation
FORM LENGTH	**5** to **128**	Sets vertical spacing from 5 to 128 lines for default paper size. Enter the value by using the numeric keypad.
ORIENTATION	**PORTRAIT*** **LANDSCAPE**	Select the default page orientation. **Note** It is recommended that you set the page orientation in the printer driver or in the software program. (Printer-driver settings and software-program settings override control-panel settings.)
FONT SOURCE	**INTERNAL*** **CARD SLOT X**	**INTERNAL**: Internal fonts. **CARD SLOT 1**, **CARD SLOT 2**, or **CARD SLOT 3**: Fonts stored in one of the three flash memory slots.
FONT NUMBER	**0** to **999**	The MFP assigns a number to each font and lists them on the PCL Font List (see Checking the MFP configuration). The font number appears in the **Font #** column of the printout.
FONT PITCH	**0.44** to **99.99**	Use the numeric keypad to enter a value. This item might not appear, depending on the font selected.
SYMBOL SET	Variety of available symbol sets	Select any one of several available symbol sets at the MFP control panel. A symbol set is a unique grouping of all the characters in a font. **PC-8** or **PC-850** is recommended for line-draw characters.
APPEND CR TO LF	**YES** **NO***	Select **YES** to append a carriage return to each line feed that is encountered in backward-compatible PCL jobs (pure text, no job control). Some environments, such as UNIX, indicate a new line by using only the line-feed control code. This option allows the user to append the required carriage return to each line feed.
SUPPRESS BLANK PAGES	**NO*** **YES**	When set to **YES**, form feeds are ignored if the page is blank.

Print quality submenu

You can gain access to some of the items in this menu in either a software program, or in the printer driver (if the correct printer driver is installed). Printer driver settings and software program settings override control-panel settings. For more information, see Using features in the printer driver.

To gain access to this menu, touch **CONFIGURE DEVICE**, and then touch **PRINT QUALITY**.

Item	Values	Explanation
SET REGISTRATION	**PRINT TEST PAGE** **SOURCE** **ADJUST TRAY <X>**	Shift the margin alignment to center the image on the page from top to bottom, and left to right. You can also align the image on the front, with the image printed on the back.
FUSER MODES	List of media types	Configure the fuser mode associated with each media type. The fuser mode can be changed only in this menu option at the control panel. **NORMAL**: Normal temperature; prints at full speed. **HIGH1**: Raises the temperature; prints at 3/4 speed. **HIGH2**: Raises the temperature; prints at 1/2 speed. **LOW 1**: Low temperature; prints at 3/4 speed; used for lightweight media. **LOW 2**: Low temperature; prints at full speed; used for transparencies. For a complete list of supported media types, see Supported types and sizes of print media. **CAUTION** If you change the fuser mode to **HIGH1** or **HIGH2**, be sure to change it back to the default when you are done printing. Setting a paper type to **HIGH1** or **HIGH2** might shorten the life of some consumables, such as the fuser, and might cause other failures or jams.

Item	Values	Explanation
OPTIMIZE	**HIGH TRANSFER** **LINE DETAIL** **RESTORE OPTIMIZE**	This item optimizes a number of MFP parameters for all jobs rather than by media type. The default setting for each value is **OFF**. Turn **HIGH TRANSFER** on if parts of the printed image appear to have extra toner. Turn **LINE DETAIL** on if lines and text are blurred. **RESTORE OPTIMIZE** resets all of the optimize parameters to the default settings.
RESOLUTION	**300** **600** **FASTRES 1200*** **PRORES 1200**	Select the resolution from the following values: **300**: Produces draft print quality at maximum MFP speed. 300 dpi (dots per inch) is recommended for some bitmapped fonts and graphics, and for compatibility with the HP LaserJet III family of printers. **600**: Produces high print quality at maximum product speed. **FASTRES 1200**: Produces optimum print quality (comparable to 1200 dpi) at maximum product speed. **PRORES 1200**: Effectively prints at 1200 dots per inch (dpi) . This setting improves the quality of the print output, but it might result in longer printing times. **Note** It is recommended that you change the resolution in the printer driver or in the software program. (Printer-driver settings and software-program settings override control-panel settings.)

Item	Values	Explanation
RET	**OFF** **LIGHT** **MEDIUM*** **DARK**	Use the Resolution Enhancement technology (REt) setting to produce print output with smooth angles, curves, and edges. All print resolutions, including FastRes 1200, benefit from REt. **Note** It is recommended that you change the REt setting in the printer driver or in the software program. (Printer driver settings and software program settings override control-panel settings.)
ECONOMODE	**ON** **OFF***	When EconoMode is set to **ON**, the MFP prints with a reduced amount of toner per page; however, the print quality of the page is drastically reduced. HP does not recommend full-time use of EconoMode. If EconoMode is used full-time when the average toner coverage is significantly less than 5%, it is possible that the toner supply will outlast the mechanical parts in the print cartridge. If print quality begins to degrade under these circumstances, you will need to install a new print cartridge, even if a toner supply remains in the cartridge.
TONER DENSITY	**1** to **5**	Lighten or darken the print on the page by changing the toner density setting. The settings range from **1** (light) to **5** (dark), but the default setting of **3** usually produces the best results. **Note** It is recommended that you change the toner density in the printer driver or in the software program. (Printer-driver settings and software-program settings override control-panel settings.)

Item	Values	Explanation
AUTO CLEANING	**ON*** **OFF**	When auto-cleaning is on, the MFP prints a cleaning page when the page count reaches the value set in **CLEANING INTERVAL**.
CLEANING INTERVAL	**1000** **2000** **5000** **10000** **20000**	Select the frequency that you want the MFP to automatically print a cleaning page.
AUTO CLEANING SIZE	**LETTER** **A4**	Use this item to specify the paper size that the MFP uses to print the cleaning page.
PROCESS CLEANING PAGE	No value to select	Use this item to clean the fuser. The cleaning process might take up to 2.5 minutes.

System setup submenu

Items in this menu affect the MFP function. Configure the MFP according to your printing needs.

To gain access to this menu, touch **CONFIGURE DEVICE**, and then touch **SYSTEM SETUP**.

Item	Values	Explanation
DATE/TIME	**DATE** **DATE FORMAT** **TIME** **TIME FORMAT**	Sets the start date and time for the MFP.
JOB STORAGE LIMIT	**1** to **100**	Specifies the number of QuickCopy and Proof-and-Hold jobs that can be stored on the MFP hard-disk accessory.
JOB HELD TIMEOUT	**OFF*** **1 HOUR** **4 HOURS** **1 DAY** **1 WEEK**	Sets the amount of time that QuickCopy and proof-and-hold jobs are kept before being automatically deleted from the queue. If you change the Job Held Timeout value, only jobs that are stored *after* this change are affected by the change. Any jobs that were stored before you changed the value will retain the original timeout setting.

Item	Values	Explanation
SHOW ADDRESS	**AUTO** **OFF***	This item defines whether the IP address is shown on the control-panel display next to the **Ready** message. The default setting is **OFF**.
TRAY BEHAVIOR	**USE REQUESTED TRAY** **MANUAL FEED PROMPT** **PS DEFER MEDIA** **SIZE/TYPE PROMPT**	Specifies the behavior of the tray by indicating which tray the MFP should print from. **USE REQUESTED TRAY** sets the tray that the MFP should print from for specified jobs. The values for this menu item are **EXCLUSIVELY** (default) or **FIRST**. **MANUAL FEED PROMPT** determines whether or not the MFP prompts the user when a job does not match a requested configured tray. The values for this menu item are **ALWAYS** (default) or **UNLESS LOADED**. **PS DEFER MEDIA** determines whether the paper-handling model is based on PostScript rules or HP rules. The values for this menu item are **ENABLED** (follows the HP rules) or **DISABLED**. **SIZE/TYPE PROMPT**: Use this menu item to control whether the tray configuration message and its prompts are shown whenever a tray is configured for a type or size other than the type or size that is loaded in the tray.

Item	Values	Explanation
SLEEP DELAY	**1 MINUTE** **15 MINUTES** **30 MINUTES** **60 MINUTES*** **90 MINUTES** **2 HOURS** **4 HOURS**	Sets how long the MFP remains idle before it enters sleep mode.Using sleep mode offers the following advantages:: • Minimizes the amount of power that the MFP consumes when it is idle • Reduces wear on electronic components in the MFP **Note** Sleep mode turns off the backlight on the display, but the display is still readable. The MFP automatically exits sleep mode when you send a print job, receive a fax, touch any button on the control panel, touch any part of the touchscreen, open the scanner lid, or load media into the ADF. To enable or disable sleep mode, see Resets submenu.
WAKE TIME	List of days of the week	Sets the time that the MFP automatically comes out of sleep mode. This feature can be set for a different time for each day of the week.
COPY/SEND SETTINGS	For information about these settings, see the separate table Copy/send settings .	
PERSONALITY	**AUTO***** **PCL** **PS** **PDF** **XHTML** **MIME**	Select the default MFP language (personality). Possible values are determined by which valid languages are installed in the MFP. Normally you should not change the product language (the default is **AUTO**). If you change the setting to a specific product language, the MFP does not automatically switch from one language to another unless specific software commands are sent to the MFP.

Item	Values	Explanation
CLEARABLE WARNINGS	**ON** **JOB***	Set the amount of time that a clearable warning appears on the MFP control panel. **ON**: Warning messages appear on the control panel until they are cleared. **JOB**: Warning messages appear on the control panel until the end of the job from which they were generated.
AUTO CONTINUE	**ON*** **OFF**	This item determines how the MFP reacts to errors. **ON**: If an error prevents printing, the message is displayed, and the MFP goes offline for 10 seconds before returning online. **OFF**: If an error prevents printing, the message remains on the display, and the MFP does not print until you touch **CONTINUE**.
CARTRIDGE LOW	**CONTINUE*** **STOP**	Determine how the MFP functions when toner is low. The **ORDER CARTRIDGE** message first appears when approximately two weeks of typical printing remain in the cartridge. This allows you sufficient time to order a new print cartridge. **CONTINUE**: The MFP continues to print while the **ORDER CARTRIDGE** message is displayed. **STOP**: The MFP goes offline and waits for further action. For more information, see Managing the print cartridge
CARTRIDGE OUT	**STOP** **CONTINUE***	Determine how the MFP behaves when toner is out. **CONTINUE**: The MFP displays **REPLACE CARTRIDGE** until the cartridge is replaced. The MFP continues to print. **STOP**: The MFP goes offline and waits until the cartridge is replaced.

Item	Values	Explanation
JAM RECOVERY	**AUTO*** **ON** **OFF**	Determine how the MFP functions when a jam occurs. **AUTO**: The MFP automatically selects the best mode for jam recovery (usually **ON**). This is the default setting. **ON**: The MFP automatically reprints pages after a jam is cleared. **OFF**: The MFP does not reprint pages following a jam. Printing performance might be increased with this setting.
LANGUAGE	List of available languages	Sets the language of the control panel.

Copy/send settings

This table lists the options that are available for the **COPY/SEND SETTINGS**, which are part of the **SYSTEM SETUP** submenu.

Values	Explanation
INACTIVITY TIMEOUT	Defines the amount of time until the copy settings return to the default settings after any control-panel activity is completed.
AUTO SETTINGS RESET	Controls whether copy/send settings revert to default settings after the defined **INACTIVITY TIMEOUT** period.
TIMEOUT AFTER SEND	Defines the amount of time before the send settings return to the default settings after any control-panel activity is completed.
HOLD OFF PRINT JOB	Prevents network print jobs from starting within a specified period after a copy is completed.
HOLD OFF TIME	Defines the amount of time that print jobs must wait if **HOLD OFF PRINT JOB** is set to **ON**.
SCAN AHEAD	Allows a copy job to be scanned even if the MFP is printing another job. The job will be scanned and held until it can be printed. If this setting is set to **OFF**, the job is not scanned until the print job is completed.
AUTO JOB INTERRUPT	Allows a copy job to automatically interrupt any currently printing network print job. The copy job is placed between full copies of the job that is currently printing. If this setting is set to **OFF**, the job is not printed until all copies of the print job are completed.
COPY JOB INTERRUPT	Allows you to interrupt the current copy job to make a different copy. When you press the START button, the MFP shows a message that asks if you want to interrupt the current copy job.

Values	Explanation
EDGE-TO-EDGE COPIES	Indicates whether copies are printed edge-to-edge (within 2 mm, or 0.08 inch, of the edge of the paper) or whether they have the normal, unprintable border (6.35 mm, or 0.25 inch).
AUDIBLE FEEDBACK	Gives an audible indication when you press a button or when you touch an interactive area of the touchscreen.

MBM-3 Configuration submenu

Use the items in this menu to set up the output bins on the 3-bin mailbox.

To gain access to this menu, touch **CONFIGURE DEVICE**, and then touch **MBM-3 CONFIGURATION**.

Note This menu appears only when the 3-bin mailbox is installed.

Item	Values	Explanation
OPERATION MODE	**FUNCTION SEPARATOR** **MAILBOX*** **STACKER**	Select the operation mode that you want to use. For more information, see 3-bin mailbox. **Note** The MFP restarts automatically whenever the operation mode is changed.

Stapler/stacker submenu

Use the items in this menu to configure the stapling options.

To gain access to this menu, touch **CONFIGURE DEVICE**, and then touch **STAPLER/ STACKER**.

Note This menu appears only when the stapler/stacker is installed.

Item	Values	Explanation
STAPLE	**ONE** **NONE***	To enable stapling, select **ONE**. **Note** Printer-driver settings override control-panel settings.
STAPLES OUT	**STOP*** **CONTINUE**	Use this item to configure the MFP to either stop or continue when the staple cartridge is empty. If you select **CONTINUE**, jobs are stacked in the output bin, but they are not stapled.

I/O submenu

Items in the I/O (input/output) submenu affect the communication between the MFP and the computer.

To gain access to this menu, touch **CONFIGURE DEVICE**, and then touch **I/O**.

Item	Values	Explanation
I/O TIMEOUT	**5** to **300**	Use this to select the I/O timeout period in seconds. (I/O timeout refers to the time, measured in seconds, that the MFP waits before ending a print job.) Use this setting to adjust timeout for best performance. If data from other ports appear in the middle of your print job, increase the timeout value.
PARALLEL INPUT	**HIGH SPEED** **ADVANCED FUNCTIONS**	**HIGH SPEED** accepts faster parallel communications used for connections with newer computers. **ADVANCED FUNCTIONS** turns the bidirectional parallel communication on or off. The default is set for a bidirectional parallel port (IEEE-1284). This setting allows the MFP to send status readback messages to the computer. (Turning the parallel advanced functions on might slow language switching.)
FIND SEND GATEWAYS	No value to select	This item searches the network for both SMTP and LDAP gateways that can be used to send e-mail.
SMTP GATEWAY	No value to select	This is the IP address of the SMTP Gateway that is used for sending e-mail.
LDAP GATEWAY	No value to select	This is the IP address of the LDAP Gateway that is used for looking up e-mail address information.

EIO X Jetdirect submenu

The EIO (enhanced input/output) submenu appears only when an EIO device (such as an HP Jetdirect print server) is installed in an EIO slot on the MFP. The items in the menu depend on the particular accessory product that is installed. If the MFP contains an HP Jetdirect print server EIO card, you can configure basic networking parameters by using the EIO menu. These and other parameters can also be configured by using HP Web Jetadmin or other network configuration tools (such as by using Telnet or browsing the embedded Web server).

For more information about the EIO submenu, see the documentation that came with the HP Jetdirect card.

Embedded Jetdirect submenu

To gain access to this menu, touch **CONFIGURE DEVICE**, and then touch **EMBEDDED JETDIRECT**.

Item	Options	Values	Explanation
TCP/IP	**ENABLE**	**ON** **OFF**	**ON**: (default) Enable the TCP/IP protocol. **OFF**: Disable the TCP/IP protocol.
	HOST NAME		An alphanumeric string, up to 32 characters, that is used to identify the device. This name is listed on the Jetdirect configuration page. The default host name is NPIxxxxxx, where xxxxxx is the last six digits of the LAN hardware (MAC) address.
	CONFIG METHOD	**BOOTP** **DHCP** **AUTO IP** **MANUAL**	Select **BOOTP** (Bootstrap Protocol) for automatic configuration from a BootP server. Select **DHCP** (Dynamic Host Configuration Protocol) for automatic configuration from a DHCP server. Select **AUTO IP** for automatic link-local IP addressing. An address in the form 169.254.x.x will be automatically assigned. Use the **MANUAL** settings menu to configure TCP/IP parameters.
	MANUAL	**IP ADDRESS** **SUBNET MASK** **SYSLOG SERVER** **DEFAULT GATEWAY** **IDLE TIMEOUT**	**IP ADDRESS**: The unique IP address of the MFP. **SUBNET MASK**: The subnet mask for the MFP. **SYSLOG SERVER**: The IP address of the syslog server used to receive and log syslog messages. **DEFAULT GATEWAY**: The IP address of the gateway or router used for communications with other networks. **IDLE TIMEOUT**: The time period, in seconds, after which an idle TCP print data connection is closed. (The default is **270** seconds).

Item	Options	Values	Explanation
TCP/IP	**DEFAULT IP**	**AUTO IP** **LEGACY**	**AUTO IP**: A link-local IP address 169.254.x.x will be set. **LEGACY**: The address 192.0.0.192 will be set, consistent with older Jetdirect products.
	PRIMARY DNS		Specify the IP address (n.n.n.n) of the Primary Domain Name System (DNS) Server.
	SECONDARY DNS		Specify the IP address (n.n.n.n) of the Secondary Domain Name System (DNS) Server.
	PROXY SERVER		Specifies the proxy server to be used by embedded software in your MFP. A proxy server is typically used by network clients for Internet access. It caches Web pages, and provides a degree of Internet security, for those clients. To specify a proxy server, enter its IP address or fully-qualified domain name. The name can be up to 64 characters. For some networks, you might need to contact your Independent Service Provider (ISP) for the proxy server address.
	PROXY PORT		Enter the port number used by the proxy server for client support. The port number identifies the port reserved for proxy activity on your network, and can be a value from 0 to 65535.
IPX/SPX	**ENABLE**	**ON** **OFF**	**ON**: Enable the IPX/SPX protocol. **OFF**: Disable the IPX/SPX protocol.
	FRAME TYPE	**AUTO** **EN_8023EN_IIEN_8022EN_SNAP**	Select the frame-type setting for your network. **AUTO**: (default) Automatically sets and limits the frame type to the first one detected. **EN_8023EN_IIEN_8022EN_SNAP**: Frame type selections for Ethernet networks.
APPLETALK	**ENABLE**	**ON** **OFF**	Enable or disable the AppleTalk protocol.
DLC/LLC	**ENABLE**	**ON** **OFF**	Enable or disable the DLC/LLC protocol.

Item	Options	Values	Explanation
LINK SPEED	**AUTO** **10T HALF** **10T FULL** **100TX HALF** **100TX FULL**		The print server will automatically configure itself to match the network link speed and communication mode. If this process fails, **100TX HALF** is set. **10T HALF**: 10 Mbps, half-duplex operation. **10T FULL**: 10 Mbps, full-duplex operation. **100TX HALF**: 100 Mbps, half-duplex operation. **100TX FULL**: 100 Mbps, full-duplex operation.

Resets submenu

To gain access to this menu, touch **CONFIGURE DEVICE**, and then touch **RESETS**.

Note

Use this menu with caution. You can lose buffered page data or MFP configuration settings when you select these items. Reset the MFP only under the following circumstances:

- You want to restore the MFP default settings.
- Communication between the MFP and computer has been interrupted, and you are not able to resolve the problem by any other method. See Solving network connectivity problems.
- You are having problems with a port.

The items in the Resets submenu will clear all memory in the MFP, while pressing the RESET button clears only the current job.

Item	Values	Explanation
RESTORE FACTORY SETTINGS	No value to select	This item restores all control-panel settings to the original factory settings.
CLEAR MAINTENANCE MESSAGE	No value to select	Use this item to temporarily clear the **ORDER MAINTENANCE KIT** and **REPLACE MAINTENANCE KIT** warning messages. The **REPLACE MAINTENANCE KIT** message will reappear periodically until you replace the maintenance kit.

Item	Values	Explanation
CLEAR DOCUMENT FEEDER MESSAGE	No value to select	Use this item to to temporarily clear the **ORDER DOCUMENT FEEDER KIT** and **REPLACE DOCUMENT FEEDER KIT** warning messages. The **REPLACE DOCUMENT FEEDER KIT** message will reappear periodically until you replace the maintenance kit.
SLEEP MODE	**ON*** **OFF**	Turns sleep mode on or off. Using sleep mode offers the following advantages: • Minimizes the amount of power that the MFP consumes when it is idle • Reduces wear on electronic components in the MFP The MFP automatically exits sleep mode when you send a print job, receive a fax, touch any button on the control panel, touch any part of the touchscreen, open the scanner lid, or load media into the ADF. You can set how long the MFP remains idle before it enters sleep mode. See the **SLEEP DELAY** information in the System setup submenu.
LOCK CARRIAGE	No value to select	This item must be selected before engaging the Scanner Head Lock. It moves the carriage into a position where it can be locked.
CLEAR ADDRESS BOOK	No value to select	This item clears all addresses from the address book.
RESET SUPPLIES	**NEW MAINTENANCE KIT** **NEW DOCUMENT FEEDER KIT**	Use this item to notify the MFP that a new maintenance kit or document feeder kit has been installed.

Fax menu

This menu will appear only if the HP LaserJet analog fax accessory 300 is installed. For information about the Fax menu, see the *HP LaserJet Analog Fax Accessory 300 User Guide*. A printed copy of this guide is provided with the HP LaserJet 4345x mfp, 4345xs mfp, and 4345xm mfp.

Diagnostics menu

Item	Options	Values	Explanation
PRINT EVENT LOG			Generates a localized list of the 50 most recent entries in the error log. For each entry, the printed event log shows the error number, page count, error code, and description or personality.
SHOW EVENT LOG			At the control panel, scroll through the contents of the event log, which lists the 50 most recent events.
CALIBRATE SCANNER			Use this item to calibrate the scanner. You might need to calibrate the scanner if it is not capturing the correct sections of scanned documents.
PAPER PATH SENSOR TEST			Initiates a paper path sensor test. You can then enter the menus to print internal pages (including the paper path test), set menu items, and send jobs from the computer. The sensors are updated as paper passes each sensor, but no messages are generated this state.

Item	Options	Values	Explanation
PAPER PATH TEST	**PRINT TEST PAGE**		Generates a test page that is useful for testing the paper handling features of the MFP. Specifies which paper paths are tested.
	SOURCE	**ALL TRAYS** **TRAY 1** **TRAY 2*** **TRAY <N>**	Specifies to print a test page from a specific tray or from all trays.
	DESTINATION	**ALL BINS** **OUTPUT BIN 1*** **OUTPUT BIN 2** **OUTPUT BIN 3**	Specify which output bin to use during the paper path test.
	DUPLEX	**ON** **OFF***	Specifies if the duplexer is included when the test is performed.
	COPIES	**1*** **10** **50** **100** **500**	Specifies how many sheets of paper from the specified source are sent when the test is performed.
MANUAL SENSOR TEST			Tests the paper path sensors and switches for correct operation. During this test, the MFP is offline. On the control-panel display, each sensor is represented by a string of alphabetic letters followed by a corresponding status for each sensor.
COMPONENT TEST	List of MFP components		This menu item is used by a service technician to exercise individual parts of the MFP to isolate the source of any problems.

Item	Options	Values	Explanation
PRINT/STOP TEST	**STOP TIME**	**0** to **60000**	This menu item is used by a service technician to isolate the potential source of print-quality problems with the MFP. The time is expressed in milliseconds.
SCANNER TESTS	List of ADF components		This menu item is used by a service technician to diagnose potential problems with the MFP scanner.
CONTROL PANEL	**LED'S** **DISPLAY** **BUTTONS** **TOUCHSCREEN**		This menu item is used by a service technician to diagnose potential problems with the MFP control panel.

Service menu

The Service menu is locked. A service technician must type a PIN to open the menu.

3 Printing

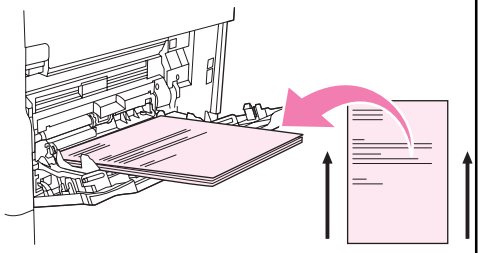
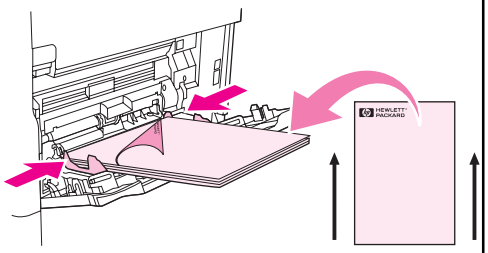
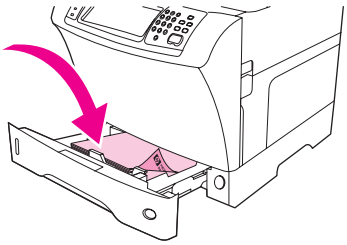
This chapter addresses the following topics:

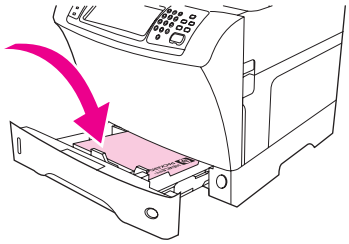
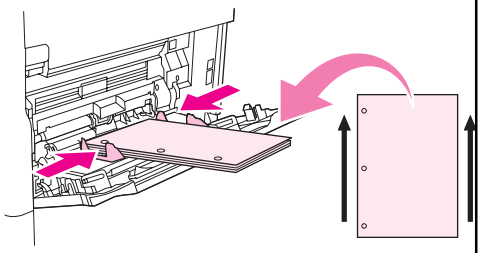
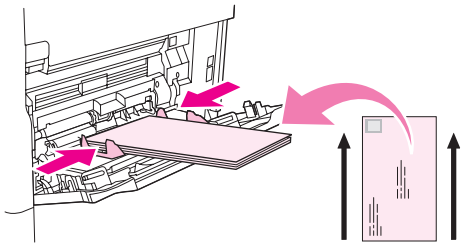
- Orienting media
- Printing documents
- Selecting which tray is used for printing
- Selecting the correct fuser mode
- Selecting the output bin
- Printing on envelopes
- Printing on special media
- Printing on both sides of paper (optional duplexer)
- Setting the registration
- Using features in the printer driver
- Using job storage features

Orienting media

Orient media types and sizes according to the tray from which the media will print and according to whether the media will be duplexed (printed on both sides).

Use the following table to determine how to orient paper and other media in the trays.

Type of media	Tray	Two-sided (duplexed)	Media orientation
Paper, including letterhead (weights up to 200 g/m^2)(53 lb bond)	1	No[1]	Side to be printed on facing up, top-edge first. 
Paper, including letterhead (weights up to 200 g/m^2) (53 lb bond) Note: For better duplexing performance, set the size and type for tray 1	1	Yes	First side facing down.  Note: When printing on paper that is both prepunched and preprinted/letterhead, orient the paper in the same way that you would orient preprinted/letterhead paper.
Paper, including letterhead (weights up to 120 g/m^2) (32 lb bond)	2, 3, 4, or 5	No[1]	Side to be printed on facing down, top-edge to the right.  Note: When printing on paper that is both prepunched and preprinted/letterhead, orient the paper in the same way that you would orient preprinted/letterhead paper.

Type of media	Tray	Two-sided (duplexed)	Media orientation
Paper, including letterhead (weights up to 120 g/m^2) (32 lb bond)	2, 3, 4, or 5	Yes	First side facing up. 
Prepunched letter or A4-size paper (weights up to 200 g/m^2)(53 lb bond) Note: For better duplexing performance, set the size and type for tray 1	1	Either	Holes toward the front; side to be printed on facing up.  Note: When printing on paper that is both prepunched and preprinted/letterhead, orient the paper in the same way that you would orient preprinted/letterhead paper.
Envelopes	Tray 1 or envelope feeder only	No (never duplex)	Side to be printed on facing up and the postage end toward the MFP. **Note** Do not load envelopes face down. 

[1]When **Alternative Letterhead mode** is enabled in the printer driver and Letterhead or Preprinted is selected as the media type, you must orient the media for two-sided (duplex) printing. For more information, see Printing on both sides of paper (optional duplexer).

Printing documents

This section provides instructions for printing when you want to set options for the MFP for Microsoft Windows or Macintosh operating systems. If possible, set the MFP options in the software program or in the **Print** dialog box. In most Windows and Macintosh programs, you can set the MFP options. If a setting is not available in the program or printer driver, you must set it by using the MFP control panel.

To print a document

1. Make sure that paper is loaded in the MFP. See Loading input trays or Orienting media for instructions.
2. If you loaded a custom-size paper in tray 2, tray 3, tray 4, or tray 5, or if you loaded any size paper in tray 1, set the tray to the size of paper that you loaded. See Loading input trays for instructions.
3. Set the paper size.
   - For Windows: On the **File** menu, click **Page Setup** or **Print**. If you select Print, make sure that this MFP is selected and then click **Properties**.
   - For Macintosh: On the **File** menu, select **Page Setup**. Make sure that this MFP is selected.
4. In the paper size box, select one of the following:
   - The size of paper that you are using
   - **Custom** (then specify the paper dimensions)
5. Select the orientation, such as **Portrait** or **Landscape**.
6. If the printer driver is not already open, on the **File** menu click **Print**. In Windows programs, also click **Properties**.
7. In the paper source box, select the paper type and size, or select the tray from which you want paper pulled. See Selecting which tray is used for printing.
8. Select any other settings that you want, such as duplexing, watermarks, or different first page. For more information about these settings, see the tasks in this section.
9. Click **Print** to print the job.

Selecting which tray is used for printing

You can select how the MFP pulls media from the trays. The following sections provide information about configuring the MFP to pull media from specific trays.

Understanding tray order

When the MFP receives a print job, it selects the tray by trying to match the requested media type and size with what has been loaded in the trays. Using an "autoselect" process, it searches all available trays for the media that satisfies the request, starting with the bottom tray and ending with the top tray (tray 1). The MFP begins printing the job as soon as it finds the correct type and size.

Note

The "autoselect" process occurs only if no specific tray is requested for the job. If a specific tray is requested, the job prints from the requested tray.

- If media is loaded in tray 1 and tray 1 is set **TRAY 1 TYPE=ANY** and **TRAY 1 SIZE=ANY** on the **PAPER HANDLING** menu, the MFP will always pull media from tray 1 first. See Customizing tray 1 operation for more information.
- If the search fails, a message appears on the MFP control-panel display requesting that you load the correct media type and size. You can load that media type and size, or you can override the request by selecting a different type and size at the MFP control panel.
- If a tray runs out of media during a print job, the MFP automatically switches to any tray that contains the same media type and size.

The autoselect process changes somewhat if you customize tray 1 operation (as explained in Customizing tray 1 operation) or if you set tray 1 for manual feed (as explained in Manually feeding media from tray 1).

Customizing tray 1 operation

The MFP can be set to print from tray 1 if it is loaded, or to print only from tray 1 if the type of media that is loaded is specifically requested. See Paper handling menu.

Setting	Explanation
TRAY 1 TYPE=ANY **TRAY 1 SIZE=ANY**	The MFP usually pulls media from tray 1 first unless it is empty or closed. If you do not keep media in tray 1 all the time, or if you use tray 1 only to manually feed media, keep the default setting of **TRAY 1 TYPE=ANY** and **TRAY 1 SIZE=ANY** on the **PAPER HANDLING** menu.
TRAY 1 TYPE= or **TRAY 1 SIZE=** a type other than **ANY**	The MFP treats tray 1 like the other trays. Instead of looking for media in tray 1 first, the MFP pulls media from the tray that matches type and size settings that are selected in the software. In the printer driver, you can select media from any tray (including tray 1) by type, size, or source. To print by type and size of paper, see Printing by type and size of media (locking trays).

You can also determine whether the MFP shows a prompt to ask if it can pull media from tray 1 if it cannot find the type and size that you requested in another tray. You can set the MFP to always prompt you before pulling from tray 1 or only prompt you if tray 1 is empty. Set the **USE REQUESTED TRAY** setting on the **SYSTEM SETUP** submenu of the **CONFIGURE DEVICE** menu.

Printing by type and size of media (locking trays)

Printing by type and size is a way to be sure that print jobs always print on the media that you want. You can configure the trays for the type, such as plain or letterhead, and size, such as letter or A4, that is loaded in them.

If you configure the trays this way and then select a certain type and size in the printer driver, the MFP automatically selects the tray that is loaded with that type or size. You do not have to select a specific tray (selecting by source). Configuring the MFP this way is especially helpful if the MFP is shared, and more than one person loads or removes media frequently.

Some older model printers have a feature that "locks out" trays to prevent printing on the wrong media. Printing by type and size eliminates the need to lock trays. For more information about the types and sizes that each tray supports, see Supported types and sizes of print media.

Note

To print by type and size from tray 2, the optional trays, or the optional envelope feeder, you might have to to unload tray 1 and close it, or set **TRAY 1 TYPE** and **TRAY 1 SIZE** to types other than **ANY** on the **PAPER HANDLING** menu at the MFP control panel. For more information, see Customizing tray 1 operation. Settings in a program or the printer driver override control-panel settings. (Program settings generally override printer-driver settings.)

To print by type and size of paper

1. Be sure to load the trays correctly. See Loading input trays.)
2. At the MFP control panel, open the **PAPER HANDLING** menu. Select the paper type for each tray. If you are unsure which type you are loading, such as bond or recycled, check the label on the media package.
3. Select the paper-size settings at the MFP control panel.
   - **Tray 1**: Set the paper size on the **PAPER HANDLING** menu if the MFP is set to **TRAY 1 TYPE=** a type other than **ANY**. If custom paper is loaded, also set the custom-paper size on the **PAPER HANDLING** menu. For more information, see Printing on small sizes, custom sizes, or heavy paper.
   - **Tray 2 and optional 500-sheet trays**: See Loading input trays for information about tray adjustments. If custom paper is loaded, configure the custom-paper size on the **PAPER HANDLING** menu. For more information, see Loading input trays.
   - **Optional envelope feeder**: Set the size on the **PAPER HANDLING** menu.
4. In the program or printer driver, select a type other than **Auto Select**.

Note

The type and size settings can also be configured in the HP Web Jetadmin software for networked MFPs.

Manually feeding media from tray 1

The manual feed feature is another way of printing on special media from tray 1. Setting **MANUAL FEED** to **ON** either in the printer driver or at the MFP control panel stops the MFP after each job is sent, allowing you time to load special paper or other print media in tray 1.

If tray 1 contains media when you send the print job, and the MFP control panel has **TRAY 1 TYPE=ANY** and **TRAY 1 SIZE=ANY** as the default configuration for tray 1 operation, the MFP will *not* stop and wait for media to be loaded. To have the MFP wait, set **TRAY 1 TYPE** and **TRAY 1 SIZE** to types other than **ANY** on the **PAPER HANDLING** menu.

Note

If the **TRAY 1 SIZE** and **TRAY 1 TYPE** are set to **ANY**, and **MANUAL FEED PROMPT** is set to **UNLESS LOADED**, then the media will be pulled from tray 1 without prompting. If **MANUAL FEED PROMPT** is set to **ALWAYS**, then the MFP will prompt you to load media, even if tray 1 is set to **TRAY 1 TYPE=ANY** and **TRAY 1 SIZE=ANY**.

If you have selected **MANUAL FEED=ON** at the MFP control panel, this setting will override the printer driver, and all print jobs that you send to the MFP will request manually fed paper in tray 1 unless a specific tray has been selected in the printer driver. If this feature is to be used only occasionally, it is best to set **MANUAL FEED=OFF** at the MFP control panel and to select the manual feed option in the printer driver on a job-by-job basis.

Selecting the correct fuser mode

The MFP automatically adjusts the fuser mode based on the media type for which the tray is set. For example, heavy paper, such as card stock, might need a higher fuser-mode setting in order to make the toner adhere better to the page, but transparencies need the **LOW 2** fuser-mode setting to avoid damage to the MFP. The default setting generally provides the best performance for most print-media types.

The fuser mode can be changed only if the media type has been set for the tray that you are using. See Printing by type and size of media (locking trays). After the media type has been set for the tray, then the fuser mode for that type can be changed on the **CONFIGURE DEVICE** menu in the **PRINT QUALITY** submenu at the MFP control panel. See Print quality submenu.

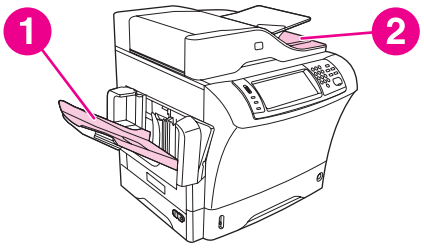
Note

Using a higher fuser mode, such as HIGH 1 or HIGH 2, improves the ability of the toner to adhere to paper, but it might cause other problems, such as excessive curl. The MFP might print at a slower speed when the fuser mode is set to HIGH 1 or HIGH 2.

To reset the fuser modes to the default settings, open the **CONFIGURE DEVICE** menu at the MFP control panel. On the **PRINT QUALITY** submenu, select **FUSER MODES**, and then select **RESTORE MODES**.

Selecting the output bin

The MFP has two output-bin locations: the ADF output bin and the standard output bin(s) on the output device.



1 Standard output bin
2 ADF output bin

When documents are scanned or copied by using the ADF, the original documents are automatically delivered to the ADF output bin. Copies are delivered to the standard output bin or the output bin(s) on the stapler/stacker or to the 3-bin mailbox.

Documents that are sent to the MFP from a computer are delivered to the standard output bin or the output bin(s) on the stapler/stacker or to the 3-bin mailbox.

3-bin mailbox output bins

If you are using the 3-bin mailbox, three output bins are available. You can configure these bins to act as individual mailboxes, or they can be combined as a single bin to stack documents. You can set up these options in the **CONFIGURE DEVICE** menu, on the **MBM-3 CONFIGURATION** submenu. This menu is available only when the 3-bin mailbox is installed. For more information about using the 3-bin mailbox, see 3-bin mailbox.

The top two bins hold up to 100 sheets of paper. A sensor causes the MFP to stop when the bin is full. MFP operation continues when you empty or reduce the amount of media in the bin.

The lower bin holds up to 500 sheets of paper.

Selecting an output location

It is recommended that you select an output location (bin) through your program or driver. Where and how you make selections depends on your program or driver. If you cannot select an output location from the program or driver, set the default output location from the MFP control panel.

To select an output location at the control panel

1. Touch **Menu**.
2. Scroll to and touch **CONFIGURE DEVICE**.
3. Scroll to and touch **PRINTING**.
4. Scroll to and touch **PAPER DESTINATION** to view the output bin options.
5. Scroll to and touch the output bin that you want. The message **SETTING SAVED** appears on the control-panel display for a moment.

Selecting face-up or face-down output for copy jobs

The MFP can deliver pages either face-up or face-down. The default setting is to deliver jobs face-down. Documents that have multiple pages are delivered with the correct page order. Face-down output is the fastest delivery method.

Select face-up output when you want to use the straightest paper path, such as when printing on heavy media. Documents that have multiple pages are delivered with the pages in reverse order.

You can select face-up or face-down output on the **Output** tab in the printer driver. See Selecting face-up or face-down output in the printer driver.

Note If you select **Face-up (Straightest Path)**, the stapler/stacker cannot staple the job.

Printing on envelopes

You can print on envelopes from tray 1 or the optional envelope feeder. Tray 1 holds up to 10 envelopes and supports standard or custom sizes. The optional envelope feeder holds up to 75 envelopes and supports only standard envelope sizes.

For printing on any size of envelope, make sure to set the margins in your program at least 15 mm (0.6 inch) from the edge of the envelope.

Printing performance depends on the construction of the envelope. Always test a few sample envelopes before purchasing a large quantity. For envelope specifications, see Envelopes.

WARNING! Never use envelopes that contain coated linings, exposed self-stick adhesives, or other synthetic materials. These items can emit noxious fumes.

CAUTION Envelopes that have clasps, snaps, windows, coated linings, exposed self-stick adhesives, or other synthetic materials can severely damage the MFP. To avoid jamming and possible MFP damage, never try to print on both sides of an envelope. Before you load envelopes, make sure that they are flat and are not damaged or stuck together. Do not use envelopes that have pressure-sensitive adhesive.

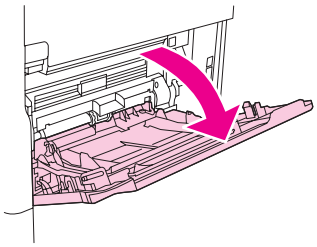
Note The MFP prints at a slower speed when printing on envelopes.

Loading envelopes in tray 1

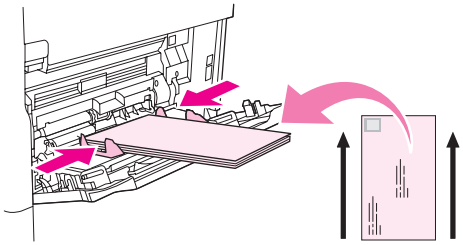
Many types of envelopes can be printed on from tray 1. Up to 10 can be stacked in the tray. See Envelopes for specifications.

To load envelopes in tray 1

1. Open tray 1, but do not pull out the extension. Most envelopes feed best without the extension. However, oversize envelopes might need the extension.



2. Load up to 10 envelopes in the center of tray 1 with the front side facing up, and the postage-end toward the MFP. Slide the envelopes into the MFP as far as they will go without forcing them.



3. Adjust the guides to touch the envelope stack without bending the envelopes. Make sure that the envelopes fit under the tabs and maximum-height indicators on the guides.

Printing on special media

This section discusses printing on types of media that require special handling.

Printing on labels

Use only labels that are recommended for use in laser printers. Make sure that labels meet the correct specifications. See Labels.

Follow these guidelines when printing on labels:

- Print on a stack of up to 50 label sheets from tray 1 or a stack of up to 100 label sheets from other trays.
- Load labels in tray 1 with the front side facing up, and the top, short edge toward the MFP. For other trays, load media with the front side facing down, and the top edge toward the right.

Do not load or print on labels in the following ways:

CAUTION Failure to follow these instructions can damage the MFP.

- Do not load the trays to maximum capacity, because labels are heavier than paper.
- Do not use labels that are separating from the backing sheet, wrinkled, or damaged in any way.
- Do not use labels that have the backing sheet exposed. (Labels must cover the entire backing sheet, leaving no exposed spaces.)
- Do not feed a sheet of labels through the MFP more than once. The adhesive backing is designed for only one pass through the MFP.
- Do not print on both sides of labels.
- Do not print on sheets from which labels have been removed.

Printing on transparencies

Use only transparencies that are recommended for use in laser printers. For transparency specifications, see Transparencies.

- At the MFP control panel, open the **CONFIGURE DEVICE** menu. On the **PRINT QUALITY** submenu, select **FUSER MODES**. Make sure that the fuser mode is set to **TRANSPARENCY=LOW**.

CAUTION Failure to set the fuser mode to LOW can permanently damage the MFP and fuser.

- In the printer driver, set the paper type to **Transparency**.
- At the MFP control panel, open the **PAPER HANDLING** menu. Set the tray type to **TRANSPARENCY** for the tray that you are using.
- Load transparencies face up in tray 1 with the top toward the MFP. Up to 50 transparencies can be loaded in tray 1.
- A stack of up to 100 transparencies can be printed from tray 2 and the optional trays (although stacking more than 50 at a time is not recommended).
- Because transparencies are heavier than paper, do not load trays to maximum capacity.

- Load transparencies in tray 2 or the optional trays with the side to be printed on facing down, and the top, short edge toward the right.
- To prevent transparencies from becoming too hot or from sticking together, remove each transparency from the output bin before printing another.
- Print on only one side of a transparency.
- Place transparencies on a flat surface to cool after removing them from the MFP.
- If two or more transparencies feed at the same time, try fanning the stack.
- Do not feed transparencies through the MFP more than once.

Printing on letterhead, prepunched, or preprinted paper

When printing on letterhead, prepunched, or preprinted paper, it is important to orient the paper correctly. For most printing situations, follow the guidelines in this section for printing on one side only. For duplexing guidelines, see Printing on both sides of paper (optional duplexer).

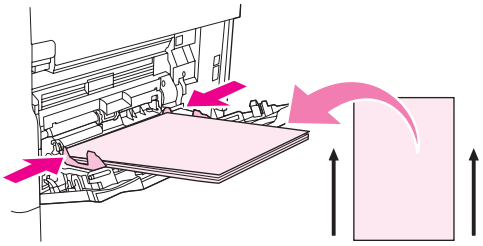
Note

If you want to always load letterhead or preprinted paper the same way for all print jobs, whether you are printing on one side of the sheet or on both sides of the sheet, use the **Alternative Letterhead Mode** setting in the printer driver. Load the paper as you would for printing on both sides. See Printing on both sides of paper (optional duplexer). When this option is selected, the MFP speed slows to the speed that is required for printing on both sides. The information presented in this section is for printing without using Alternative Letterhead Mode.

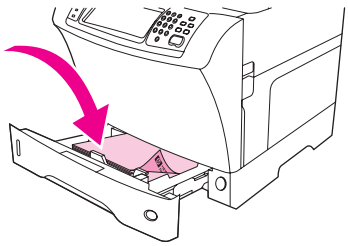
Note

For more information about paper that has a special finish, such as laid or bond paper, see Printing on paper that has a special finish.

For tray 1, load the paper with the front side facing up, and the top, short edge toward the MFP.



For tray 2 and the optional 500-sheet trays, load the paper with the front side facing down, and the top, short edge toward the right.



Printing on paper that has a special finish

Some paper has a special finish, such as laid paper, bond paper, and cockled paper. These types of paper can cause issues in regard to toner adhesion and print quality. Follow these guidelines when printing on paper that has a special finish.

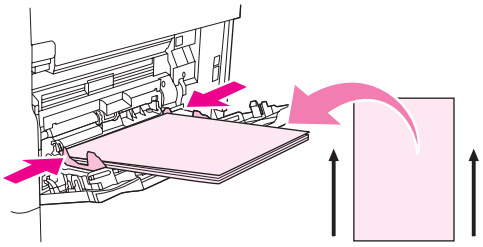
- At the MFP control panel, open the **CONFIGURE DEVICE** menu. On the **PRINT QUALITY** submenu, select **FUSER MODES**, and then select the paper type that you are using (such as **BOND**). Set the fuser mode to **HIGH 1** or **HIGH 2**. **HIGH 2** provides better toner adhesion and optimal print quality for paper that has a highly textured finish. Open the **PAPER HANDLING** menu and set **TRAY TYPE** to the type of paper that you are using (such as **BOND**) to turn on the appropriate fuser mode.

Note

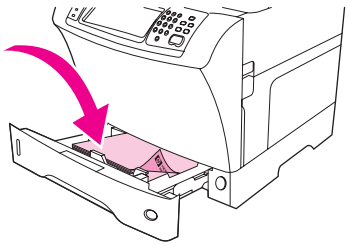
The MFP might print at a slower speed when set at **HIGH 1** or **HIGH 2**. Use the **HIGH 1** and **HIGH 2** settings only if you are experiencing toner-adhesion problems. The **HIGH 1** and **HIGH 2** settings might increase problems with curl and jams.

- Some makers of these types of paper are now coating one side of the paper to enhance toner adhesion and print quality. To take advantage of this feature, make sure to load the paper correctly. The side on which you can read the watermark correctly is the front side, or the side to be printed on.

For tray 1, load paper with the front side facing up, and the top, short edge toward the MFP.



For tray 2 and the optional 500-sheet trays, load paper with the front side facing down, and the top, short edge toward the right.



Printing on small sizes, custom sizes, or heavy paper

Custom-size paper can be printed from tray 1, tray 2, or an optional 500-sheet tray.

Note

The MFP might print at a slower speed when printing on small sizes, custom sizes, and heavy paper. For more information about paper that has a special finish, such as laid or bond paper, see Printing on paper that has a special finish.

Weight and sizes

See the following table for specifications when printing on custom or heavy paper. For more information, see Print media specifications.

Tray	Minimum size	Maximum size	Supported weights
Tray 1	76 x 127 mm (3 x 5 inches)	216 x 356 mm (8.5 x 14 inches)	60 to 200 g/m^2 (16 to 53 lb)
Tray 2 and optional 500-sheet tray	148 x 210 mm (5.8 x 8.2 inches)	216 x 356 mm (8.5 x 14 inches)	60 to 120 g/m^2 (16 to 32 lb)

Guidelines for heavy paper

To help prevent toner from rubbing off of the paper, some heavier paper types should be printed using a higher fuser mode. At the MFP control panel, open the **CONFIGURE DEVICE** menu. On the **PRINT QUALITY** submenu, select **FUSER MODES**, and then select the media type that you want to modify. Select either **HIGH1** or **HIGH2** as the fuser mode. Using these modes helps prevent toner from rubbing off the page, but using them might slow the MFP speed or create other problems, such as increased curl.

Guidelines for custom-size paper

Follow these guidelines when printing on any custom-size paper:

- Feed the paper short-edge first.
- In your program, set page margins at least 4.23 mm (0.17 inch) away from the edges.
- Set the custom size in the program, in the printer driver, or at the MFP control panel. See Setting custom paper sizes.

Additional guidelines for small or narrow paper

Follow these additional guidelines when printing on small or narrow paper:

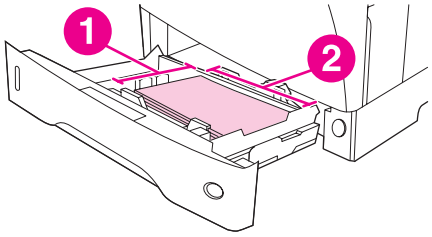
- Do not attempt to print on paper smaller than 76 mm (3 inches) wide or 127 mm (5 inches) long.
- HP does not recommend printing large quantities of small or narrow paper. This could result in excessive wear on the print-cartridge components that might result in print-quality problems or toner leaking into the MFP.

Setting custom paper sizes

When custom paper is loaded, size settings need to be selected in the program (the preferred method), in the printer driver, or at the MFP control panel.

Load custom-size paper into tray 1 with the short edge feeding first.

Load custom-size paper into tray 2 or the optional trays with the short edges at the left and right (the long edges are at the front and back). Adjust the media guides so that they are gently touching the media stack.



1 X dimension (short edge)
2 Y dimension (long edge)

If the settings are not available in your program, set the custom paper size at the MFP control panel.

To set custom paper sizes

1. Touch **Menu**.
2. Touch **PAPER HANDLING**.
3. Touch **TRAY <N> SIZE** (where N is the number of the tray).
4. Scroll to and touch **CUSTOM**.
5. Touch **INCHES** or **MILLIMETERS**. This selects the measurement units for determining the size of your custom paper.
6. Use the numeric keypad to set the X dimension (the short edge of the paper). The X dimension can range from 76 to 216 mm (3 to 8.5 inches).
7. Use the numeric keypad to set the Y dimension (the long edge of the paper). The Y dimension can range from 127 to 356 mm (5 to 14 inches). For example, if the custom paper is 203 x 254 mm, set X=203 mm and Y=254 mm.

Printing on both sides of paper (optional duplexer)

The MFP can automatically print and copy on both sides of paper when an automatic duplex printing accessory is installed. This is called duplexing or two-sided printing. The duplexer supports the following paper sizes: Letter, Legal, Executive, A4, A5, Executive (JIS), 8.5x13, and JIS B5.

The ADF has automatic duplex scanning, so you can automatically scan two-sided documents. However, you must have an automatic duplex printing accessory installed to produce two-sided copies.

Note

The automatic duplexer is included with the HP LaserJet 4345x mfp, HP LaserJet 4345xs mfp, and HP LaserJet 4345xm mfp.

For models that do not include an automatic duplexer, you can order the duplexer as an accessory. See Ordering parts, accessories, and supplies.

The duplex cover that is located on the left side of the MFP must be removed when the duplexer is installed. See the documentation that is included with the duplexer for installation instructions. When duplexing very complex pages, additional memory might be required. See Installing memory.

Guidelines for printing on both sides of paper

CAUTION

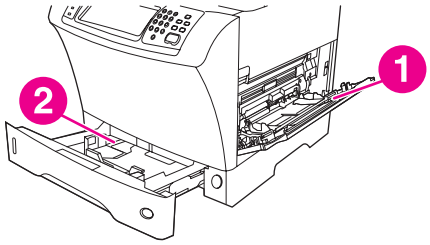
Do not print on both sides of labels, transparencies, envelopes, vellum, custom sizes, or paper heavier than 28 lb (105 g/m^2) because jams or damage to the MFP might occur.

Note the following guidelines:

- Before using the duplexer, ensure that the printer driver is set to recognize it. The procedure varies according to the operating system that you are using. For details, see Using the printer drivers. Look for the instructions in the column labeled "To change configuration settings."
- To print on both sides of paper, make the selection in your program or the printer driver. (See the printer driver online Help.)
- If you do not use the printer driver that came with the MFP, you might need to change the duplex setting at the MFP control panel: set **DUPLEX=ON** on the **CONFIGURE DEVICE** menu in the **PRINTING** submenu. Also on the **PRINTING** submenu, set **DUPLEX BINDING** to **LONG EDGE** or **SHORT EDGE**. (For more information, see Layout options for printing on both sides of paper.)

Orientation of paper for duplexing

Several kinds of paper (such as letterhead, preprinted paper, prepunched paper, and paper with watermarks) require a specific orientation for duplex printing. The duplexer prints the second side of paper first. The proper orientation of the paper in the trays is shown below.

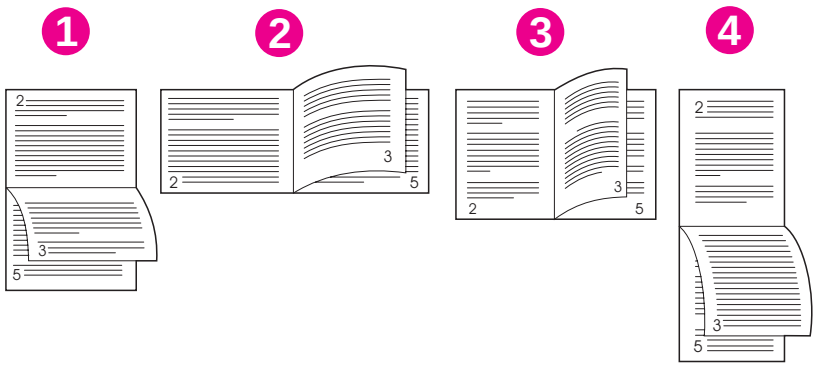


1 Tray 1
2 All other trays

For tray 1, load the front side facing down and the top edge toward you. For all other trays, load the front side facing up and the top edge toward the MFP.

Layout options for printing on both sides of paper

The four duplex orientation options are shown below. These options can be selected in the printer driver (the preferred method) or at the MFP control panel. If you use the MFP control panel, touch **CONFIGURE DEVICE**, then touch **PRINTING**. Touch **DUPLEX BINDING**. On the **PCLPCL SUBMENU**, select a setting for **ORIENTATION**.



1. Long-edge landscape*	This layout is often used in accounting, data processing, and spreadsheet programs. Every other printed image is oriented upside-down. Facing pages are read continuously from top to bottom.
2. Short-edge landscape	Each printed image is oriented right-side-up. Facing pages are read from top to bottom on the left page, then from top to bottom on the right page.
3. Long-edge portrait	This is the default MFP setting, and the most common layout used, with every printed image oriented right-side-up. Facing pages are read from top to bottom on the left page, then from top to bottom on the right page.

4. Short-edge portrait*	This layout is often used with clipboards. Every other printed image is oriented upside-down. Facing pages are read continuously from top to bottom.

* When using Windows drivers, select **Flip Pages Up** to get the designated binding options.

To print on both sides by using the optional duplex-printing accessory

1. Insert enough paper into one of the trays to accommodate the print job. If you are loading special paper such as letterhead, load it in one of the following ways:
   - For tray 1, load the letterhead paper with the front side down, bottom-edge first.
   - For all other trays, load the letterhead paper with front side up, and the top edge on the left side of the tray.

CAUTION Do not load paper that is heavier than 105 g/m^2 (28 lb bond). Jamming could result.

2. Open the printer driver (see Using the printer drivers).
3. For Windows, on the **Finishing** tab, click **Print on Both Sides**.

   For Macintosh, on the **Layout** tab, click **Print on Both Sides**.
4. Click **OK**.
5. Send the print job to the MFP.

Setting the registration

Use the **SET REGISTRATION** feature to center the front and back images on a page that has been duplexed (printed on both sides). This feature also allows edge-to-edge printing to be set to within approximately 2 mm (0.08 inch) of all edges of the paper. Image placement varies slightly for each input tray. The alignment procedure must be performed for each tray. The administrator can use an internal tray-registration page to calibrate each tray.

To set the registration

1. Touch **Menu**.
2. Touch **CONFIGURE DEVICE**.
3. Touch **PRINT QUALITY**.
4. Touch **SET REGISTRATION**.

   You can select a tray by specifying a source. The default source is tray 2. If you want to set the registration for tray 2, go to step 7. Otherwise, proceed to the next step.
5. Touch **SOURCE**.
6. Touch the name of a tray. After you touch the name of the tray, the control-panel display returns to the **SET REGISTRATION** menu.
7. Touch **PRINT TEST PAGE**.
8. Follow the instructions on the printed page.

Using features in the printer driver

When you print from a software program, many of the MFP features are available from the printer driver. For more information about Windows drivers, see Using the printer drivers.

Note Settings in the printer driver and software program generally override control-panel settings. (Software-program settings generally override printer-driver settings.)

Creating and using quick sets

Use quick sets to save the current driver settings for reuse. For example, you can save the page orientation, print on both sides, and paper source settings in a quick set . For convenience, quick sets are available on most printer-driver tabs.

Note You can save 25 Print Task Quick Sets. The printer driver might report that 25 Print Task Quick Sets have been defined when fewer than 25 are visible. Some predefined Print Task Quick Sets, which do not apply to the configuration of your MFP, might be hidden but they are still counted in the total number that can be saved.

To create a quick set

1. Open the printer driver (see Using the printer drivers).
2. Select the print settings that you want to use.
3. In the **Print Task Quick Sets** box, type a name for the selected settings (for example "Quarterly Report" or "My Project Status").
4. Click **Save**.

To use quick sets

1. Open the printer driver (see Using the printer drivers).
2. Select the quick set that you want to use from the **Print Task Quick Sets** drop-down list.
3. Click **OK**. The MFP is now set to print according to the saved settings in the quick set.

Note To restore printer-driver default settings, select **Default Print Settings** from the **Print Task Quick Sets** drop-down list.

Creating and using watermarks

A watermark is a notice, such as "Top Secret," that is printed in the background of each page in a document.

To use an existing watermark

1. Open the printer driver (see Using the printer drivers).
2. From the **Effects** tab, click the **Watermarks** drop-down list.
3. Click the watermark that you want to use.
4. If you want the watermark to appear only on the first page of the document, click **First Page Only**.
5. Click **OK**. The MFP is now set to print the watermark that you have selected.

To remove the watermark, click **(none)** in the **Watermarks** drop-down list.

Resizing documents

Use the document resizing options to scale a document to a percentage of its normal size. You can also choose to print a document on a different size paper, with or without scaling.

To reduce or enlarge a document

1. Open the printer driver (see Using the printer drivers).
2. On the **Effects** tab, type the percentage by which you want to reduce or enlarge your document.

   You can also use the scroll bar to adjust the reduce/enlarge percentage.
3. Click **OK**. The MFP is now set to scale the document to the reduce/enlarge percentage that you selected.

To print a document onto a different paper size

1. Open the printer driver (see Using the printer drivers).
2. From the **Effects** tab, click **Print Document On**.
3. Select the target paper size to print on.
4. To print the document on the target paper size without scaling it to fit, make sure that the **Scale to Fit** option is *not* selected.
5. Click **OK**. The MFP is now set to print the document as you specified.

Setting a custom paper size from the printer driver

Instead of setting custom paper sizes by using the control panel, you can also set the custom paper size in the printer driver.

Note

Settings in the printer driver and software program generally override control-panel settings. (Software-program settings generally override printer-driver settings.)

1. Open the printer driver (see Using the printer drivers).
2. From the **Paper** or **Paper/Quality** tab, click **Custom**.
3. From the **Custom Size Paper** window, type the name of the custom paper size.
4. Type the paper-size length and width. If you type a size that is too small or too large, the driver automatically adjusts the size to the minimum or maximum size that is allowed.
5. If necessary, click the button to change the unit of measure between millimeters and inches.
6. Click **Save**.
7. Click **Close**. The MFP is now set to print the document on the custom-size paper that you selected. The name that you saved appears in the paper-size list for future use.

Printing on different paper for the first page of a print job

Follow these instructions for printing a first page that is different from other pages in the print job.

To print on different paper

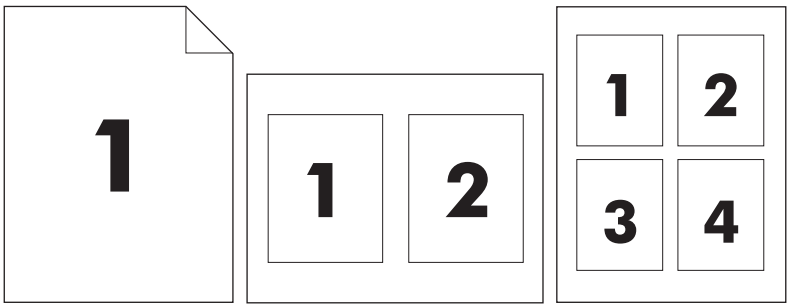
1. Open the printer driver (see Using the printer drivers).
2. From the **Paper** or **Paper/Quality** tab, select the appropriate paper for the first page of the print job.
3. Click **Use different Paper/Covers**.
4. In the list box, click the pages or covers that you want to print on different paper.
5. To print front or back covers, you must also select **Add Blank or Preprinted Cover**.
6. Select the appropriate paper type or source for the other pages of the print job. The MFP is now set to print the document on the paper that you selected.

Note The paper size must be the same for all pages of the print job.

Printing multiple pages on one sheet of paper

You can print more than one page on a single sheet of paper. This feature is available in some drivers and provides a cost-effective way to print draft pages.

To print more than one page on a sheet of paper, look for a layout or pages-per-sheet option in the driver. (This is sometimes called 2-up, 4-up, or n-up printing.)



To print multiple pages on one sheet of paper

1. Open the printer driver (see Using the printer drivers).
2. Select the **Finishing** tab.
3. In the section for **Document Options**, select the number of pages that you want to print on each sheet (1, 2, 4, 6, 9, or 16).
4. Click **Print Page Borders** if you want to print a border around each page on the sheet.

   Print Page Borders is available only if **Pages per Sheet** is more than 1.
5. If the number of pages is greater than 1, click **Page Order** to select the order and placement of the pages on the sheet.
6. Click **OK**. The MFP is now set to print the number of pages per sheet that you have selected.

Setting the stapling options

You can select whether a job is stapled by using the printer driver.

To set the stapling options

1. Open the printer-driver properties, and click the **Configure** tab. (The **Configure** tab is not available from within software programs.)

Note

The procedure to open the printer-driver properties depends on the operating system that you are using. For information about opening the printer-driver properties for your operating system, see Using the printer drivers. Look for the column titled "To change the configuration settings".

2. In the area for configuring additional output devices, select the stapler/stacker, and then click **OK**.
3. Open the printer driver (see Using the printer drivers).
4. Click the **Output** tab.
5. In the **Staple** box, select the stapling option that you want to use for the print job.
6. Click **OK**. The MFP is now set to use the stapling option that you selected.

Selecting face-up or face-down output in the printer driver

The MFP can deliver pages either face-up or face-down. When jobs are delivered face-down, multiple-page documents are delivered in the correct page order. Face-down output is the fastest delivery method.

Select face-up output when you want to use the straightest paper path, such as when printing on heavy media. Multiple-page documents are delivered with the pages in reverse order.

To specify face-up or face-down output, use the following procedure.

To select face-up or face-down output

1. Open the printer driver (see Using the printer drivers).
2. Select the **Output** tab.
3. In the section for Output bin options, select either **Face Down (Faster)** or **Face Up (Straightest Path)**.

Using job storage features

The following special job-storage features are available for this MFP:

- **Private jobs**: When you send a private job to the MFP, the job does not print until you enter a PIN at the control panel.
- **Job storage**: You can download a job such as a personnel form, time sheet, or calendar to the MFP and allow other users to print the job at any time. Stored jobs are copied to the hard disk and are not deleted if retention space on the MFP becomes limited.
- **QuickCopy jobs**: You can print the requested number of copies of a job and then store a copy of the job on the hard disk in the MFP. Storing the job allows you to print additional copies of the job later.
- **Proof and hold jobs**: This feature provides a quick and easy way to print and proof one copy of a job and then print the additional copies.

Follow the instructions in this section to gain access to the job storage features at the computer. See the specific section for the type of job that you want to create.

CAUTION If you turn the MFP off, all QuickCopy, Proof and hold, and Private jobs are deleted.

To gain access to the job storage features

For Windows

1. On the **File** menu, click **Print**.
2. Click **Properties** and click the **Job Storage** tab.
3. Select the Job Storage Mode that you want.

For Macintosh

In newer drivers: Select **Job Storage** in the pull-down menu in the **Print** dialog box. In older drivers, select **Printer Specific Options**.

Printing a private job

Use the private printing feature to specify that a job is not printed until you release it. First, set a 4-digit personal identification number (PIN) by typing the PIN at the MFP control panel. Next, enter the PIN in the printer driver. The PIN is sent to the MFP as part of the print job.

To create private jobs

To specify that a job is private, in the driver, select the **Private Job** option, type a User Name and Job Name, and then type a four-digit PIN. The job will not print until you enter the PIN at the MFP control panel.

Releasing private jobs

You can print a private job at the control panel after the job has been sent to the MFP.

1. Touch **Menu**.
2. Touch **Retrieve Job**.

3. Scroll to and touch your name.
4. Scroll to and touch your job.
5. Touch **Print**. (**Print** should have [lock symbol] next to it.)
6. Use the numeric keypad to type the PIN, and then touch **OK**.

Deleting a private job

A private job is automatically deleted from the MFP hard disk after you release it for printing. If you want to delete the job without printing it, use this procedure.

1. Touch **Menu**.
2. Touch **Retrieve Job**.
3. Scroll to and touch your name.
4. Scroll to and touch your job.
5. Scroll to **Delete**. (**Delete** should have [lock symbol] next to it.)
6. Use the numeric keypad to type the PIN, and then touch **OK**.

Storing a print job

You can download a print job to the MFP hard disk without printing it. You can then print the job at any time at the MFP control panel. For example, you might want to download a personnel form, calendar, time sheet, or accounting form that other users can print when they need it.

To store a print job on the hard disk, select the **Job Storage** option in the driver when printing from the MFP.

To create stored jobs

In the driver, select the **Job Storage** option and type a user name and job name. The job does not print until someone requests it at the MFP control panel. See Printing a stored job.

Printing a stored job

At the control panel, you can print a job that is stored on the MFP hard disk.

1. Touch **Menu**.
2. Scroll to **Retrieve Job**.
3. Touch **User Name** to see a list of names.
4. Scroll to and touch your name to see a list of jobs.
5. Scroll to and touch your job.
6. Touch **Print**.
7. To print the default number of copies, touch **OK**. The screen changes to **Copies=n**. To change the number, use the numeric keypad or scroll to select a new number, and touch **OK**.

If **Print** has (lock symbol) next to it, the job is a private job and requires a PIN. See Printing a private job.

Deleting a stored job

Jobs stored on the MFP hard disk can be deleted at the control panel.

1. Touch **Menu**.
2. Scroll to and touch **Retrieve Job**.
3. Scroll to and touch your name.
4. Scroll to and touch your job.
5. Scroll to and touch **Delete**.
6. Touch **Yes**.

If **Delete** has (lock symbol) next to it, the job requires a PIN to delete. See Printing a private job.

Creating a QuickCopying job

The QuickCopy feature prints the requested number of copies of a job and stores a copy on the MFP hard disk. Additional copies of the job can be printed later. This feature can be turned off in the printer driver.

The default number of different QuickCopy jobs that can be stored on the MFP is 32. At the control panel, you can set a different default number. See System setup submenu

To create QuickCopy jobs

CAUTION

If the MFP needs additional space to store newer QuickCopy jobs, the MFP deletes other stored QuickCopy jobs, starting with the oldest job. To permanently store a job and prevent the MFP from deleting it when space is needed, select the **Job Storage** option instead of the **QuickCopy** option.

In the driver, select the **QuickCopy** option and type a user name and a job name.

When you send the job to print, the MFP prints the number of copies that you set in the driver. To print more quick copies at the MFP control panel, see Printing additional copies of QuickCopy jobs.

Printing additional copies of QuickCopy jobs

This section describes how to print additional copies of a job stored on the MFP hard disk at the control panel.

1. Touch **Menu**.
2. Touch **Retrieve Job**.
3. Touch **User Name** to see a list of names.
4. Scroll to your job and touch **OK**.
5. To print the default number of copies, touch **Print**. The screen changes to **Copies=n**. To change the number, use the numeric keypad or scroll to select a new number, and touch **OK**.

Deleting a QuickCopy job

Delete a QuickCopy job at the MFP control panel when you no longer need it. If the MFP requires additional space to store new QuickCopy jobs, the MFP automatically deletes other stored QuickCopy jobs, starting with the oldest job.

Note Stored QuickCopy jobs can be deleted at the control panel or in HP Web Jetadmin.

1. Touch **Menu**.
2. Touch **Retrieve Job**.
3. Touch your name.
4. Scroll to and touch your job.
5. Touch **Delete**.
6. Touch **Yes**.

Proofing and holding a job

The proof and hold feature provides a quick and easy way to print and proof one copy of a job and then to print the additional copies.

To permanently store the job and prevent the MFP from deleting it when space is needed for something else, select the **Job Storage** option in the driver.

To create a proof and hold job

CAUTION If the MFP needs additional space to store newer proof and hold jobs, the MFP deletes other stored proof and hold jobs, starting with the oldest job. To permanently store a job and prevent the MFP from deleting it when space is needed, select the **Job Storage** option in the driver instead of the **Proof and Hold** option.

In the driver, select the **Proof and Hold** option and type a user name and job name.

The MFP prints one copy of the job for you to proof. Then, see Printing the remaining copies of a held job.

Printing the remaining copies of a held job

At the MFP control panel, use the following procedure to print the remaining copies of a job held on the hard disk.

1. Touch **Menu**.
2. Touch **Retrieve Job**.
3. Scroll to **User Name**.
4. Touch your user name.
5. Scroll to your job, and touch the job.
6. Touch **Print**. The screen changes to **Copies=n**. To change the number, use the numeric keypad or scroll to select a new number, and touch **OK**.

Deleting a held job

When you send a proof and hold job, the MFP automatically deletes your previous proof and hold job. If the job name does not have a proof and hold job associated with it, and the MFP needs additional space, the MFP might delete other proof and hold jobs, starting with the oldest one.

1. Touch **Menu**.
2. Touch **Retrieve Job**.
3. Scroll to and touch your name.
4. Scroll to and touch your job.
5. Touch **Delete**.
6. Touch **Yes**.

4 Copying

This MFP can function as a standalone, walk-up copier. It is not necessary to install the printing system software on the computer, nor is it necessary to have the computer turned on to make photocopies. You can adjust the copy settings at the control panel. You can also copy originals by using either the ADF or the scanner glass. The MFP can process copying, printing, and digital-sending jobs simultaneously.

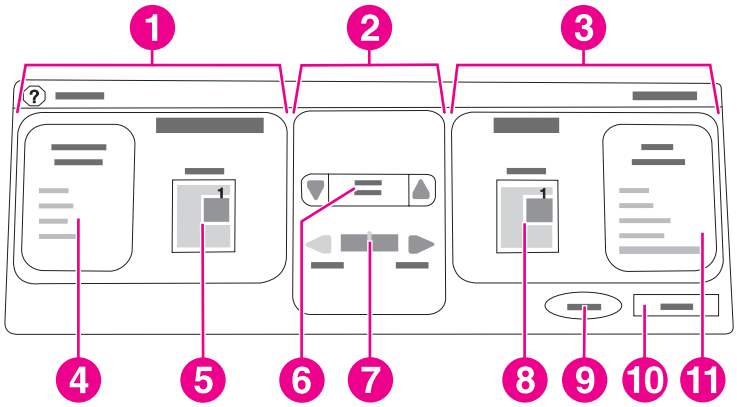
This chapter provides information about how to make copies and how to change copy settings, including the following topics:

- Copy-screen navigation
- Basic copying instructions
- Modifying copy settings for the current job
- Copying multiple sized originals
- Creating a stored copy job

It is recommended that you review the basic control-panel information before using the MFP copying functions. See Using the control panel for more information.

Copy-screen navigation

Navigate through the control-panel features and options by using the touchscreen graphical display.



1 Original section
2 Image modification section
3 Copy section
4 **Describe original** button
5 Original page-size icon
6 Reduce/enlarge
7 Contrast adjustment
8 Copy page icon
9 **Start** button
10 **Back** button
11 **Copy settings** button

User-attention error messages appear in a pop-up dialog box that prohibits normal screen interaction until the message is cleared.

Cancel button

Each lower-level screen (any screen after the home screen) has a **Cancel** button. Touching the **Cancel** button negates any changes you made, and takes you back to the previous screen.

OK button

Each lower-level screen on the touchscreen has an **OK** button. Touching the **OK** button accepts any changes that you made, and takes you to the next screen.

Basic copying instructions

This section provides the basic instructions for copying.

Copying by using the default settings

The default settings for copying are the following:

- Number of copies: One
- Size: Letter/A4-size original and Letter/A4-size copy
- Page Orientation: Portrait
- Number of Sides: One-sided copying
- Page Content: Mixed (mixed text and graphics)
- Job Mode: Off
- Heavy Paper: Off

To copy by using the default settings

1. Place the document face-down on the scanner glass or in the ADF.
2. Press START.

Copying by using user-defined settings

Use the following procedure to change the settings for your copies.

To make copies by using settings other than the default settings

1. Place the original face-down on the scanner glass or face-up in the ADF.

   On the touchscreen of the graphical display, do the following:

2. Touch **Copy**.
3. Touch **Describe Original** to view the options. You can select **Basic** options or **Advanced** options.
4. Touch the **Basic** items that describe your original. The following options are available:
   - **Paper Size**: Select the paper size of your original.
   - **Page Orientation**: Select **Portrait** or **Landscape**. For portrait orientation, the top of the original document is along the short edge of the page. For landscape orientation, the top of the original document is along the long edge of the page.
   - **Number of Sides**: Select **1** or **2**.
   - **Page Content**: Select **Text**, **Photo**, or **Mixed**.
5. Touch the **Advanced** tab to change the **Job Mode** setting. If you are combining multiple scans into a single job, select **On**. For more information, see Using Job Mode.

6. After you make your selections, touch **OK**.

Note The page icon in the **Original** section of the graphical display shows a representative image of the original document.

7. Make any necessary adjustments to the contrast and reduction or enlargement by using the **Contrast Control** bar and the **Reduce/Enlarge** button in the image modification section of the graphical display.
8. Touch **Copy** to view your options. You can select **Basic** options or **Advanced** options.
9. Touch the **Basic** items that describe the characteristics of the copies you are making. The following options are available:

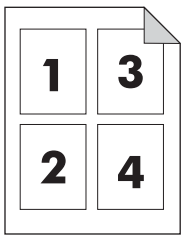
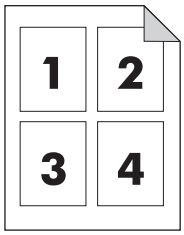
   Size and Type: Select **Auto** (paper size is matched to original size), or the copy size that you want. Be sure that you have loaded the correct paper size in the tray.

   Number of Sides: Select **1-sided** or **2-sided**. (This option is available only when a duplexer is installed.)

   Back Side Orientation: Select **Normal** or **Flip** (applies when **2-sided** copying is chosen).

   Pages per sheet: Select **1**, **2**, **4**, or **Booklet**.

   If you select **4** pages per sheet, "Z" or "N" ordering is tailored to the page orientation, and the option to put a border around each smaller page is displayed.

"N" ordering	"Z" ordering
	

   Borders: Select **Border** or **No Border**. This item is available only when printing multiple pages on one sheet.

   Staple: Stapling options depend on your output device and the paper size selected.
10. Touch the **Advanced** options, if necessary. Some of the options include the following items:
    - **Collation**: Select **Collated** or **Uncollated**.
    - **Output Bin**: Select the appropriate bin.
    - **Job Storage**: Select **On** to indicate that the copy job should be stored on the MFP rather than printed. Select **Off** to copy the job normally. See Creating a stored copy job for more information.
    - **Enhance**: Touch **Sharpness** or **Background Removal**.
    - **Scale to Fit**: Select **On** to automatically scale the copy to fit on the paper that is loaded in the MFP.

Note The page icon in the **Copy** section of the graphical display shows a representative image of the copy.

11. After you make your selections, touch **OK**.

12. Use the numeric keypad to type the number of copies, and then press START.

Copying by using the scanner glass

Use the scanner glass to copy small, lightweight (less than 60 g/m^2 or 16 lb), or irregularly-sized originals such as receipts, newspaper clippings, photographs, or old or worn documents.

1. Place the document face-down on the scanner glass.
2. Make any image modifications, and select any copy settings, if necessary.
3. If you are making only one copy, press START. If you are making multiple copies, use the numeric keypad to type the number of copies (up to 999), and then press START to begin copying. If you are copying more than one page from the scanner glass, see Using Job Mode to make a multi-page copy job.

Copying by using the ADF

Use the ADF to make as many as 999 copies of a document that has up to 50 pages (depending on the thickness of the pages).

1. Load the document face-up in the ADF.
2. Make any image modifications, and select any copy settings.
3. If you are making only one copy, press START. If you are making multiple copies, use the numeric keypad to type the required number of copies, and then press START.

The ADF can distinguish between letter- and legal-sized original documents. If the document that you are copying has mixed sizes, specify **Mixed Originals** in the **Describe Original** settings. Copying is slower when using this feature.

Using Job Mode

Use the Job Mode feature to build a single copy job from multiple scans. You can use either the ADF or the scanner glass. The settings for the first scan are used for subsequent scans.

1. Touch **Copy**.
2. Touch **Describe Original**.
3. Touch **Advanced**.
4. In the **Job Mode** check box, touch **On**.
5. Select any output settings, if necessary
6. After each page is scanned, the control panel prompts you for more pages.
7. Do one of the following:

   If the job contains more pages, load the next page, and then press START.

   If the job contains no more pages, touch **Finished** to print.

Note In Job Mode, if you scan the first page of a document by using the ADF, then you must scan all of the pages in that document by using the ADF. If you scan the first page of a document by using the scanner glass, then you must scan all of the pages in that document by using the scanner glass.

Modifying copy settings for the current job

You can modify your copies by adjusting the contrast, reducing or enlarging the size, or enhancing the quality.

Adjusting the copy contrast

You can adjust the contrast by touching the arrows on the **Contrast Control** bar. The slider moves to the lighter or darker area of the **Contrast Control** bar.

Reducing or enlarging copies

The MFP has an autoscaling feature. If the original paper size differs from the copy paper size, the MFP can autodetect a size mismatch between the original page size and the copy page size. The scanned image of the original page is reduced or enlarged automatically to match the copy paper size. You can override autoscaling by using the reduce and enlarge feature.

The MFP can reduce copies to as little as 25% of the original size and enlarge copies to as much as 400% of the original (200% when using the ADF).

To reduce or enlarge your copies, touch the arrows on the **Reduce/Enlarge** button until you reach the size that you want. The scale percentage box in the center of the **Reduce/Enlarge** button indicates the percentage of reduction or enlargement. You can also touch **100%** to display the keypad to type the number that you want. Touch **OK** to save the changes.

Background removal

If you copy a document that is printed on colored paper, or if you use two-sided copying, you can enhance the copy quality by removing any background that might cause your copy to streak or blur. Touch **Copy Settings**, and then touch the **Advanced** tab to gain access to the embedded **Background Removal** screen. Adjust the amount of background removal by touching the arrows on the **Background Removal** control. The slider moves to the lighter or darker area of the **Background Removal** control bar.

Sharpness

The **Sharpness** control specifies the sharpness setting that the flatbed scanner uses when the MFP scans your original. Touch **Copy Settings**, and then touch the **Advanced** tab to gain access to the **Sharpness** screen. Sharpness enhances the edges of the original so that faint or fine text and graphics are reproduced more sharply. Adjust the amount of sharpness by touching the arrows on the **Sharpness** control bar.

Contrast

The **Contrast** control allows you to determine the contrast and brightness of your copy. Touch the arrows on the **Contrast** control, and move the slider to the lighter or darker area of the **Contrast** control bar.

Copying multiple sized originals

If the original document contains mixed-size originals, for example, a letter-size document with several legal-size charts, see Copying submenu and Copying by using the ADF for more information.

Creating a stored copy job

Turning on the job storage setting indicates that you want the copy job to be stored on the hard disk, and that you will print the job later. You must provide the following information to create a stored job:

1. Touch **Copy**.
2. Select your basic copy settings (see Copying by using user-defined settings).
3. Touch the **Advanced** tab.
4. At the **Job Storage** box, select **On**. A popup dialog box is displayed, asking for the **User Name**, and **Job Name**. If **Authentication Required** is selected, a Personal Identification Number (PIN), if required. To enter the PIN, touch the small box next to **Authentication Required**. The keyboard is displayed when you select **User Name** and **Job Name**. The PIN is a four-digit number that can be typed on the numeric keypad.
5. Type the User Name.
6. Type the Job Name.
7. Type the PIN, if required.
8. Touch **OK**.
9. Press START.

See Printing a stored job for information on printing a stored job.

5 Scanning and sending to e-mail

The MFP offers color-scanning and digital-sending capabilities. By using the control panel, you can scan black-and-white or color documents and send them to an e-mail address as an e-mail attachment. To use digital sending, the MFP must be connected to a local area network (LAN). The MFP connects directly to your LAN.

Note The MFP cannot copy or print in color, but it can scan and send color images.

This chapter addresses both scanning and sending, because they are fully integrated functions. The following topics are addressed in this chapter:

- What is SMTP?
- What is LDAP?
- E-mail configuration
- E-mail screen navigation
- E-mail basics
- Using the address book
- Additional e-mail features

What is SMTP?

Simple mail transfer protocol (SMTP) is a set of rules that define the interaction between programs that send and receive e-mail. In order for the MFP to send documents to e-mail, it must be connected to a LAN that has a valid SMTP IP address. The SMTP server must also have Internet access.

If you are using a LAN connection, contact your system administrator to obtain the IP address for your SMTP server. If you are connecting through a DSL connection, contact the service provider to obtain the SMTP server IP address.

What is LDAP?

Lightweight Directory Access Protocol (LDAP) is used to gain access to a database of information. When the MFP uses LDAP, it searches a global list of e-mail addresses. As you begin to type the e-mail address, LDAP uses an auto-complete feature that supplies a list of e-mail addresses that match the characters you type. As you type additional characters, the list of matching e-mail addresses becomes smaller.

The MFP supports LDAP, but a connection to an LDAP server is not required in order for the MFP to be able to send to e-mail.

E-mail configuration

Before you can send a document to e-mail, you must configure the MFP for e-mailing. The MFP has an auto-configuration feature that attempts to find the correct IP addresses for the SMTP server and the LDAP server. You can also configure the IP addresses manually.

Note

The instructions that follow are for configuring the MFP at the control panel. You can also perform these procedures by using the embedded Web server. For more information, see Using the embedded Web server.

Automatic e-mail configuration

1. On the MFP control panel, touch **Menu**.
2. Touch **CONFIGURE DEVICE**, and then touch **SENDING**.
3. Touch **E-MAIL**, and then touch **FIND SEND GATEWAYS**. The MFP searches the local network to try to determine the IP address for the SMTP server and the LDAP server. If the process is not successful, the IP addresses appear as all zeros on the control-panel display. If this happens, configure the IP addresses manually.

Manual e-mail configuration

Consult your system administrator to find the IP address for the SMTP server and the LDAP server. Then use this procedure to manually configure the IP addresses.

To configure the SMTP and LDAP gateway addresses

1. Touch **Menu**.
2. Touch **CONFIGURE DEVICE**.
3. Touch **SENDING**.
4. Touch **E-MAIL**.
5. Touch **SMTP GATEWAY**.
6. Type the SMTP gateway address. The gateway address consists of up to 12 digits that are arrayed as four groups of three digits (for instance, 123.123.123.123). Touch **OK**.
7. Scroll to and touch **LDAP GATEWAY**.
8. Type the LDAP gateway. After typing the SMTP and LDAP gateways, test the configuration by using the **TEST SEND GATEWAYS** self-test, and then send an e-mail to yourself.

To use the Test Send Gateways self-test procedure

1. Touch **Menu**.
2. Touch **CONFIGURE DEVICE**.
3. Touch **SENDING**.
4. Touch **E-MAIL**.
5. Touch **TEST SEND GATEWAYS**. If the configuration is correct, **GATEWAYS OK** appears on the control-panel display.

If the first test was successful, send an e-mail to yourself by using the digital-send feature. If you receive the e-mail, you have successfully configured the the digital-sending feature.

If you do not receive the e-mail, use these actions to resolve issues with the digital-sending software:

- Check the SMTP and LDAP gateway addresses to make sure that you typed them correctly.
- Print a configuration page. Verify that the LDAP and SMTP gateway addresses are correct.
- Make sure that the network is operating correctly. Send an e-mail to yourself from a computer. If you receive the e-mail, the network is operating correctly. If you do not receive the e-mail, contact your network administrator or Internet service provider (ISP).
- Run the DISCOVER.EXE file. This program attempts to find the gateways. You can download the file from the HP Web site at http://www.hp.com/support/lj4345mfp.

To find gateways by using an e-mail program

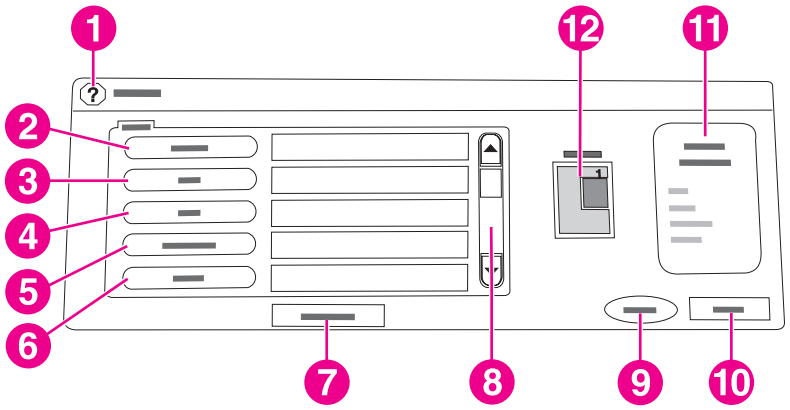
Because most e-mail programs also use SMTP to send e-mail and LDAP to address e-mail messages, you might be able to find the hostname of the SMTP gateway and LDAP server by looking at the settings for your e-mail program. In many cases, the SMTP and LDAP servers are contained under one hostname. After you have the hostname, you can find its IP address by using the following procedure.

1. At your computer, open the Command Prompt (also known as the MS-DOS prompt).
2. Type `nslookup` followed by a space and then the hostname.
3. Press Enter.

When you have found the IP address of the SMTP and LDAP servers, use them to manually configure digital sending. See Manual e-mail configuration.

E-mail screen navigation

Use the touchscreen graphical display to navigate through the options on the E-mail screen.



1 **Help** button
2 **From:** field
3 **To:** field
4 **CC:** field
5 **Subject:** field
6 **BCC:** field
7 **Clear All** button
8 Scroll button
9 **Start** button
10 **Back** button
11 **E-mail Settings** area
12 Page preview image

Help button

For Help, touch the (Help) button, and then touch **What is this?** or **Show me how**. For more information, see Help system.

From: field

Touch **From:** to type your e-mail address. The administrator can set up the From: field to contain an e-mail address that other users cannot change.

To:, CC:, and BCC: fields

Touch these buttons to set up e-mail recipients. To set up e-mail recipients, you can type e-mail addresses by using the touchscreen or by using the address book. For more information, see Using the address book.

Clear All button

Touching the **Clear All** button clears all text and fields that you have typed.

User-attention error messages appear in a pop-up dialog box that prohibits normal screen interaction until the message is cleared.

E-mail basics

The MFP e-mail feature offers the following benefits:

- Sends documents to multiple e-mail addresses, saving time and delivery costs.
- Delivers files in black-and-white or in color. Files can be sent in different file formats that the recipient can manipulate.

With e-mail, documents are scanned into the MFP memory and sent to an e-mail address or multiple addresses as an e-mail attachment. Digital documents can be sent in several graphics formats, such as .TFF and .JPG, which allows recipients to manipulate the document file in various programs to meet their specific needs. Documents arrive in near-original quality, and then can be printed, stored, or forwarded.

The HP Digital Sending software, which can be purchased separately, offers the additional benefits of sending to a fax machine, authenticating the user for security purposes, and scanning to a folder. For the HP LaserJet 4345mfp (base model), you can also install an analog fax accessory that provides e-mail capability. For more information see Faxing.

In order to use the e-mail feature, the MFP needs to be connected to a valid SMTP local area network that includes Internet access.

Loading documents

You can scan a document by using either the glass or the ADF. The glass and ADF can accommodate Letter-, Executive-, A4-, and A5-size originals. The ADF can also accommodate Legal-size originals. Smaller originals, receipts, irregular and worn documents, stapled documents, previously folded documents, and photographs should be scanned by using the glass. Multiple-page documents can be scanned easily by using the ADF.

Sending documents

The MFP scans both black-and-white and color originals. You can use default settings or change the scanning preferences and file formats. The following are the default settings:

- Color
- PDF (requires the recipient to have an Adobe Acrobat® viewer to view the e-mail attachment)

To send documents

1. Place the document face-down on the scanner glass or face-up in the ADF.
2. Touch **E-MAIL**.
3. If prompted, type your user name and password.
4. Complete the **From:**, **To:**, and **Subject:** fields. Complete the **CC:** and **BCC:** fields if appropriate. Your user name or other default information might appear in the **From:** field. If so, you might not be able to change it.
5. (Optional) Touch **E-mail Settings** and then touch **Describe original** to change the default settings for the document that you are sending (for example, the document size). If you are sending a double-sided document, you must describe the original as a two-sided document.

6. (Optional) Touch **E-mail Settings** to change the default settings for the scanned document that you are creating (for example, to change the type of file format).
7. Press START to begin sending.
8. The MFP prompts you to **CONTINUE** or to **RESET**.
   - **CONTINUE**: Retains all of the information that you just entered. You can easily send another e-mail or fax that uses these settings.
   - **RESET**: Clears all the settings that you just entered. However, pressing **RESET** does *not* cancel the e-mail or fax that you just sent.
9. When you are finished, remove the original document from the scanner glass or ADF.

Using the auto-complete function

When you type characters into the **To:**, **CC:**, or **From:** fields on the Send to E-mail screen, the auto-complete function is activated. As you type the required address or name by using the keyboard screen, the MFP automatically searches the address book list and completes the address or name by using the first match. You can then select that name by touching **Enter**, or continue typing the name until auto-complete finds the correct entry. If you type a character that does not match any entry in the list, the auto-complete text is removed from the display to indicate that you are typing an address that is not in the address book.

Using the address book

You can send e-mail to a list of recipients by using the address book feature of the MFP. See your system administrator for information about configuring address lists.

Note You can also use the embedded Web server to create and manage the e-mail address book. For more information, see Using the embedded Web server.

Creating a recipient list

On the touchscreen of the graphical display, complete the following steps:

1. Touch **E-MAIL**.
2. Touch **To:** to open the keyboard screen.
3. Type the first letter of the recipient's name.
4. Touch (address book icon) to open the address book.
5. Navigate the entries in the address book by using the scroll bar. Hold down the arrow to scroll quickly through the list.
6. Highlight the name to select a recipient, and then touch **Add**.

   You can also select a distribution list by touching **All**, or add a recipient from a local list by touching the **Local** button. Highlight the appropriate names, and then touch **Add** to add the name to your list of recipients.

   You can remove a recipient from your list by scrolling to highlight the recipient, and then touching **Remove**.
7. The names in the recipient list are placed in the text line of the keyboard screen. If you want, you can add a recipient that is not found in the address book by typing the e-mail address on the keyboard. After you are satisfied with your recipient list, touch **OK**.
8. Touch **OK** on the keyboard screen.
9. Finish typing information in the **CC:** and **Subject:** fields on the Send to E-mail screen, if necessary. You can check the list of recipients by touching the down arrow in the **To:** text line.
10. Press START.

Using the local address book

Use the local address book to store frequently-used e-mail addresses. The local address book can be shared between MFPs that use the same server to gain access to the HP Digital Sending software.

You can use the address book when you type e-mail addresses in the **From:**, **To:**, **CC:**, or **BCC:** fields. You can also add or delete addresses in the address book.

To open the address book, touch the address book button on the keyboard screen. When you touch **Local**, the **Edit** button appears. Touch this button to add or delete items from the address book.

To add e-mail addresses to the local address book

1. Touch **Local**.

2. Touch **Edit**.
3. Touch **Add**.
4. In the **Address** field, type the e-mail address for the new entry (required).
5. In the **Name** field, type a name for the new entry (optional). The Name is the alias for the e-mail address. If you do not type an alias name, the alias will be the e-mail address itself.
6. Do one of the following:
   - To add the e-mail address to the local address book without closing the Add screen, touch **Save**.
   - To return to the Edit screen without saving the e-mail address, touch **Cancel**.
   - To save the e-mail address and return to the Edit screen, touch **OK**.

   After you add an address, the following confirmation message appears: **Address was stored successfully**. The e-mail address is added to the public address book. All users will have access to this address.

To delete e-mail addresses from the local address book

You can delete e-mail addresses that you no longer use.

Note

To *change* an e-mail address, you must first delete the address and then add the corrected address as a new address in the local address book.

1. Touch **Local**.
2. Touch **Edit**.
3. Touch **DELETE** to see a list of e-mail addresses that you can delete from the local address book. If no addresses are available to delete, the list appears blank.
4. Touch the check box for each e-mail address that you want to delete, and then touch **OK**.

   The following confirmation message appears: **Do you want to delete the selected address(es)? <Yes> <No>**
5. Touch **YES** to delete the e-mail address(es) or touch **NO** to return to the Delete screen.
6. To return to the Edit screen, touch **OK**.

Additional e-mail features

If you install the optional HP Digital Sending Software (HP DSS), additional e-mail features become available.

Secondary e-mail

If the system administrator has made the feature available, a **Secondary E-mail** option might appear on the control-panel display. Secondary E-mail is designed for solutions that require an extra measure of data security. It differs from the regular e-mail feature in that the data between the device and the HP DSS server is encrypted. An rfc822-compliant e-mail message, which has the scanned data as an attachment, is created in the \HPEMAIL2 folder in the DSS program directory. The third-party software program, which is monitoring this folder, processes the e-mail message and sends it out in a secure format.

See the information that came with the HP DSS software for more information about configuring the Secondary E-mail feature. The process for sending an e-mail message by using the Secondary E-mail option is exactly the same as it is for normal e-mail.

Send to folder

If the system administrator has made the feature available, the MFP can scan a file and send it to a folder on the network. Supported operating systems for folder destinations include Windows 98, Windows NT, Windows 2000, Windows XP, and Windows Server 2003, and Novell.

Note

Authentication might be required in order to use this option, or to send to certain folders. See your system administrator for more information.

See the information that came with the HP DSS software for more information about using the Send to Folder feature.

Send to workflow

If the system administrator has enabled the workflow functionality, you can scan a document and send it to a custom workflow destination. A workflow destination gives you the ability to send additional information, along with the scanned document, to a specified network or file transfer protocol (FTP) location. Prompts for specific information appear on the control-panel display. A third-party software program that monitors the network folder or FTP site can then retrieve and decipher the information, and perform the specified operation on the scanned image. The system administrator can also designate a printer as a workflow destination, which allows you to scan a document and then send it directly to a network printer for printing.

See the information that came with the HP DSS software for more information about using the Send to Workflow feature.

6 Faxing

The HP LaserJet 4345x mfp, HP LaserJet 4345xs mfp, and HP LaserJet 4345xm mfp models come with an HP LaserJet analog fax accessory 300 already installed. Windows users can also install the optional HP Digital Sending Software (DSS), which provides digital faxing services.

For complete instructions for configuring the fax accessory and for using the fax features, see the *HP LaserJet Analog Fax Accessory 300 User Guide*. A printed copy of this guide is included with the HP LaserJet 4345x mfp, HP LaserJet 4345xs mfp, and HP LaserJet 4345xm mfp.

This chapter provides information about the following topics.

- Analog faxing
- Digital faxing

Analog faxing

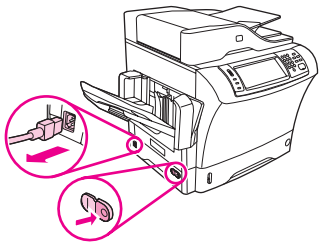
When the HP LaserJet analog fax accessory 300 is installed, the MFP can function as a standalone fax machine.

The HP LaserJet 4345x mfp, HP LaserJet 4345xs mfp, and HP LaserJet 4345xm mfp models come with an HP LaserJet analog fax accessory 300 already installed. For the HP LaserJet 4345mfp (base model), you can order this accessory as an option. See Part numbers for information about ordering the analog fax accessory.

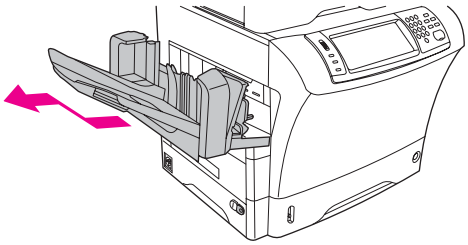
Installing the fax accessory

Use this procedure to install the analog fax accessory if it is not already installed.

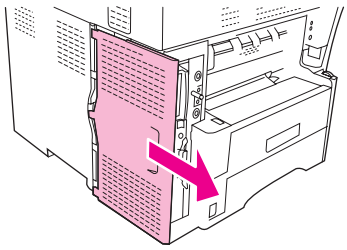
1. Turn off the MFP, and disconnect all the cables.



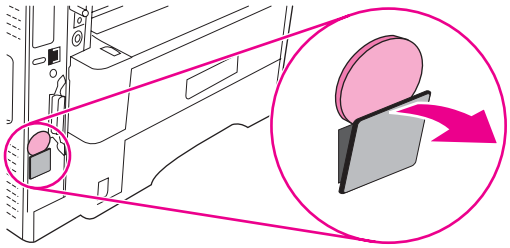
2. Remove the output bin, the 3-bin mailbox, or the stapler/stacker.



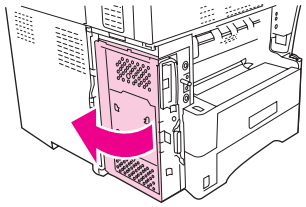
3. At the back of the MFP, remove the formatter cover.



4. Remove the fax-accessory cover from the formatter. Insert a coin into the groove at the top of the cover, and use it to pry the cover away from the formatter. Push the cover up to remove it from the formatter.



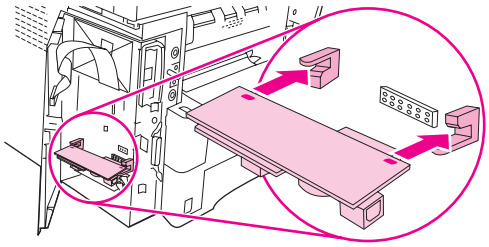
5. Open the formatter door.



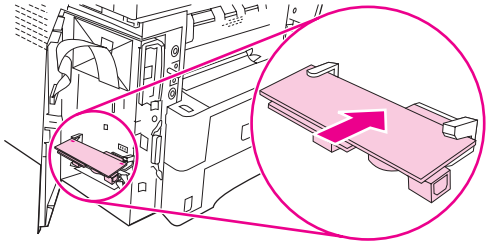
6. Remove the fax accessory from its antistatic pouch.

CAUTION The fax accessory contains parts that are sensitive to electrostatic discharge (ESD). When removing the fax accessory from its antistatic pouch and while installing it, use static protection, such as a grounding wrist strap that is connected to the metal frame of the MFP, or touch the metal frame of the MFP with your other hand.

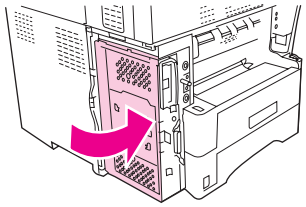
7. Align the two cutouts on the fax accessory with the two fax-accessory guides, and carefully slide the fax accessory into the guides.



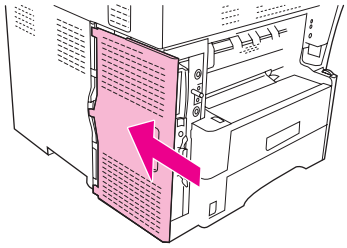
8. Push the fax accesssory into place, and make sure that the fax accessory is securely connected to the formatter.



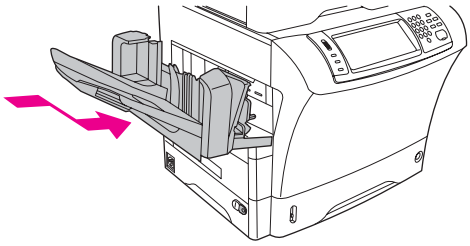
9. Close the formatter door.



10. Replace the formatter cover.



11. Reinstall the output bin, the 3-bin mailbox, or the stapler/stacker.



12. Reconnect all the cables, and turn on the MFP.

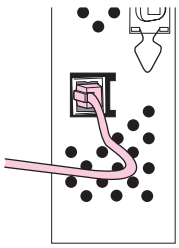
Connecting the fax accessory to a phone line

When connecting the fax accessory to a phone line, ensure that the phone line being used for the fax accessory is a dedicated line that is not used by any other devices. Also, this line should be an analog line because the fax will not function correctly if it is connected to some digital PBX systems. If you are not sure whether you have an analog or digital phone line, contact your telecom provider.

Note HP recommends using the phone cord that comes with the fax accessory to ensure that the accessory functions correctly.

Follow these instructions to connect the fax accessory to a phone jack.

1. Locate the phone cord that is included with the fax accessory kit. Connect one end of the phone cord into the fax accessory phone jack that is on the formatter. Push the connector until it clicks.



CAUTION Be sure to connect the phone line to the fax accessory port , which is near the bottom of the formatter. Do not connect the phone line to the HP Jetdirect LAN port, which is nearer the top of the formatter.

2. Connect the other end of the phone cord into the phone jack on the wall. Push the connector until it clicks.

Configuring and using the fax features

Before you can use the fax features, you must configure them in the control-panel menus. For complete information about configuring and using the fax accessory and for information about troubleshooting problems with the fax accessory, see the *HP LaserJet Analog Fax Accessory 300 User Guide*, which is provided with the fax accessory.

Digital faxing

Digital faxing is available when you install the optional HP Digital Sending Software. For information about ordering this software, go to http://www.hp.com/go/lj4345mfp_software.

With digital faxing, the MFP does *not* need to be connected directly to a phone line. Instead, the MFP can send a fax in one of three ways:

- **LAN fax** sends faxes through a third-party fax provider.
- **Microsoft Windows 2000 fax** is a fax modem and Digital Sender Module on a computer that allows the computer to operate as a turnkey gateway fax.
- **Internet fax** uses an Internet fax provider to process faxes, and the fax is delivered on a traditional fax machine or sent to the user's e-mail.

For complete information about using digital faxing, see the documentation that is provided with the HP Digital Sending Software.

7 Optional output and input devices

This chapter includes information about using and troubleshooting the following output and input devices:

- 3-bin mailbox
- Stapler/stacker accessory
- 500-sheet feeders and the cabinet/stand
- Envelope feeder
- Troubleshooting the output and input accessories

3-bin mailbox

The optional 3-bin mailbox has one bin that stacks up to 500 sheets and two bins that stack up to 100 sheets each, for a total capacity of 700 sheets.

The 3-bin mailbox has three operating modes: mailbox mode, stacker mode, and function separator mode. Each mode is explained in the sections that follow.

Mailbox mode

The bins can be assigned to a user or to a group of users. All print, copy, and fax jobs that an assigned user or group of users sends are delivered to the designated bin. Each user can select the bin in the printer driver or at the control panel.

When the designated bin is full, the MFP stops printing. Printing continues only when you empty the bin.

Stacker mode

The 3-bin mailbox can combine the bins to act as a stacker. It can stack up to 700 sheets of 75 g/m^2 (20 lb bond) paper. Jobs are sent to the bottom bin first, then to the middle bin, and then to the top bin. Print jobs that require more than 500 sheets fill the bottom bin and continue stacking into the middle and top bins.

When all three bins are full, the MFP stops printing. Printing continues only when you remove paper from the top bin. The MFP does not resume printing if you remove paper from the bottom bin or the middle bin before you remove paper from the top bin.

Note Do not remove paper from the top bin and then attempt to put it in place again. This causes the pages to stack in the incorrect order.

When the 3-bin mailbox is in stacker mode, you cannot designate that a job be sent to a particular bin.

Function-separator mode

You can configure the bins to receive jobs that come from a specific MFP function, such as printed jobs, copy jobs, or faxes. For instance, you can specify that all copy jobs are sent to the top bin.

The MFP stops functioning when the designated bin is full. Printing, copying, or faxing can continue only when you empty the bin.

Using the 3-bin mailbox

You can select the operating mode at the control panel and in the printer driver.

Note When you select the operating mode in the printer driver, the settings must match the operation mode that is set at the control panel.

When using mailbox mode, use the either printer driver or the control panel to assign bins to a user or group of users. When using function-separator mode, use the control panel to assign the bins to each function.

Note Each time you change the operating mode, the MFP restarts.

To select the operating mode at the control panel

1. Touch **Menu**.
2. Scroll to and touch **CONFIGURE DEVICE**.
3. Scroll to and touch **MBM-3 CONFIGURATION**.
4. Touch **OPERATION MODE**. Select the operation mode that you want to use.
5. Touch **OK**.

To select the operating mode in the printer driver (Windows)

1. Access the printer-driver properties. For instructions, see Using the printer drivers. Look for the column with the heading "To change the configuration settings," and follow the procedure for the operating system that you are using.
2. You can configure the mode automatically or manually:
   a. Automatic configuration: Next to **Automatic Configuration**, select **Update Now**.
   b. Manual configuration: Select the operation mode from the list of options for **Accessory Output Bin** or **Optional Paper Destinations** (depending on your operating system).

To select the operating mode in the printer driver (Mac OS 9)

1. Access the printer-driver properties. For instructions, see Using the printer drivers. Look for the column with the heading "To change the configuration settings," and follow the procedure for the operating system that you are using.
2. In the **Change** pop-up menu, select **Accessory Output Bins**.
3. In the **To:** pop-up menu, click **HP 3-bin mailbox**.
4. In the **Change** pop-up menu, select **Mailbox mode**.
5. In the **To:** pop-up menu, select the mode that you want to use.
6. Click **OK**.

To select the operating mode in the printer driver (Mac OS X)

1. Access the printer-driver properties. For instructions, see Using the printer drivers. Look for the column with the heading "To change the configuration settings," and follow the procedure for the operating system that you are using.
2. In the **Accessory Output Bins** pop-up menu, select **HP 3-bin mailbox**.
3. In the **Mailbox mode** pop-up menu, select the mode that you want to use.
4. Click **Apply changes**.

To assign an output bin to a user or a group of users when using Mailbox mode (Windows)

Perform the following procedure for each user or group of users.

1. Open the printer driver. See Using the printer drivers.
2. On the **Output** tab, select the appropriate output bin, and then click **OK**.

Note You can create a Quick Set for that has the appropriate settings and output bins. For more information, see Creating and using quick sets.

To assign an output bin to a user or a group of users when using Mailbox mode (Mac)

Assign output bins as mailboxes by creating a new preset in the printer driver.

1. Open the printer driver. See Using the printer drivers. Look for the column with the heading "To change the print job default settings," and follow the instructions for the operating system that you are using.
2. Create the new preset.

To configure a destination bin at the control panel (Mailbox and Function-separator modes)

1. Touch **Menu**.
2. Scroll to and touch **CONFIGURE DEVICE**.
3. Touch **PRINTING**, **COPYING**, or **FAX**.
4. Touch **PAPER DESTINATION**. Select the output bin that you want to use.
5. Touch **OK**.

Stapler/stacker accessory

The optional stapler/stacker can staple jobs of up to 30 sheets of 75 g/m^2 (20 lb) paper. The stapler can staple these sizes: A4, Letter, Legal, Executive (JIS), and 8.5x13. It can stack up to 500 sheets of paper.

- Paper weight can range from 60 to 120 g/m^2 (16 to 32 lb). Heavier paper might have a stapling limit of fewer than 30 sheets.
- If the job consists of only one sheet, or if it consists of more than 30 sheets, the MFP delivers the job to the bin, but the MFP does not staple the job.
- The stapler supports paper only. Do not try to staple other types of print media, such as envelopes, transparencies, or labels.

When you want the MFP staple a document, select stapling in the software. You can usually select the stapler in your program or printer driver, although some options might be available only in the printer driver. Where and how you make selections depends on your program or printer driver.

If you cannot select the stapler in the program or printer driver, select the stapler at the MFP control panel.

The stapler accepts print jobs if it is out of staples, but it does not staple the pages. The printer driver can be configured to disable the staple option if the staple cartridge is empty.

To configure the printer driver to recognize the optional stapler/stacker

You need to configure the printer driver to recognize the optional stapler/stacker. You need to set this setting only once. The procedure to configure the driver to recognize the accessory depends on the operating system you are using. For instructions, see Using the printer drivers. Look for the column with the heading "To change the configuration settings," and follow the procedure for the operating system that you are using. Select the HP 500-Sheet Stapler/Stacker as an optional paper destination or accessory.

To select the stapler in the software (Windows)

1. On the **File** menu, click **Print**, and then click **Properties**.
2. On the **Output** tab, click the drop-down list under **Staple**, and click **One Staple Angled**.

To select the stapler in the software (Mac)

1. On the **File** menu, click **Print**, and then select **Finishing** from the print options.
2. In the **Output Destination** pop-up menu, select the **Stapler** option.
3. In the **Finishing Options** pop-up menu, select the stapling style that you want to use.

To select the stapler at the control panel for printed jobs

1. Touch **Menu**.
2. Scroll to and touch **CONFIGURE DEVICE**.
3. Touch **STAPLER/STACKER**.
4. Touch **STAPLE**.
5. Touch the option that you want to use, either **NONE** or **ONE**.

Note Selecting the stapler at the printer control panel changes the default setting to **STAPLE**. It is possible that all print jobs will be stapled. However, settings that are changed in the printer driver override settings that are changed at the control panel.

To select the stapler in the printer driver for printed jobs (Windows)

Note The following procedure changes the default setting to staple all print jobs.

1. Open the printer driver. See Using the printer drivers. Look for the column with the heading "To change the print job default settings."
2. On the **Output** tab, click the drop-down list under **Staple**, and click **One Staple Angled**.

Note You can create a Quick Set for that has the appropriate settings. For more information, see Creating and using quick sets.

To select the stapler in the printer driver for printed jobs (Mac)

Select the stapler by creating a new preset in the printer driver.

1. Open the printer driver. See Using the printer drivers. Look for the column with the heading "To change the print job default settings," and follow the instructions for the operating system that you are using.
2. Create the new preset.

To set the stapler at the control panel for all copy jobs

Note The following procedure changes the default setting for all copy jobs.

1. Touch **Menu**.
2. Scroll to and touch **CONFIGURE DEVICE**.
3. Touch **COPYING**.
4. Touch **STAPLE**.
5. Touch the option that you want to use, either **NONE** or **CORNER**.

To set the stapler at the control panel for a single copy job

Note The following procedure sets the stapling option for only the current copy job.

1. Touch **Copy**.
2. Touch **Copy settings**.
3. Touch the **STAPLE** tab.
4. Touch the option that you want to use, either **NONE** or **ONE**.

To configure the MFP to stop or continue when the staple cartridge is empty

You can specify whether the MFP stops printing when the staple cartridge is empty or if it continues printing but does not staple the jobs.

1. Touch **Menu**.
2. Scroll to and touch **CONFIGURE DEVICE**.
3. Touch **STAPLER/STACKER**.
4. Touch **STAPLES OUT**.
5. Touch the option that you want to use:
   - Select **STOP** to stop all printing until the staple cartridge is replaced.
   - Select **CONTINUE** to continue printing jobs without stapling them.

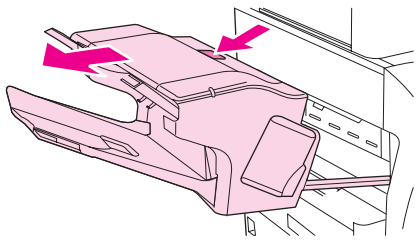
Loading staples

Load staples if the printer control-panel display prompts you with a **STAPLER LOW ON STAPLES** message (the stapler has fewer than 20 usable staples left) or a **REPLACE STAPLE CARTRIDGE** message (the stapler is empty, or the remaining staples cannot be used).

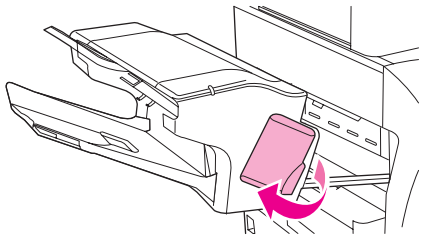
You can specify whether the MFP stops printing when the staple cartridge is empty or if it continues printing but does not staple the jobs. For more information, see To configure the MFP to stop or continue when the staple cartridge is empty.

To load staples

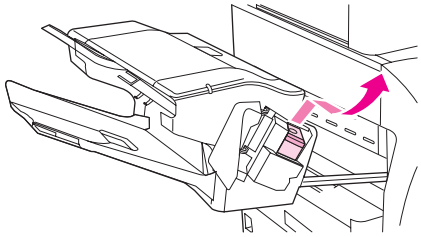
1. Press and hold the release button on the top of the stapler/stacker. Pull the stapler/stacker away from the MFP.



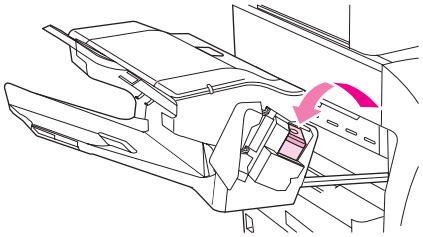
2. Open the staple-cartridge cover.



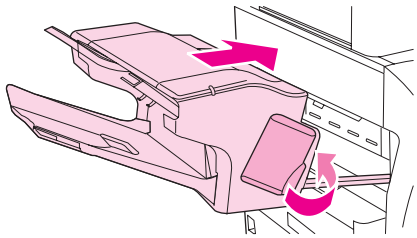
3. Grasp the green staple-cartridge handle and pull the old staple cartridge out of the stapler unit.



4. Insert the new staple cartridge into the stapler unit and push down on the green handle until the unit snaps into place.



5. Close the staple-cartridge cover, and slide the stapler/stacker into the MFP.



500-sheet feeders and the cabinet/stand

You can install up to three 500-sheet feeders on the MFP. When using more than one 500-sheet feeder, HP recommends that you also use a cabinet/stand. The cabinet/stand supports the MFP so that it does not tip over, and it raises the MFP to a height that makes using the MFP easier.

Follow the instructions that come with the cabinet/stand and the 500-sheet feeders to set up the accessories. Always place each 500-sheet feeder on top of the cabinet/stand one-at-a-time, and then place the MFP on top.

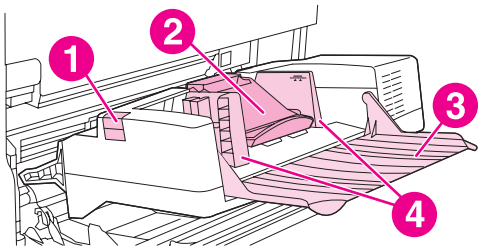
CAUTION Do not try to lift the MFP when it is attached to one or more 500-sheet feeders. See Moving the MFP.

To load paper and other print media into the 500-sheet feeders, see Loading trays 2, 3, 4 and 5.

Envelope feeder

With the optional envelope feeder, the MFP will automatically feed up to 75 standard-size envelopes. To order an optional envelope feeder, see Ordering parts, accessories, and supplies.

- Print only on envelopes that are approved for use in the MFP. See Envelopes.)
- Before you use the optional envelope feeder, ensure that the printer driver is set to recognize it. You need to set this setting only once. See the printer driver online Help for details.
- Ensure that you are familiar with the parts of the optional envelope feeder.



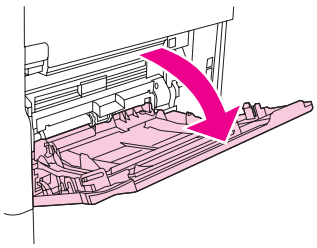
1 Release lever
2 Envelope weight
3 Tray extension
4 Guides

Installing the optional envelope feeder

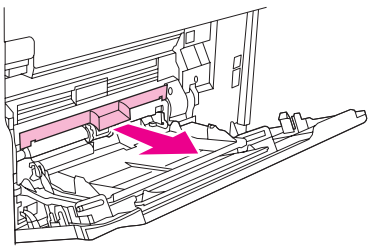
Use these steps to install the optional envelope feeder onto the printer.

To install the optional envelope feeder

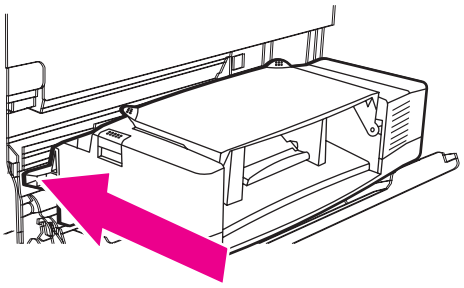
1. Open tray 1.



2. Remove the plastic envelope-entrance cover from the MFP.



3. Insert the optional envelope feeder firmly into the MFP until it latches into position. Pull gently on the optional envelope feeder to be sure that it is securely in place.

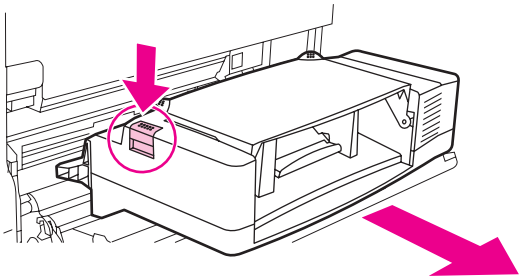


Removing the optional envelope feeder

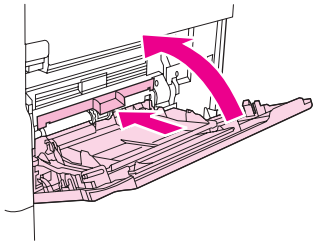
Use these steps to remove the optional envelope feeder from the MFP.

To remove the optional envelope feeder

1. Press the release button that is located on the left side and pull the optional envelope feeder away from the MFP.



2. Replace the plastic envelope-entrance cover in the printer and close tray 1.

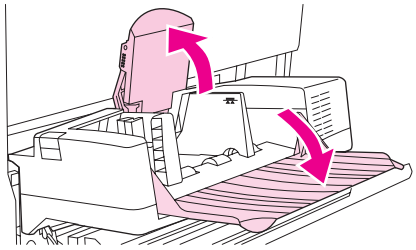


Loading envelopes in the optional envelope feeder

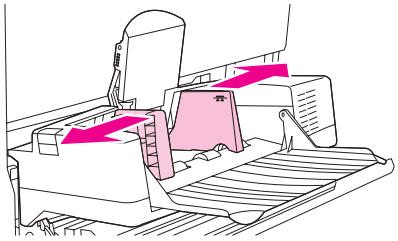
Use these steps to load envelopes in the optional envelope feeder.

To load envelopes in the optional envelope feeder

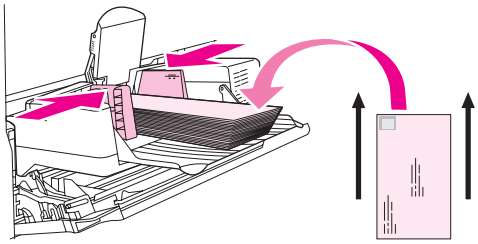
1. Fold down the envelope-feeder tray. Lift the envelope weight.



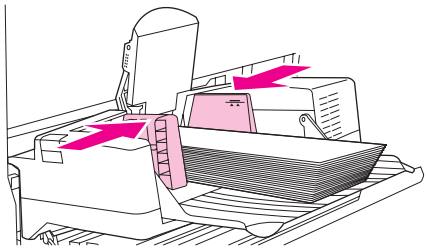
2. Squeeze the release lever that is located on the left envelope guide and slide the guides apart.



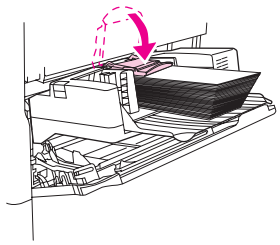
3. Load envelopes with the front side facing up, and the postage-end toward the printer. Stack envelopes no higher than the arrows on the guides. Slide the envelopes into the printer as far as they will go without forcing them. The envelopes at the bottom of the stack should slide in slightly farther than the envelopes at the top of the stack.



4. Adjust the guides to touch the envelopes without bending them.



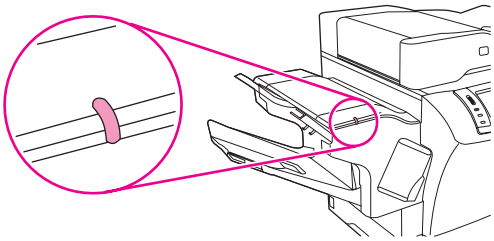
5. Lower the envelope weight onto the envelopes.



Note Select the envelope size in one of these locations, trying them in this order: in the program, in the printer driver, or on the **PAPER HANDLING** menu at the MFP control panel. See Paper handling menu.

Troubleshooting the output and input accessories

When the 3-bin mailbox or the stapler/stacker is installed correctly, the LED at the top of the accessory is lit green. If the LED is off, is blinking, or is lit amber, a problem exists. See Understanding accessory lights for the 3-bin mailbox and stapler/stacker.



For information about clearing jams that can occur in the envelope feeder or the optional 500-sheet feeders, see Clearing jams from the optional envelope-feeder area and Clearing jams from the tray 2, 3, 4, or 5 areas.

8 Security features

This section explains important security features that are available for the MFP:

- Securing the embedded Web server
- Foreign Interface Harness (FIH)
- Secure Disk Erase
- Job-storage features
- DSS authentication
- Locking the control-panel menus
- Locking the formatter cage

Securing the embedded Web server

You can assign a password for access to the embedded Web server so that unauthorized users cannot change the MFP settings.

To secure the embedded Web server

1. Open the embedded Web server. See Using the embedded Web server.
2. Click the **Settings** tab.
3. On the left side of the window, click **Security**.
4. Type the password next to **New Password**, and type it again next to **Verify Password**.
5. Click **Apply**. Make note of the password, and store it in a safe place.

Foreign Interface Harness (FIH)

The Foreign Interface Harness (FIH) provides a portal on the MFP. By using the FIH and third-party equipment, you can track information about copies that are made on the MFP.

Requirements

- Windows 9*X*, Windows Me, Windows NT 4.0, Windows 2000, or Windows XP
- Access to third-party accounting hardware solutions, such as Equitrac or Copitrak devices

Using the FIH

To use the FIH, you must download and install the FIH software. The software is available from http://www.hp.com/go/lj4345mfp_software. The software is used to enable or disable the FIH portal. Use the software to set and change the administrator personal identification number (PIN).

Administrators can use the PIN option to configure the FIH to prevent any unauthorized changes. Changes can be made only with the correct PIN authentication.

Note It is important to remember the PIN that is assigned to the FIH administration software. The PIN is required to make any changes to the FIH.

To enable the FIH portal

1. Double-click the FIH.EXE file. The **Foreign Interface Harness** dialog box appears.
2. Click **OK**.
3. Click **Enable**.
4. If you have not entered a PIN before, click **No**. If you have entered a PIN before, click **Yes**. If you click **No**, type and confirm the PIN, and then click **OK**. If you click **Yes**, type the PIN and click **OK**.

Note The PIN must be numeric.

5. Click the appropriate button for the type of connection: **Direct** or **Network**. If you select **Direct**, type the MFP port. If you select **Network**, type the IP address and port for the MFP.

Note The IP address for the MFP can be found on the Configuration page. You can print a Configuration page from the control panel by touching **Menu**, touching **INFORMATION**, and then touching **PRINT CONFIGURATION**.

If you typed an incorrect IP address, you will receive an error message. Otherwise, the portal is enabled.

To disable the FIH portal

1. Double-click the FIH.EXE file. The **Foreign Interface Harness** dialog box appears.
2. Click **OK**.
3. Click **Disable**.

4. Type the PIN and click **OK**.
5. Click the appropriate button for the type of connection: **Direct** or **Network**. If you selected **Direct**, type the MFP port and click **OK**. If you selected **Network**, type the IP address and port for the MFP, and then click **OK**. The portal is disabled.

Note

If you lose the PIN number and the portal needs to be disabled, try using the default PIN that is listed to disable it. For assistance, use the HP Instant Support service, which is available through the embedded Web server or at http://instantsupport.hp.com. See Using the embedded Web server.

Secure Disk Erase

You might need to protect deleted data from unauthorized access on the MFP hard drive. Secure Disk Erase is a security feature that you can use to securely erase print and copy jobs from the hard drive.

Secure Disk Erase offers the following levels of disk security:

- **Non-Secure Fast Erase**. This is a simple file-table erase function. Access to the file is removed, but actual data is retained on the disk until it is overwritten by subsequent data-storage operations. This is the fastest mode. Non-Secure Fast Erase is the default erase mode.
- **Secure Fast Erase**. Access to the file is removed, and the data is overwritten with a fixed identical character pattern. This is slower than Non-Secure Fast Erase, but all data is overwritten. Secure Fast Erase meets the U.S. Department of Defense 5220-22.M requirements for the clearing of disk media.
- **Secure Sanitizing Erase**. This level is similar to the Secure Fast Erase mode. In addition, data is repetitively overwritten by using an algorithm that prevents any residual data persistence. This mode will impact performance. Secure Sanitizing Erase meets the U.S. Department of Defense 5220-22.M requirements for the sanitization of disk media.

Data affected

Data affected (covered) by the Secure Disk Erase feature includes temporary files that are created during the print and copying process, stored jobs, proof and hold jobs, disk-based fonts, and disk-based macros (forms).

Note

Stored jobs will be securely overwritten only when they have been deleted through the **RETRIEVE JOB** menu on the MFP after the appropriate erase mode has been set. See Retrieve job menu.

This feature will not impact data that is stored on flash-based product non-volatile RAM (NVRAM) that is used to store default settings, page counts, and similar data. This feature does not affect data that is stored on a system RAM disk (if one is used). This feature does not impact data that is stored on the flash-based system boot RAM.

Changing the Secure Disk Erase mode does not overwrite previous data on the disk, nor does it immediately perform a full-disk sanitization. Changing the Secure Disk Erase mode changes how the MFP cleans up temporary data for jobs after the erase mode has been changed.

Gaining access to Secure Disk Erase

Use HP Web Jetadmin to gain access to and set the Secure Disk Erase feature.

Additional Information

For additional information about the HP Secure Disk Erase feature, see the HP support flyer or go to http://www.hp.com/go/webjetadmin/.

Job-storage features

Several job-storage features are available for this MFP. These features include printing private jobs, storing print jobs, quick-copying jobs, and proofing and holding jobs.

For more information about job-storage features, see Job-storage features.

DSS authentication

Optional Digital Sending Software (DSS) for the MFP is available for purchase separately. The software provides an advanced sending program that contains an authentication process. This process requires users to type a user identification and a password before they can use any of the DSS features that require authentication.

See Ordering parts, accessories, and supplies for ordering information.

Locking the control-panel menus

To prevent someone from changing MFP configuration, you can lock the control-panel menus. This prevents unauthorized users from changing the configuration settings such as the SMTP server. The following procedure describes how to restrict access to the control-panel menus by using the HP Web Jetadmin software. (See Using HP Web Jetadmin software.)

To lock the control-panel menus

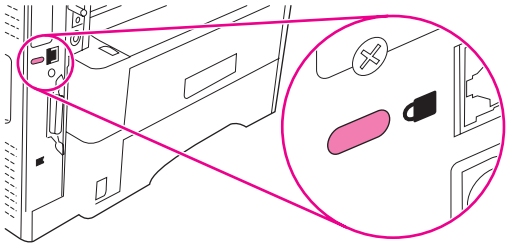
1. Open the HP Web Jetadmin program.
2. Open the **DEVICE MANAGEMENT** folder in the drop-down list in the **Navigation** panel. Navigate to the **DEVICE LISTS** folder.
3. Select the MFP.
4. In the **Device Tools** drop-down list, select **Configure**.
5. Select **Security** from the **Configuration Categories** list.
6. Type a **Device Password**.
7. In the **Control Panel Access** section, select **Maximum Lock**. This prevents unauthorized users from gaining access to configuration settings.

Locking the formatter cage

You can place a Kensington lock on the formatter cage to prevent unauthorized access to components on the formatter.

Note A Kensington lock is typically used for locking laptop computers to prevent theft.

The following figure indicates where you should place the lock.



9 Managing and maintaining the MFP

This chapter contains information about these topics:

- Using the embedded Web server
- Using the HP Toolbox
- Using HP Web Jetadmin software
- Configuring and verifying an IP address
- Setting the real-time clock
- Checking the MFP configuration
- Managing the print cartridge
- Upgrading the firmware
- Cleaning the MFP
- Calibrating the scanner
- Performing preventive maintenance

Using the embedded Web server

Use the embedded Web server to view MFP and network status and to manage printing functions from your computer instead of from the MFP control panel. The following are examples of what you can do using the embedded Web server:

- View MFP status information.
- Set the type of media that is loaded in each tray.
- Determine the remaining life for all supplies and order new ones.
- View and change tray configurations.
- View and change the MFP control-panel menu configuration.
- View and print internal pages.
- Receive notification of MFP and supplies events.
- View and change network configuration.

The embedded Web server feature requires at least 48 MB of RAM and an HP Jetdirect print server in order to connect to your network.

To use the embedded Web server, you must have Microsoft Internet Explorer 5.01 or later or Netscape 6.2 or later for Windows, Mac OS, and Linux (Netscape only). Netscape Navigator 4.7 is required for HP-UX 10 and HP-UX 11. The embedded Web server works when the MFP is connected to an IP-based network. The embedded Web server does not support IPX-based MFP connections. You do not have to have Internet access to open and use the embedded Web server.

When the MFP is connected to the network, the embedded Web server is automatically available.

Note For complete information about using the embedded Web server, see the *Embedded Web Server User Guide*, which is on the HP LaserJet 4345mfp software CD-ROM.

Opening the embedded Web server

1. In a supported Web browser on your computer, type the IP address for the MFP. To find the IP address, print a configuration page. For more information about printing a configuration page, see Checking the MFP configuration.

Note After you open the URL, you can bookmark it so that you can return to it quickly in the future.

2. The embedded Web server has four tabs that contain settings and information about the MFP: the **Information** tab, the **Settings** tab, the **Digital Sending** tab, and the **Networking** tab. Click the tab that you want to view.
3. See the following sections for more information about each tab.

Information tab

The Information pages group consists of the following pages.

- **Device Status**. This page shows the MFP status and shows the life remaining of HP supplies, with 0% representing that a supply is empty. The page also shows the type and size of print media set for each tray. To change the default settings, click **Change Settings**.
- **Configuration page**. This page shows the information that is found on the MFP configuration page.
- **Supplies Status**. This page shows the life remaining of HP supplies, with 0% representing that a supply is empty. This page also provides supplies part numbers. To order new supplies, click **Order Supplies** in the **Other Links** area of the window. To visit any Web site, you must have Internet access.
- **Event log**. This page shows a list of all MFP events and errors.
- **Usage page**. This page details the total usage of the MFP.
- **Device information**. This page shows the MFP network name, address, and model information. To change these entries, click **Device Information** on the **Settings** tab.
- **Control panel**. View the current status of the MFP control panel.
- **Print**. Select a file on your network or on the Web, and send it to the MFP to be printed. The document must be a print-ready document, such as a .PS, .PDF, .PCL, or .TXT file.

Settings tab

Use this tab to configure the MFP from your computer. The **Settings** tab can be password protected. If this MFP is networked, always consult with the system administrator before changing settings on this tab.

The **Settings** tab contains the following pages.

- **Configure Device**. Configure all MFP settings from this page. This page contains the traditional menus found on the control-panel display. These menus include **Information**, **Paper Handling**, **Configure Device**, and **Diagnostics**.
- **E-mail Server**. Use this page to set up the SMTP server that will be used to send MFP e-mail alerts (set up on the **Alerts** page).
- **Alerts**. Network only. Set up to receive e-mail alerts for various MFP and supplies events. These alerts can be sent to a list of up to 20 e-mail, mobile device, or Web site destinations.
- **AutoSend**. Use the AutoSend screen to send product-configuration and usage information periodically to your service provider. This feature establishes a relationship with Hewlett-Packard Company or another service provider to provide you with services that include support agreements and usage tracking.
- **Security**. Set a password that must be typed in order to gain access to the **Settings**, **Digital Sending**, and **Networking** tabs. Turn on and off certain features of the EWS.
- **Edit Other Links**. Add or customize a link to another Web site. This link is shown in the **Other Links** area on all embedded Web server pages. These permanent links always appear in the **Other Links** area: **HP Instant Support**, **Order Supplies**, and **Product Support**.
- **Device Information**. Name the MFP and assign an asset number to it. Type the name of the primary contact who will receive information about the MFP.

- **Language**. Determine the language in which to show the embedded Web server information.
- **Date & Time**. Use this page to set the correct date and time for the device. Once the time is set, the device's real-time clock maintains the accurate time.
- **Wake Time page**. Wake Time can be set to wake the MFP at a certain time on a daily basis. Only one wake time can be set per day; however, each day can have a different wake time. You can also set the time delay for Sleep Mode on this page.

Digital Sending tab

Use the pages on the **Digital Sending** tab to configure the digital-sending features.

Note

If the MFP is configured to use the optional HP Digital Sending Software, the options on these tabs are not available. Instead, all digital-sending configuration is performed by using the HP Digital Sending Software.

- **General page**. Set up contact information for the system administrator.
- **Send to E-mail page**. Configure the e-mail settings for digital sending. You can specify the SMTP server, the default "From" address, and the default subject. You can also set the maximum file size that is allowed for attachements.
- **Addressing page**. Configure the LDAP server settings for digital sending. The LDAP server can be used to retrieve e-mail addresses for digital sending. Select the check box at the top of this page to enable this feature. Click **Find Server** to find the LDAP server on your network, then click **Test** near the bottom of the page to test access to the server. Contact your network administrator for more information about using the LDAP server.
- **Address Book page**. Use this page to import e-mail addresses, in the form of a Comma-Separated Value (CSV) file into the MFP internal address book. This process is necessary only if you are not using an LDAP server to find e-mail addresses.
- **Activity Log page**. View the digital-sending activity log for the MFP. The log contains digital-sending job information, including any errors that occur.
- **Preferences page**. Configure digital-sending defaults such as the default page-size and the default settings-reset delay. You can also configure these settings by using the MFP control-panel menus.

Networking tab

The network administrator can use this tab to control network-related settings for the MFP when it is connected to an IP-based network. This tab does not appear if the MFP is directly connected to a computer, or if the MFP is connected to a network with anything other than an HP Jetdirect print server.

Other links

This section contains links that connect you to the Internet. You must have Internet access in order to use any of these links. If you use a dial-up connection and did not connect when you first opened the embedded Web server, you must connect before you can visit these Web sites. Connecting might require that you close the embedded Web server and reopen it.

- **HP Instant Support**. Connects you to the HP Web site to help you find solutions. This service analyzes your MFP error log and configuration information to provide diagnostic and support information specific to your MFP.
- **Order Supplies**. Click this link to connect to an ordering Web site and order genuine HP supplies, such as print cartridges and media.
- **Product Support**. Connects to the support site for the HP LaserJet 4345mfp Series. Then, you can search for help regarding general topics.

Using the HP Toolbox

The HP Toolbox is a Web-browser-based software program that you can use for the following tasks:

- Check the MFP status.
- Configure the MFP settings.

You can view the HP Toolbox when the MFP is connected to a TCP/IP-based network. You must perform a complete (custom) software installation in order to use the HP Toolbox.

Note

You do not have to have Internet access to open and use the HP Toolbox. However, if you click a link in the **Other Links** area, you must have Internet access to go to the site that is associated with the link. See Other links for more information.

Supported operating systems

The HP Toolbox is supported for the following operating systems:

- Windows 98, Windows 2000, Windows Me, Windows XP, and Windows Server 2003 (32-bit only)
- Mac OS X, Version 10.2 or later (the MFP must be set up by using Rendezvous or TCP/IP)

Supported browsers

To use the HP Toolbox, you must have one of the following browsers:

Windows

- Microsoft Internet Explorer 5.5 or later
- Netscape Navigator 7.0 or later
- Opera Software ASA Opera 7.0 or later

Mac (OS X only)

- Microsoft Internet Explorer 5.1 or later
- Netscape Navigator 7.0 or later

To view the HP Toolbox

1. Open the HP Toolbox in one of these ways:
   - From the Windows **Start** menu, click **Programs**, and then click **HP Toolbox**.
   - For Mac OS X, on the hard drive, click **Applications**, and then click the **Utilities** folder. Double-click the **HP Toolbox icon**.

Note After you open the URL, you can bookmark it so that you can return to it quickly in the future.

2. The HP Toolbox opens in a Web browser. The HP Toolbox software contains the following sections:
   - Status tab
   - Alerts tab
   - Device Settings window
   - Toolbox links
   - Other links

Status tab

The **Status** tab has links to the following main pages:

- **Device Status**. View MFP status information. This page indicates MFP conditions such as a jam or an empty tray. After you correct a problem with the MFP, click the **Refresh** button to update the device status.
- **Supplies Status**. View detailed supplies status such as the percent of life remaining in the print cartridge and the number of pages that have been printed with the current print cartridge. This page also lists the part number for each supply, and has links to order supplies and to find recycling information.
- **Print Info**. Print the configuration page, the supplies status page, and the menu map.

Alerts tab

Use the **Alerts** tab to configure the MFP to automatically notify you of MFP alerts. The **Alerts** tab has links to the following main pages:

- Set up status alerts
- Administrative settings

Set up Status Alerts page

On the Set up Status Alerts page, you can choose to turn alerts on or off, specify when the MFP should send an alert, and select from two different types of alerts:

- Pop-up message
- System tray icon

Click **Apply** to activate the settings.

Administrative settings page

On the Administrative settings page, you can set the frequency of how often the HP Toolbox checks for MFP alerts. Three settings are available:

- **Less Often**. The HP Toolbox checks for alerts every 15 seconds.
- **Normal**. The HP Toolbox checks for alerts every 8 seconds.
- **More Often**. The HP Toolbox checks for alerts every 4 seconds.

Note

If you want to reduce network input/output (I/O) traffic, reduce the frequency at which the MFP checks for alerts.

Device Settings window

When you click the **Device Settings** button, the embedded Web server opens in a new window. See Using the embedded Web server. To return to the HP Toolbox from the embedded Web server, click **Return to Toolbox**.

Toolbox links

The **toolbox Links** item at the left of the screen provides links to the following options:

- **Select a device**. Select from all of the HP Toolbox-enabled devices.
- **View current alerts**. View the current alerts for all devices that have been set up. (You must be printing to view the current alerts.)
- **Text only page**. View the HP Toolbox as a site map with links to all of the individual pages within HP Toolbox and the **Device Settings** window.

Other links

This section contains links that connect you to the Internet. You must have Internet access in order to use any of these links. If you use a dial-up connection and did not connect when you first opened the HP Toolbox, you must connect before you can visit these Web sites. Connecting might require that you close the HP Toolbox and reopen it.

- **HP instant support**. Connects to the HP instant support page for the product.
- **Product Registration**. Connects to the HP product registration Web site.
- **Order Supplies**. Connects to the HP supplies ordering Web site. The MFP must be connected directly to a computer in order to use this Web site.
- **Product Support**. Connects to the support site for the MFP. Then, you can search for help with a specific problem.

Using HP Web Jetadmin software

HP Web Jetadmin is a Web-based software solution for remotely installing, monitoring, and troubleshooting network-connected peripherals. The intuitive browser interface simplifies cross-platform management of a wide range of devices, including HP and non-HP printers. Management is proactive, allowing network administrators the ability to resolve printer issues before users are affected. Download this free, enhanced-management software at http://www.hp.com/go/webjetadmin_software.

To obtain plug-ins to HP Web Jetadmin, click **plug-ins**, and then click the **download** link that is next to the name of the plug-in that you want. The HP Web Jetadmin software can automatically notify you when new plug-ins are available. On the **Product Update** page, follow the directions to automatically connect to the HP Web site.

If installed on a host server, HP Web Jetadmin is available to any client through a supported Web browser, such as Microsoft Internet Explorer 6.0 for Windows or Netscape Navigator 7.1 for Linux. Browse to the HP Web Jetadmin host.

Note Browsers must be Java-enabled. Browsing from an Apple Macintosh computer is not supported.

Configuring and verifying an IP address

You can use either of two options to assign and configure TCP/IP addresses on an HP Jetdirect print server:

- HP Web Jetadmin
- Embedded Web server

TCP/IP assignment

The system administrator or primary user is responsible for determining the TCP/IP address for a specific print server. If you are unsure what the TCP/IP address should be or if you are unfamiliar with using TCP/IP on a network, go to the HP Web site at www.hp.com. Click **Search** in the upper-left corner of the Web page and search for **TCP/IP Overview**.

Automatic discovery

The product is equipped with an HP Jetdirect embedded print server. If a BootP or DHCP server is available during product installation, the print server is automatically assigned an IP address for use on the network. This occurs because the print server defaults to 192.0.0.192 (Legacy default) or to 159.254.x.x (Auto IP) if the print server cannot obtain an IP address over the network from a BootP or DHCP server. The default that is assigned depends on the particular network (small/private or enterprise) by using sensing algorithms.

To determine the new IP address, print a configuration page and check the TCP/IP status and address.

Dynamic Host Configuration Protocol (DHCP)

When the product is turned on, the HP Jetdirect print server broadcasts DHCP requests. DHCP automatically downloads an IP address from a network server. DHCP servers maintain a fixed set of IP addresses and only loan an IP address to the print server. Consult your operating system documentation to set up DHCP service on your network.

Verifying the TCP/IP configuration

Print a configuration page at the control panel. Check the TCP/IP status and the TCP/IP addresses. If the information is incorrect, check your hardware connections (cables, hubs, routers, or switches) or recheck the validity of the TCP/IP address.

Changing an IP address

Use the following procedures if you need to change the product TCP/IP address.

To change an IP address by using HP Web Jetadmin

Open HP Web Jetadmin. Type the TCP/IP address in the **Quick Device Search** field and click **Go**. At the top menu bar, follow this procedure for discovery options.

1. In the drop-down menu, click **Devices**.
2. In the drop-down menu, click **New Devices**. Click **Go**.

3. Click the column header of your choice (such as IP Address or Device Model) to arrange the list of available devices in ascending or descending order.
4. Highlight the product to configure, and click **Open Device**.
5. From the sub-menu at the top of the HP Web Jetadmin screen, click **Configuration**.
6. Click the network link located on the left side of the configuration screen.
7. Type the new IP information. You might need to scroll down for more options.
8. Click **Apply** to save the settings.
9. Click the **Refresh** button located next to the question mark on the right side of the screen.
10. Verify the IP information by clicking **Status Diagnostics** or by printing a configuration page.

To change an IP address by using the embedded Web server

The MFP has an embedded Web server that can be used to modify the TCP/IP parameters. To use the embedded Web server, the HP Jetdirect print server must have an IP address already configured. On a network, this is done automatically during initial product installation.

1. In a supported Web browser, type the current IP address of the HP Jetdirect print server as the URL. The **Device Status** page of the embedded Web server appears.
2. Click **Networking**. From this page, you can modify the MFP network configuration.

Setting the real-time clock

Use the real-time clock feature to set the date and time settings. The date and time information is attached to stored print, fax, and digital-send jobs, so you can identify the most recent versions of stored print jobs. You can also set the MFP to automatically warm up and prepare for use at a set time each day.

Setting the date and time

When setting the date and time you can set the date format, date, time format, and time.

To set the date format

1. Touch **Menu**.
2. Scroll to and touch **CONFIGURE DEVICE**.
3. Scroll to and touch **SYSTEM SETUP**.
4. Touch **DATE/TIME**.
5. Touch **DATE FORMAT**.
6. Touch the desired format. The settings are saved and the control panel returns to the **DATE/TIME** submenu.
7. Touch **EXIT** to exit the menu.

To set the date

1. Touch **Menu**.
2. Scroll to and touch **CONFIGURE DEVICE**.
3. Scroll to and touch **SYSTEM SETUP**.
4. Touch **DATE/TIME**.
5. Touch **DATE**.
6. Touch the appropriate options to set the correct month, date of the month, and the year.

Note The order of modifying the month, date of the month, and year depends upon the date format setting.

7. The settings are saved and the control panel returns to the **DATE/TIME** submenu.
8. Touch **EXIT** to exit the menu.

To set the time format

1. Touch **Menu**.
2. Scroll to and touch **CONFIGURE DEVICE**.
3. Scroll to and touch **SYSTEM SETUP**.
4. Touch **DATE/TIME**.
5. Touch **TIME FORMAT**.
6. Touch the appropriate format. The settings are saved and the control panel returns to the **DATE/TIME** submenu.
7. Touch **EXIT** to exit the menu.

To set the time

1. Touch **Menu**.
2. Scroll to and touch **CONFIGURE DEVICE**.
3. Scroll to and touch **SYSTEM SETUP**.
4. Touch **DATE/TIME**.
5. Touch **TIME**.
6. Touch the appropriate options to set the correct hour, minute, and AM/PM setting.

Note The order of modifying the hour, minute, and AM/PM setting depends upon the time format setting.

7. The settings are saved and the control panel returns to the **DATE/TIME** submenu.
8. Touch **EXIT** to exit the menu.

Setting the wake time

Use the wake time feature to wake the MFP at a set time each day. If a wake time is set, use an extended sleep delay period. See Setting the sleep delay.

To set the wake time

1. Touch **Menu**.
2. Scroll to and touch **CONFIGURE DEVICE**.
3. Scroll to and touch **SYSTEM SETUP**.
4. Touch **WAKE TIME**.
5. Touch the day of the week for which you want to set the wake time.
6. Touch **CUSTOM**.
7. Touch the appropriate options to set the correct hour, minute, and AM/PM setting.
8. If you want to wake the MFP at the same time each day, on the **APPLY TO ALL DAYS** screen, touch **YES**.
9. If you want to set the time for individual days, touch **NO**, and repeat the procedure for each day.
10. The settings are saved and the control panel returns to the **WAKE TIME** submenu.
11. Touch **EXIT** to exit the menu.

Setting the sleep delay

Use the sleep-delay feature to set the period of time that the MFP must be idle before it enters the sleep mode.

Note

If the sleep-delay feature is turned off in the **RESETS** menu, the MFP never enters the sleep mode. Selecting a sleep delay value automatically turns the sleep feature on. The default value for the sleep delay setting is 60 minutes.

To set the sleep delay

1. Touch **Menu**.
2. Scroll to and touch **CONFIGURE DEVICE**.
3. Scroll to and touch **SYSTEM SETUP**.
4. Touch **SLEEP DELAY**.
5. Scroll to and touch the sleep-delay setting that you want.
6. The settings are saved and the control panel returns to the **SYSTEM SETUP** submenu.
7. Touch **EXIT** to exit the menu.

Checking the MFP configuration

From the control panel, you can print pages that give details about the MFP and its current configuration. The following information pages are described here:

- Menu map
- Configuration page
- HP Jetdirect page
- Supplies status page
- Usage page
- PCL or PS font list

Use the following procedure to print these information pages. Then, see the following sections for more information about each page.

To print an information page

1. Touch **Menu**.
2. Touch **INFORMATION**.
3. Scroll to the information page that you want, and touch the appropriate page. The page automatically prints.

Menu map

To see the current settings for the menus and items that are available in the control panel, print a control-panel-menu map.

Many of these values can be overridden from the driver or program. You might want to store the menu map near the MFP for reference.

The content of the menu map varies, depending on the options that are currently installed in the MFP. For a complete list of control panel items and possible values, see Using the control panel.

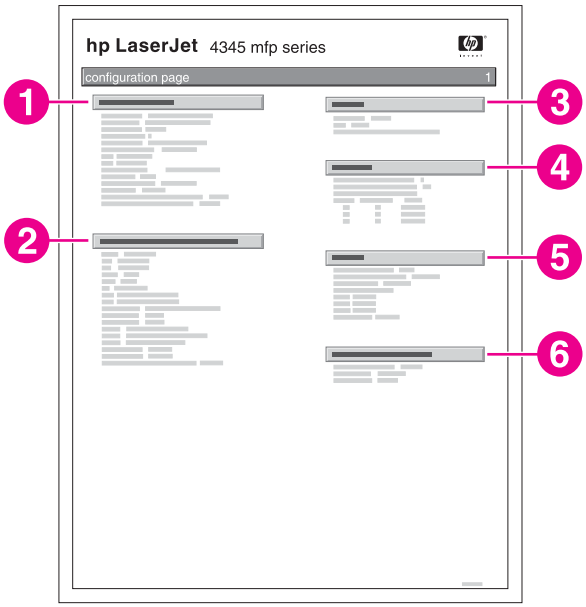
Configuration page

Use the configuration page to view current MFP settings, to help troubleshoot MFP problems, or to verify installation of optional accessories, such as memory (DIMMs), trays, and printer languages.

Note If an optional 3-bin mailbox or stapler/stacker is installed, a page also prints for that device.

Note If an HP LaserJet analog fax accessory 300 is installed, a fax accessory page also prints. See the *HP LaserJet Analog Fax Accessory 300 User Guide* for information about understanding the fax accessory page.

The MFP configuration page contains the following information:

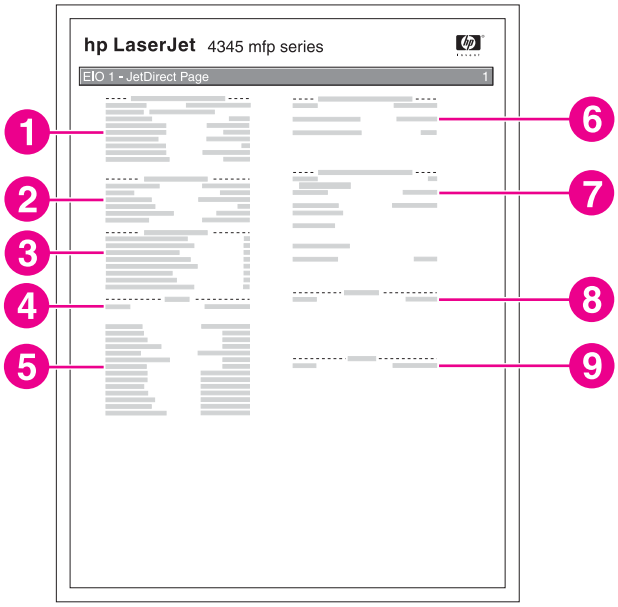


1 **Device Information** lists the serial number, page counts, firmware datecodes, maintenance-kit counts, and other information for the MFP.
2 **Installed Personalities and Options** lists all MFP languages that are installed (such as PCL and PS), and lists options that are installed in each DIMM slot and EIO slot.
3 **Memory** lists the MFP memory information, PCL Driver Work Space (DWS), and I/O buffering and Resource Saving information.
4 **Event Log** lists the number of entries in the log, the maximum number of entries viewable, and the last three entries. The second page of the event log is the manufacturer page. This page contains information that might assist HP Customer Care representatives in solving possible MFP problems.
5 **Security** lists the status of the control-panel lock, control-panel password, and disk drive.
6 **Paper Trays and Options** lists the size settings for all trays and lists paper-handling accessories that are installed.

Note The content of the configuration page varies, depending on the options that are currently installed in the MFP.

HP Jetdirect page

The second configuration page is the HP Jetdirect page, which contains the following information:



1 **HP Jetdirect Configuration** indicates the MFP status, model number, hardware firmware version, port select, port configuration, auto negotiation, manufacturing identification, and manufactured date.
2 **Security Settings** information
3 **Network Statistics** indicates the total packets received, unicast packets received, bad packets received, framing errors received, total packets transmitted, unsendable packets, transmit collisions, and transmit late collisions.
4 **Status** line.
5 **TCP/IP** information, including the IP address
6 **IPX/SPX** information
7 **Novell/NetWare** information
8 **AppleTalk** information
9 **DLC/LLC** information

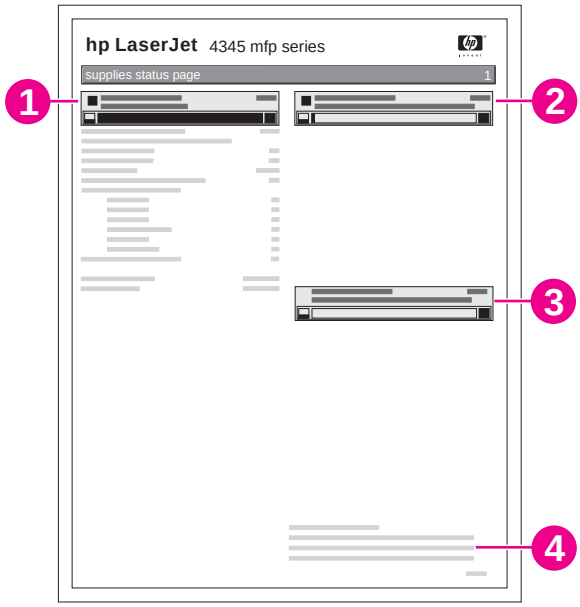
Always make sure the status line indicates "I/O Card Ready".

Supplies status page

Use the supplies status page to obtain information about the print cartridge that is installed in the MFP, the amount of toner that remains in the print cartridge, and the number of pages and jobs that have been processed. The page also lets you know when you should schedule the next preventive maintenance for each maintenance kit.

Note The MFP has two separate maintenance kits: one is for the print engine, and the other is for the ADF. For more information, see Performing preventive maintenance.

The supplies status page contains the following information:



1 **Black Print Cartridge** indicates the amount of toner that remains in the print cartridge, estimated pages remaining for the amount of toner remaining in the cartridge, total number of pages and jobs processed, and the print-cartridge installation date and serial number.
2 **Maintenance Kit** indicates the percentage of the maintenance kit that remains and the HP part numbers.
3 **Document Feeder Kit** indicates the percentage of the document feeder kit that remains and the HP part number.
4 **Recycling Information** provides information about how to recycle HP supplies.

Usage page

The usage page provides information about the page sizes and number of pages printed, copied, and sent.

The usage page contains the following information:

1 **Product Name** and **Device Name** indicate the series of HP LaserJet MFP in use.
2 **Usage Totals** indicates types of pages that have been printed, copied, and scanned; the number of single-sided pages that have been printed, copied and scanned; the number of duplexed pages that have been printed, copied and scanned (if a duplexer is installed); and the total number of pages that have been printed, copied and scanned.
3 **Print Modes and Paper Path Usage** shows the number of pages that have been printed with each fuser mode and the number of pages that have been printed from each input tray and to each output bin.
4 **Coverage** indicates the average amount of toner used on all pages that have been printed.

PCL or PS font list

Use the font lists to see which fonts are currently installed in the MFP. (The font lists also show which fonts are resident on a hard disk or flash DIMM.)

The PS font list shows the PS fonts installed, and gives a sample of those fonts. The following describes the information that can be found on the PCL font list:

- Font gives the font names and samples.
- Pitch/Point indicates the pitch and point size of the font.
- Escape Sequence (a PCL 5e programming command) is used to select the designated font. (See the legend at the bottom of the font list page.)
- Font # is the number used to select fonts from the control panel (not the software application). Do not confuse the font # with the font ID (see the following information). The number indicates the DIMM slot where the font is stored.
  - Soft: Downloaded fonts that stay resident in the MFP until other fonts are downloaded to replace them or until the MFP is turned off.
  - Internal: Fonts that permanently reside in the MFP.
- Font ID is the number you assign to soft fonts when you download them through software.

Managing the print cartridge

This section provides information about HP print cartridges, their life expectancies, how to store them, and how to identify genuine HP supplies. Information also appears about non-HP print cartridges.

HP print cartridges

When you use a genuine HP print cartridge, you can obtain several types of information, such as the following:

- Amount of toner remaining
- Estimated number of pages remaining
- Number of pages printed

Non-HP print cartridges

Hewlett-Packard Company cannot recommend use of non-HP print cartridges, either new or remanufactured. Because they are not HP products, HP cannot influence their design or control their quality. Service or repair required as a result of using a non-HP print cartridge will *not* be covered under the printer warranty.

Using genuine HP supplies ensures the availability of all HP printing features.

Print-cartridge authentication

The MFP will let you know if a print cartridge is not a genuine HP print cartridge when you insert it into the MFP. If you believe that you purchased a genuine HP supply, visit us at http://www.hp.com/go/anticounterfeit.

Print-cartridge storage

Do not remove the print cartridge from its package until you are ready to use it.

Always store the print cartridge in the proper environment. The temperature should be between -20°C and 40°C (-4°F to 104°F). The relative humidity should be between 10% and 90%.

CAUTION To prevent damage to the print cartridge, do not expose it to light for more than a few minutes.

Print-cartridge life expectancy

The life of the print cartridge depends on the amount of toner that print jobs require and the length of life for the components inside the cartridge. When printing text at approximately 5% coverage (typical for a business letter), the HP print cartridge lasts an average of 18,000 pages. The page-yield specification that HP provides is a general guideline. Actual yield can vary according to usage conditions.

At any time, you can verify life expectancy by checking the supply level, as described in Checking the supply level.

Checking the supply level

You can check the supply (toner) level by using the control panel, the embedded Web server, HP Toolbox software, or HP Web Jetadmin.

To check the supply level by using the control panel

1. Touch **Menu**.
2. Touch **INFORMATION**.
3. Touch **SUPPLIES STATUS**.

To check the supply level by using the embedded Web server

1. In your Web browser, type the IP address for the MFP. (See Opening the embedded Web server.)
2. On the left side of the screen, click **Supplies Status**. This takes you to the supplies status page, which provides supply-level information.

To check the supply level by using the HP Toolbox software

You can configure HP Toolbox to notify you when the print cartridge is low. You can choose to receive alerts by e-mail or as a pop-up message or taskbar icon. To check the supplies status by using the HP Toolbox software, click the **Status** tab, and then click **Supplies Status**.

To check the supply levels by using HP Web Jetadmin

In HP Web Jetadmin, select the MFP. The device status page shows supply-level information.

Cartridge-low and cartridge-out conditions

The MFP alerts you if the print cartridge is low on toner or out of toner.

When the cartridge is low on toner or drum life

When the cartridge is low, the control panel shows the **ORDER CARTRIDGE** message. The message first appears when about 15% of the life remains in the print cartridge. This percentage is set with the intent of providing approximately 2 weeks of typical use before the cartridge is depleted. You should have time to purchase a new cartridge before the old cartridge is depleted.

The default is for the MFP to continue printing until the cartridge runs out, but you might prefer to have the printer stop instead of continuing when the **ORDER CARTRIDGE** message first appears—for example, if you want print quality to remain consistently high during print jobs, or if you do not want the cartridge to run out during a long print job. To configure the MFP to stop, in the **CONFIGURE DEVICE** menu, under **SYSTEM SETUP**, set **CARTRIDGE LOW** to **STOP**. Then, when **REPLACE CARTRIDGE** appears, the MFP will stop printing. You can resume printing by pressing START for each print job.

When the cartridge is out of toner or drum life

The **REPLACE CARTRIDGE** message appears in one of these situations:

- **When the print cartridge is out of toner.** If **CARTRIDGE OUT** is set to **CONTINUE** (in the **SYSTEM SETUP** submenu of the **CONFIGURE DEVICE** menu), the MFP continues printing without interaction until the cartridge reaches the end of drum life. HP does not guarantee print quality after the **REPLACE CARTRIDGE** message first appears. Replace the print cartridge as soon as possible. (See Ordering parts, accessories, and supplies.) The **REPLACE CARTRIDGE** message remains until you replace the print cartridge. If **CARTRIDGE OUT** is set to **STOP**, the MFP stops printing until you replace the print cartridge or resume printing by configuring the printer to continue: In the **CONFIGURE DEVICE** menu, under **SYSTEM SETUP**, set **CARTRIDGE OUT** to **CONTINUE**.
- **When the drum life of the print cartridge is out**. You must replace the print cartridge to continue printing. No override is possible, even if toner remains in the cartridge. (See Ordering parts, accessories, and supplies.) This situation occurs to protect the MFP.

Upgrading the firmware

The MFP has remote firmware update (RFU) capability. Use the information in this section to upgrade the MFP firmware. The overall process involves the following steps:

1. Determine the current level of firmware that is installed on the MFP.
2. Go to the HP Web site and find out whether a firmware update is available. If an update is available, download the latest firmware to your computer.
3. Transfer the new firmware from your computer to the MFP.

Determining the current level of firmware

To determine the current level of firmware, view the configuration information on the MFP control panel. To view the configuration information, follow these instructions.

1. Touch **Menu**.
2. Touch **INFORMATION**.
3. Touch **PRINT CONFIGURATION**. The configuration page prints.
4. The firmware datecode is listed in the section called **Device Information**. The firmware datecode has this format: YYYYMMDD XX.XXX.X. The first string of numbers is the date, where YYYY represents the year, MM represents the month, and DD represents the date. For example, a firmware datecode of that begins with `20040225` represents February 25, 2004.

Downloading the new firmware from the HP Web site

To find the most recent firmware upgrade for the MFP, go to http://www.hp.com/go/lj4345mfp_software. This page provides instructions for downloading the new firmware version.

Transferring the new firmware to the MFP

Use one of the following methods to update the firmware.

Using FTP to upgrade the firmware on a network connection

Note

The MFP can receive an .RFU file update as long as it is in a "ready" state.

The elapsed time for an update depends on the I/O transfer time, as well as the time that it takes for the MFP to reinitialize. The I/O transfer time depends on a number of things, including the speed of the host computer that is sending the update. If the remote firmware update process is interrupted before the firmware is downloaded (while **Receiving Upgrade** appears on the control-panel display), the firmware file must be sent again. If power is lost during the flash DIMM update (while the **Performing Upgrade** message appears on the control-panel display), the update is interrupted and the message **Resend Upgrade** appears (in English only) on the control-panel display. In this case, you must send the upgrade by using the parallel port. Finally, any jobs that are ahead of the RFU job in the queue are completed before the update is processed.

Follow these instructions to perform the upgrade by using FTP.

Note The firmware update involves a change in the format of nonvolatile random-access memory (NVRAM). Any menu settings that are changed from the default settings might return to default settings and must be changed again if you want settings that are different from the defaults.

To upgrade the firmware on a network connection by using FTP

1. Take note of the IP address on the HP Jetdirect page. The HP Jetdirect page is the second page that prints when you print the configuration page.

Note Before upgrading the firmware, make sure that the MFP is not in Sleep mode. Also make sure that any error messages are cleared from the control-panel display.

2. Open an MS-DOS command prompt on your computer.
3. Type: `ftp <TCP/IP ADDRESS>`. For example, if the TCP/IP address is 192.168.0.90, type `ftp 192.168.0.90`.
4. Press Enter on the keyboard.
5. When prompted for the user name, press Enter.
6. When prompted for the password, press Enter.
7. Type `bin` at the command prompt.
8. Press Enter. The message **200 Types set to I, Using binary mode to transfer files** appears in the command window.
9. Type `put <FILENAME>`, where <FILENAME> is the name of the .RFU file that was downloaded from the Web, including the path. For example, type `put C:\LJ \4345FW.RFU`, and then press Enter.

Note If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type `put "C:\MY DOCUMENTS\LJ\4345FW.RFU"`

   The following series of messages appears in the command window:

   200 PORT command successful

   150 Opening BINARY mode data connection

   226 Ready

   226 Processing Job

   226 Transfer complete

   Then, a message that contains the transfer-speed information appears.

10. The download process begins and the firmware is updated on the MFP. This can take approximately five minutes. Let the process finish without further interaction with the MFP or computer.

Note The MFP automatically turns off and then on again after processing the upgrade.

11. At the command prompt, type: `bye` to exit the ftp command.
12. At the command prompt, type: `exit` to return to the Windows interface.

Using HP Web Jetadmin to upgrade the firmware

This procedure requires that you install HP Web Jetadmin Version 7.0 or later on your computer. See Using HP Web Jetadmin software. Complete the following steps to update a single device through HP Web Jetadmin after downloading the .RFU file from the HP Web site.

1. Start HP Web Jetadmin.
2. Open the **Device Management** folder in the drop-down list in the **Navigation** panel. Navigate to the **Device Lists** folder.
3. Expand the **Device Lists** folder and select **All Devices**. Locate the MFP in the list of devices, and then click to select it.

   If you need to upgrade the firmware for multiple HP LaserJet 4345mfps, select all of them by pressing the Ctrl key as you click the name of each MFP.
4. Locate the drop-down box for **Device Tools** in the upper-right corner of the window. Select **Update Printer Firmware** from the action list.
5. If the name of the .RFU file is not listed in the **All Available Images** box, click **Browse** in the **Upload New Firmware Image** dialog box and navigate to the location of the .RFU file that you downloaded from the Web at the start of this procedure. If the filename is listed, select it.
6. Click **Upload** to move the .RFU file from your hard drive to the HP Web Jetadmin server. After the upload is complete, the browser window refreshes.
7. Select the .RFU file from the **Printer Firmware Update** drop-down menu.
8. Click **Update Firmware**. HP Web Jetadmin sends the selected .RFU file to the MFP. The control panel shows messages that indicate the progress of the upgrade. At the end of the upgrade process, the control panel shows the **Ready** message.

Using MS-DOS commands to upgrade the firmware

To update the firmware by using a network connection, follow these instructions.

1. From a command prompt or in an MS-DOS window, type the following: `copy /B <FILENAME> \\<COMPUTERNAME>\<SHARENAME>`, where <FILENAME> is the name of the .RFU file (including the path), <COMPUTERNAME> is the name of the computer from which the MFP is being shared, and <SHARENAME> is the MFP share name. For example: `C:\>copy /b C:\9200fW.RFU \\YOUR_SERVER\YOUR_COMPUTER`.

Note

If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type: `C:\>copy /b "C:\MY DOCUMENTS\3500FW.RFU" \ \YOUR_SERVER\YOUR_COMPUTER`.

2. Press Enter on the keyboard. The control panel shows a message that indicates the progress of the firmware upgrade. At the end of the upgrade process, the control panel shows the **Ready** message . The message **1 file(s) copied** appears on the computer screen.

Upgrading the HP Jetdirect firmware

The HP Jetdirect network interface in the MFP has firmware that can be upgraded separately from the MFP firmware. This procedure requires that you install HP Web Jetadmin Version 7.0 or later on your computer. See Using HP Web Jetadmin software. Complete the following steps to update the HP Jetdirect firmware by using HP Web Jetadmin.

1. Open the HP Web Jetadmin program.

2. Open the **Device Management** folder in the drop-down list in the **Navigation** panel. Navigate to the **Device Lists** folder.
3. Select the device that you want to update.
4. In the **Device Tools** drop-down list, select **Jetdirect Firmware Update**.
5. Under **Jetdirect firmware version** the HP Jetdirect model number and current firmware version are listed. Make a note of these.
6. Go to http://www.hp.com/go/wja_firmware.
7. Scroll down to the list of HP Jetdirect model numbers and find the model number you wrote down.
8. Look at the current firmware version for the model, and see if it is later than the version you wrote down. If it is, right-click on the firmware link, and follow the instructions on the Web page to download the new firmware file. The file must be saved into the <drive>:\PROGRAM FILES\HP WEB JETADMIN\DOC\PLUGINS\HPWJA\FIRMWARE\JETDIRECT folder on the computer that is running the HP Web Jetadmin software.
9. In HP Web Jetadmin, return to the main device list and select the digital sender again.
10. In the **Device Tools** drop-down list, select **Jetdirect Firmware Update** again.
11. On the HP Jetdirect firmware page, the new firmware version is listed under **Jetdirect Firmware Available on HP Web Jetadmin**. Click the **Update Firmware Now** button to update the Jetdirect firmware.

Cleaning the MFP

To maintain print quality, clean the MFP thoroughly whenever print-quality problems occur and every time you replace the print cartridge.

WARNING! Avoid touching the fusing area when cleaning the MFP. It can be hot.

CAUTION To avoid permanent damage to the print cartridge, do not use ammonia-based cleaners on or around the MFP except as directed.

Cleaning the outside of the MFP

- Clean the outside of the MFP if it is visibly marked.
- Use a soft, lint-free cloth dampened with water, or water and a mild detergent.

Cleaning the touchscreen

Clean the touchscreen whenever it is necessary to remove fingerprints or dust. Wipe the touchscreen gently with a clean, water-dampened, lint-free cloth.

CAUTION Use water only. Solvents or cleaners can damage the touchscreen. Do not pour or spray water directly onto the touchscreen.

To clean the scanner glass

- Clean the scanner glass only if dirt is visible, or if you are experiencing a decrease in copy quality, such as streaking.
- Clean the scanner glass by wiping it gently with a clean, slightly damp, lint-free cloth. Use an ammonia-based surface cleaner only when a water-dampened cloth does not clean the scanner glass.

CAUTION Do not pour or spray liquids directly onto the scanner glass. Do not press hard on the glass surface. (You could break the glass).

Cleaning the fuser

Use the MFP cleaning page to keep the fuser free of toner and paper particles that can sometimes accumulate. Accumulation of toner and particles can cause specks to appear on the front or back side of your print jobs.

CAUTION Do not attempt to clean the fuser with water or any other liquid. Use only the internal cleaning page to clean the fuser.

To ensure optimum print quality, HP recommends that you use the cleaning page every time you replace the print cartridge or on an automatic interval that you can set up.

The cleaning procedure takes about 2.5 minutes to complete. A **CLEANING** message appears on the control-panel display while the cleaning is taking place.

Running the cleaning page manually

In order for the cleaning page to work properly, print the page on copier-grade paper (not bond, heavy, or rough paper).

To run the cleaning page manually

1. Touch **Menu**.
2. Scroll to and touch **CONFIGURE DEVICE**.
3. Touch **PRINT QUALITY**.
4. Touch **PROCESS CLEANING PAGE**.

Running the cleaning page automatically

Using the procedure below, you can set the MFP to print cleaning pages automatically at an interval that you select. In order for the cleaning page to run without intervention, you must keep the selected size and plain paper type available in the MFP. The MFP will not interrupt a printing job in process.

To run the cleaning page automatically

1. Touch **Menu**.
2. Scroll to and touch **CONFIGURE DEVICE**.
3. Touch **PRINT QUALITY**.
4. Scroll to and touch **AUTO CLEANING**.
5. Touch **ON**.
6. Touch **CLEANING INTERVAL**.
7. Touch the appropriate interval between 1,000 and 20,000 pages.
8. Touch **AUTO CLEANING SIZE**.
9. Touch the paper size that you want the MFP to use for cleaning pages (**A4** or **LETTER**).

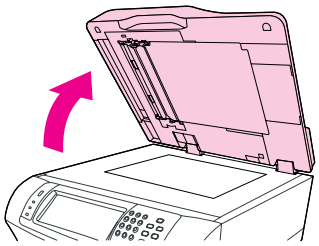
The MFP automatically prints a cleaning page at the interval and page size that you selected. You can discard the output page created by the cleaning process.

Cleaning the ADF delivery system

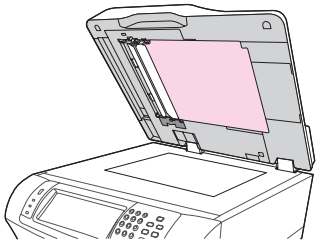
Clean the ADF only if it is visibly marked or dirty, or if you are experiencing a decrease in copy quality (such as streaking).

To clean the ADF delivery system

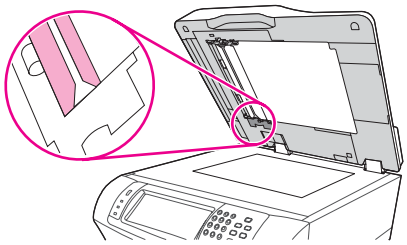
1. Open the scanner lid.



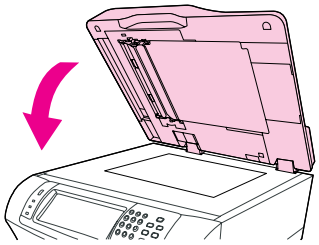
2. Locate the white, vinyl ADF backing.



3. Locate the white, vinyl calibration strips.



4. Clean the ADF backing and the calibration strips by wiping them with a clean, damp, lint-free cloth. Use an ammonia-based surface cleaner only when a water-dampened cloth does not clean the ADF components.
5. Clean the scanner glass by wiping it gently with a clean, slightly damp, lint-free cloth. Use an ammonia-based surface cleaner only when a water-dampened cloth does not clean the scanner glass.
6. Close the scanner lid.

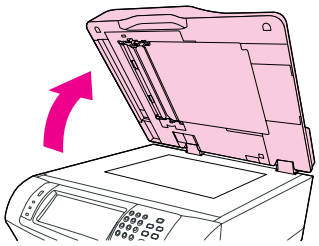


To clean the ADF rollers

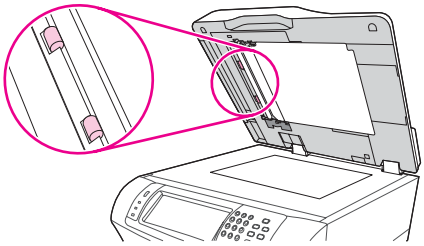
You should clean the rollers in the ADF if you are experiencing misfeeds or if your originals show marks as they exit the ADF.

CAUTION Clean the rollers only if you experience misfeeds or marks on the originals, and you notice dust on the rollers. Cleaning the rollers frequently could introduce dust into the device.

1. Open the scanner lid.



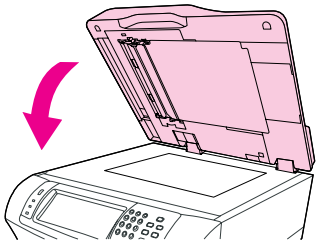
2. Locate the rollers near white, vinyl calibration strips.



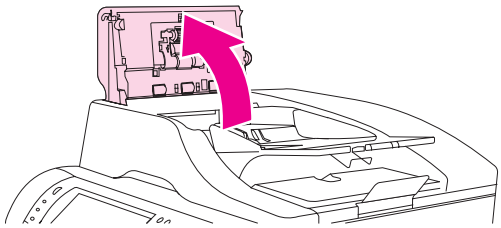
3. Wipe the rollers gently with a clean, water-dampened, lint-free cloth.

CAUTION Do not pour water directly onto the rollers. Doing so might damage the device.

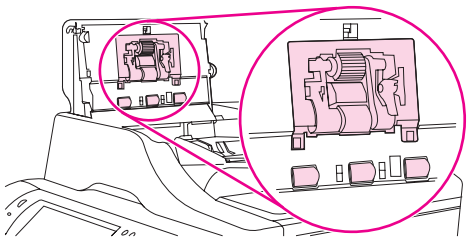
4. Close the scanner lid.



5. Pull the release lever to open the ADF cover.



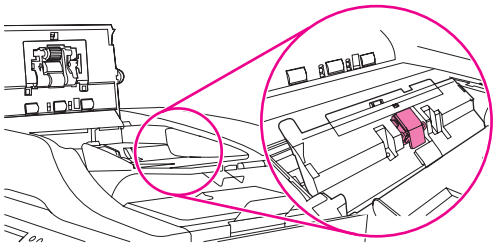
6. Locate the rollers.



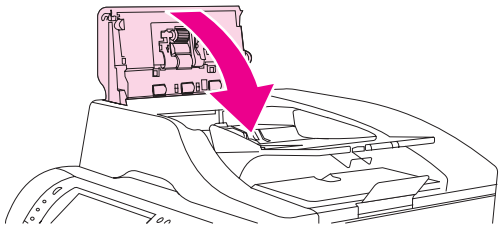
7. Wipe the rollers with a clean, water-dampened, lint-free cloth.

CAUTION Do not pour water directly onto the rollers. Doing so might damage the device.

8. Locate the separation pad.



9. Wipe the pad with a clean, water-dampened, lint-free cloth.
10. Close the ADF cover.



Calibrating the scanner

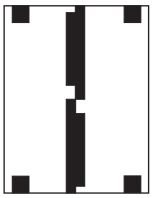
Calibrate the scanner to compensate for offsets in the scanner imaging system (carriage head) for ADF and flatbed scans. Because of mechanical tolerances, the scanner's carriage head might not read the position of the image accurately. During the calibration procedure, scanner offset values are calculated and stored. The offset values are then used when producing scans so that the correct portion of the document is captured.

Scanner calibration should be carried out only if you notice offset problems with the scanned images. The scanner is calibrated before it leaves the factory. It needs to be calibrated again only rarely.

Before calibrating the scanner, print the calibration target.

To print the calibration target

1. Place letter- or A4-size paper in tray 1, and adjust the side guides.
2. Touch **DIAGNOSTICS**
3. Touch **CALIBRATE SCANNER**.
4. Print the first pass of the calibration target.
5. Place the first pass of the calibration target in tray 1 so that the arrows are facing into the MFP.
6. Print the second pass. The final calibration target *must* look like the following figure.



CAUTION If the calibration target does not look like the figure shown here, the calibration process will fail and the quality of scans will be degraded. *The black areas must extend completely to the short edges of the page. If they do not, use a black marker to extend the black areas to the edge of the page.*

7. Place the calibration target face-up into the ADF, and adjust the side guides.
8. Touch **Menu**, touch **DIAGNOSTICS**, then touch **CALIBRATE SCANNER**.
9. After the calibration target has passed through the ADF once, reposition it in the ADF in the opposite direction. After the second pass, the calibration is complete.

Performing preventive maintenance

The MFP requires periodic maintenance to maintain optimum performance. A control-panel message alerts you when it is time to purchase the preventive maintenance kits. Separate maintenance procedures are required for the printer-portion of the MFP and for the ADF.

Printer preventive maintenance

You should replace certain parts when the **PERFORM PRINTER MAINTENANCE** message appears on the control-panel display.

The maintenance message appears every 200,000 pages. The message can be temporarily cleared for approximately 10,000 pages by using the **CLEAR MAINTENANCE MESSAGE** item on the **RESETS** submenu. (See Resets submenu.) To check the number of pages that the MFP has printed since new maintenance-kit components were installed, print either a configuration page or a supplies status page. (See Checking the MFP configuration or Checking the MFP configuration for details.)

To order the printer maintenance kit, see Part numbers. The kit includes:

- Fuser
- Rollers (transfer, pickup, and feed)
- Installation instructions

Note The printer maintenance kit is a consumable item and is not covered under the original printer warranty or under most extended warranties.

After a maintenance kit is installed, the maintenance-kit counter must be reset.

To reset the maintenance-kit counter

1. Touch **Menu**.
2. Touch **CONFIGURE DEVICE**.
3. Scroll to and touch **RESETS**.
4. Touch **RESET SUPPLIES**.
5. Touch **NEW MAINTENANCE KIT**. The maintenance-kit counter is automatically reset.

Note Perform this procedure only after a maintenance kit has been installed. Do not use this procedure to temporarily clear the **PERFORM PRINTER MAINTENANCE** message.

The ADF maintenance kit

After feeding 90,000 pages through the ADF, a **REPLACE DOCUMENT FEEDER KIT** message appears on the control-panel display. This message appears approximately one month before the kit needs to be replaced. Order a new kit when this message appears. See Part numbers for information about ordering a new ADF maintenance kit.

The ADF maintenance kit includes the following items:

- One pick-up roller assembly
- One separation pad

- One mylar sheet kit
- An instruction sheet

Follow the instructions that come with the kit to install it.

After replacing the kit, reset the ADF maintenance-kit count.

To reset the ADF maintenance-kit count

1. Touch **Menu**.
2. Touch **CONFIGURE DEVICE**.
3. Scroll to and touch **RESETS**.
4. Touch **RESET SUPPLIES**.
5. Touch **NEW DOCUMENT FEEDER KIT**. The ADF maintenance-kit counter is automatically reset.

10 Solving problems

This chapter provides information about the following topics.

- Solving general problems
- Determining MFP problems
- Clearing jams
- Understanding MFP messages
- Resolving control-panel messages
- Understanding accessory lights for the 3-bin mailbox and stapler/stacker
- Understanding lights on the formatter
- Correcting print-quality and copy-quality problems
- Solving e-mail problems
- Solving network connectivity problems

Solving general problems

If the MFP is not responding properly, complete the steps in the following checklist, in order. If the printer does not pass a step, follow the corresponding troubleshooting suggestions. If a step resolves the problem, you can stop without performing the other steps on the checklist.

Troubleshooting checklist

1. Make sure the MFP Ready light is on. If no lights are on, complete these steps:
   a. Check the power-cable connections.
   b. Check that the power switch is on.
   c. Check the power source by plugging the MFP directly into the wall or into a different outlet.
   d. If none of these measures restores power, contact HP Customer Care. (See HP customer care or the support flyer that came in the printer box.)
2. Check the cabling.
   a. Check the cable connection between the MFP and the computer or network port. Make sure that the connection is secure.
   b. Make sure that the cable itself is not faulty by using a different cable, if possible.
   c. Check the network connection. See Solving network connectivity problems.
3. Ensure that the print media that you are using meets specifications. See Print media specifications.
4. Print a configuration page (see Configuration page. If the MFP is connected to a network, an HP Jetdirect page also prints.
   a. If the pages do not print, check that at least one tray contains print media.
   b. If the page jams in the MFP, see Clearing jams.
5. If the configuration page prints, check the following items.
   a. If the page prints correctly, then the printer hardware is working. The problem is with the computer you are using, with the printer driver, or with the program.
   b. If the page does not print correctly, the problem is with the MFP hardware. Contact HP Customer Care. (See HP customer care or the support flyer that came in the printer box.)
6. At the computer, check to see if the print queue is stopped, paused, or set to print offline.
   a. **Windows**: Click **Start**, click **Settings**, and then click **Printers** or **Printers and Faxes**. Double-click **HP LaserJet 4345mfp**.
   b. **Mac OS 9**: Double-click the **HP LaserJet 4345mfp** icon on the desktop.
   c. **Mac OS X**: Open **Print Center** (or **Printer Setup Utility** for Mac OS X v.10.3), and double-click the line for the **HP LaserJet 4345mfp**.
7. Verify that you have installed the HP LaserJet 4345mfp Series printer driver. Check the program to make sure that you are using an HP LaserJet 4345mfp Series printer driver.
8. Print a page from the HP Toolbox.

a. If it prints, then the problem is with the printer driver. For Windows, try using another printer driver. Or, for Windows or Macintosh, uninstall the printer driver and reinstall it. See Installing the printing system software.

b. If the page does not print, then the problem is with the computer or the program.

9. Print a short document from a different program that has worked in the past. If this solution works, then the problem is with the program you are using. If this solution does not work (the document does not print) complete these steps:

   a. Try printing the job from another computer that has the MFP software installed.

   b. If you connected the MFP to the network, connect the MFP directly to a computer with a parallel cable. Redirect the MFP to the correct port, or reinstall the software, selecting the new connection type that you are using.

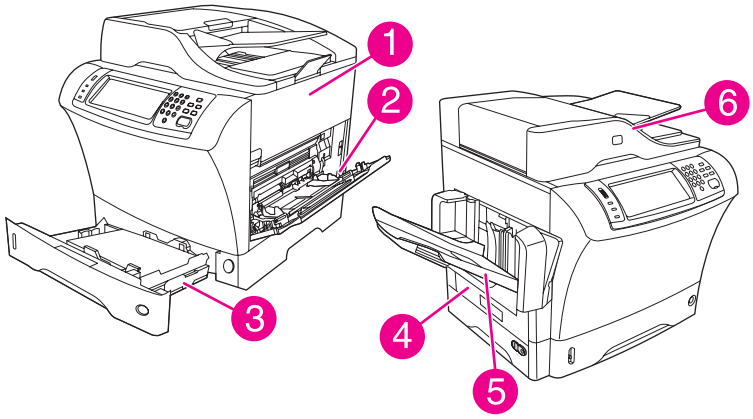
10. If the problem is still not resolved, see Determining MFP problems.

Determining MFP problems

Situation/Message	Solution
The control-panel display is blank, and internal fans are not running.	Make sure that the MFP power is on. Press all the keys to see if one is stuck. Contact your HP-authorized service representative if these steps do not work. See HP customer care.
The MFP is turned on, but the internal fans are not running.	Make sure that the line voltage is correct for the MFP power configuration. (See the label that is inside the top cover on the MFP for voltage requirements.) If you are using a power strip and its voltage is not within specification, plug the MFP directly into the power receptacle.
The MFP voltage is not correct.	Make surethat the line voltage is in the correct range. (See the label that is inside the top cover on the MFP for voltage requirements.)
Messages appear on the control-panel display.	See Understanding MFP messages.
Print media is jammed in the MFP.	Check for jams (see Clearing jams).
The control-panel display shows the wrong language or unfamiliar characters.	Reconfigure the control-panel display language. 1. Turn the MFP off and then on. 2. When **XXXMB** appears on the control-panel display, press and hold 6 until all three LEDs flash once and then stay on. (This might take up to 20 seconds. 3. Release 6 and then press 6 again. 4. Wait while the MFP completes its initialization sequence. When it is finished, the **SELECT LANGUAGE** menu appears on the control-panel display. Scroll to and touch the correct language.
An error occurs during a Digital Send job. Job failed.	The MFP experienced an error during the digital sending job. The administrator should check on the status of the SMTP server. See Solving e-mail problems.
The e-mail gateway could not accept the job because the attachment is too large.	Reduce the size of the e-mail attachment by setting the maximum attachment size. Set the maximum attachement size on the **Digital Sending** tab of the embedded Web server. See Using the embedded Web server. Try using a different file format or sending the document a few pages at a time.
A network connection is required for digital sending	The MFP cannot find a network connection. The administrator should check to see if the MFP is connected to the network. See Solving network connectivity problems.

Clearing jams

If a jam message appears on the control-panel display, look for jammed paper or other print media in the locations that are indicated in the following figure.



1 Top-cover and print-cartridge areas
2 Envelope-feeder area and tray 1 area (the envelope feeder is optional)
3 Tray 2 and optional 500-sheet feeder areas
4 Duplexing area (the duplexer is optional)
5 Output area
6 ADF

The following table lists the jam messages that might appear on the control-panel display. For information about clearing the jam, see the section that is indicated. You might need to look for media in locations other than those that are indicated in the jam message. If the location of the jam is not obvious, look first in the top-cover area underneath the print cartridge.

Control-panel messages for jams

Jam message	Procedure for clearing the jam
JAM IN DOCUMENT FEEDER	See Clearing jams from the ADF.
ADF PAPER JAM	See Clearing jams from the ADF.
ADF PICK ERROR	See Clearing jams from the ADF.
13.JJ.NT JAM IN ENVELOPE FEEDER	See Clearing jams from the optional envelope-feeder area.
13.JJ.NT JAM IN OUTPUT BIN	See Clearing jams from the output areas.
13.JJ.NT JAM IN TRAY 1	See Clearing jams from the tray 1 area.
13.JJ.NT JAM IN TRAY 2 (or TRAY 3, 4 or 5)	See Clearing jams from the tray 2, 3, 4, or 5 areas.
13.JJ.NT JAM INSIDE DUPLEXER	See Clearing jams from the optional duplexer.
13.JJ.NT JAM INSIDE LEFT OUTPUT AREA	See Clearing jams from the output areas.
13.JJ.NT JAM INSIDE RIGHT ACCESS DOOR	See Clearing jams from the tray 2, 3, 4, or 5 areas.

Control-panel messages for jams (continued)

Jam message	Procedure for clearing the jam
13.JJ.NT JAM INSIDE TOP COVER AREA	See Clearing jams from the top-cover and print-cartridge areas.
13.JJ.NT JAM INSIDE TRAY 2 AREA	See Clearing jams from the tray 2, 3, 4, or 5 areas.
13.JJ.NT JAM INSIDE TRAY 2 RIGHT ACCESS DOOR	See Clearing jams from the tray 2, 3, 4, or 5 areas.
13.JJ.NT JAM INSIDE TOP COVER AREA	See Clearing jams from the top-cover and print-cartridge areas.
13.JJ.NT PAPER JAM OPEN INPUT TRAYS	See Clearing jams from the tray 2, 3, 4, or 5 areas.
13.JJ.NT JAM IN STAPLER	See Clearing staple jams.

When clearing jams, be very careful not to tear jammed media. If a small piece of media is left in the MFP, it could cause additional jams. If jams are a recurring problem, see Solving repeated jams.

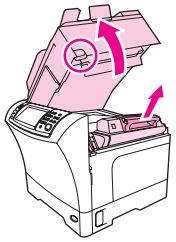
Note Loose toner might remain in the MFP after a jam and cause temporary print-quality problems. These problems shoud clear up within a few pages.

Clearing jams from the top-cover and print-cartridge areas

Clear jams that occur during the printing process by using this procedure.

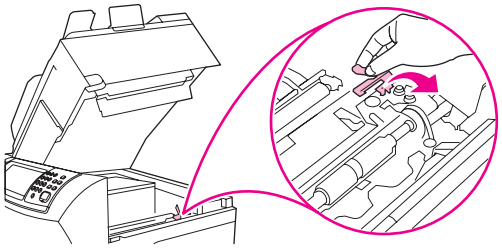
To clear jams from the top-cover and print-cartridge areas

1. Open the top cover and remove the print cartridge.

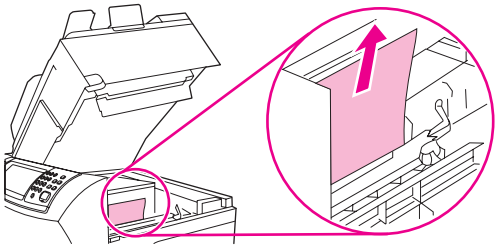


CAUTION To prevent damage to the print cartridge, do not expose it to light for more than a few minutes. Cover the print cartridge with a sheet of paper while it is outside of the MFP.

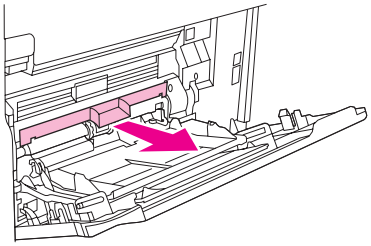
2. Use the green handle to lift the paper-access plate.



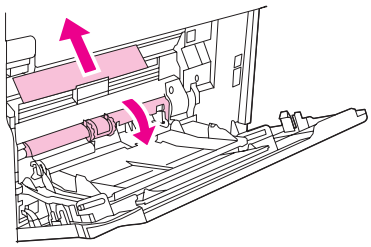
3. Slowly pull the jammed media out of the MFP. Do not tear the media.



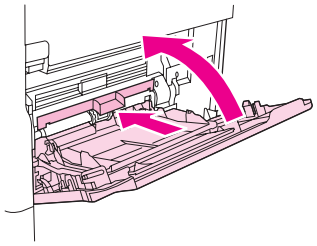
4. If jammed media is difficult to remove, open and remove the envelope-entrance cover. If media is present, remove it.



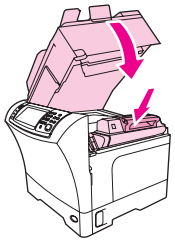
5. Rotate the paper-release guide to check for additional jammed media underneath. If jammed media is present, remove it.



6. Replace the envelope-entrance cover and close tray 1.



7. Reinstall the print cartridge and close the top cover.



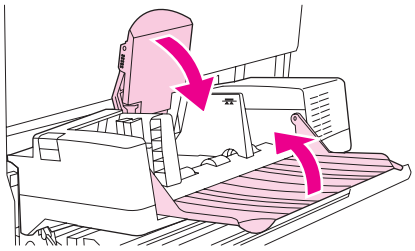
8. If a jam message persists, jammed media is still in the MFP. Look for the jam in another location.

Clearing jams from the optional envelope-feeder area

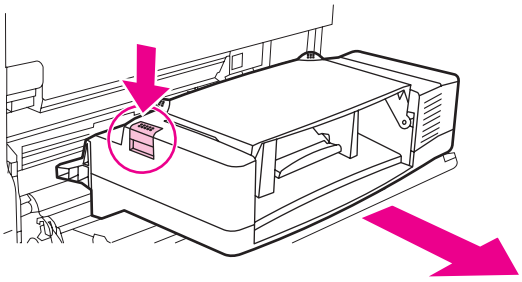
This section applies only to jams that occur when you are using an optional envelope feeder.

To clear jams from the optional envelope feeder

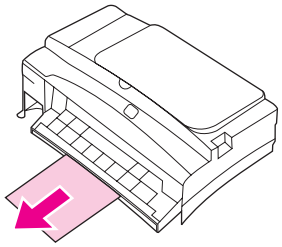
1. Remove any envelopes that are loaded in the envelope feeder. Lower the envelope weight and lift the tray extension up, to the closed position.

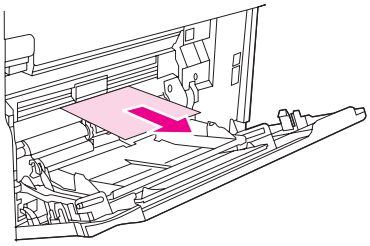


2. Press and hold the release button on the left side of the optional envelope feeder. Grasp both sides of the optional envelope feeder and carefully pull it out of the MFP.

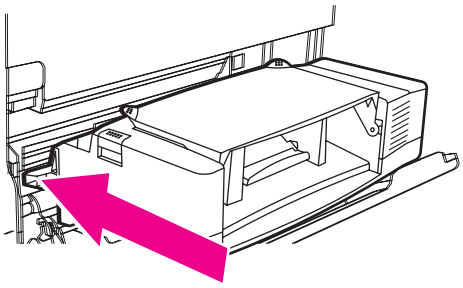


3. Slowly remove any jammed envelopes from the optional envelope feeder and from the MFP.

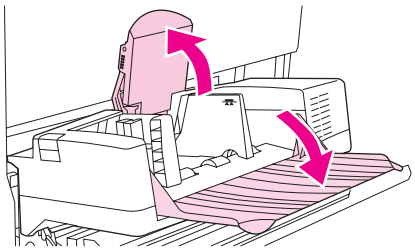




4. Insert the optional envelope feeder into the printer until it locks into place. Pull gently on the optional envelope feeder to be sure that it is securely in place.



5. Fold down the envelope-feeder tray. Lift the envelope weight.



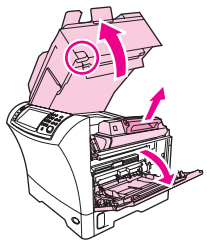
6. Reload the envelopes, making sure that you push the bottom envelopes in slightly farther than the top envelopes.
7. If a jam message persists, jammed media is still in the MFP. Look for the jam in another location.

Clearing jams from the tray 1 area

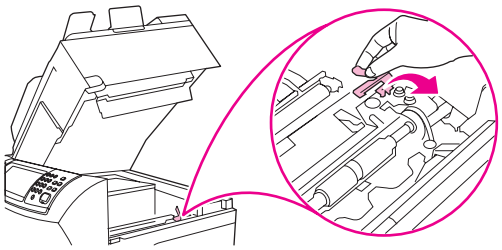
Use this procedure to clear jams that occur in the tray 1 input area.

To clear jams from the tray 1 area

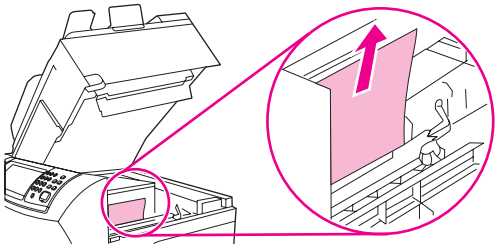
1. Open the top cover, open tray 1, and remove the print cartridge.



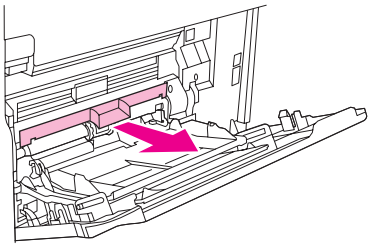
2. Use the green handle to lift the paper-access plate.



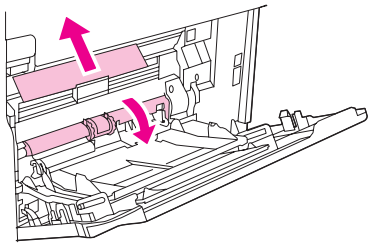
3. Slowly pull any jammed media out of the MFP. Do not tear the media. If part of the sheet has already been pulled into the MFP, follow the steps for Clearing jams from the top-cover and print-cartridge areas.



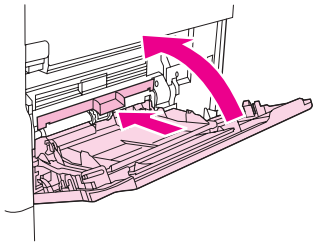
4. If jammed media is difficult to remove, remove the envelope-entrance cover. If media is present, remove it.



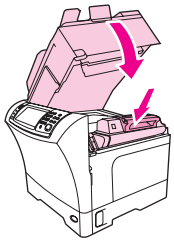
5. Rotate the paper-release guide to check for additional jammed media underneath. If jammed media is present, remove it.



6. Replace the envelope-entrance cover and close tray 1.



7. Reinstall the print cartridge and close the top cover.



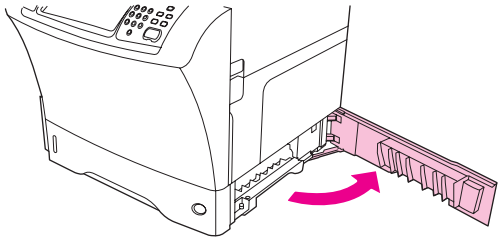
8. If a jam message persists, jammed media is still in the MFP. Look for the jam in another location.

Clearing jams from the tray 2, 3, 4, or 5 areas

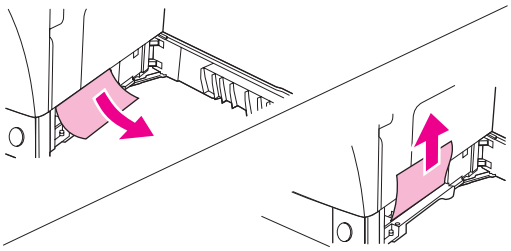
Use this procedure to clear jams that occur in tray 2 or in the optional 500-sheet feeders.

To clear jams from tray 2, 3, 4, or 5

1. Pull the jam-access lever to open the jam-access cover.

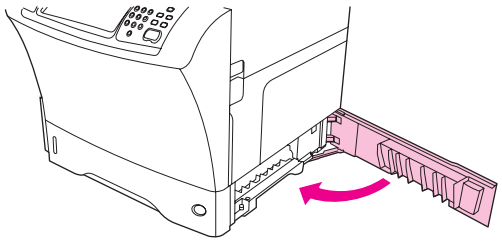


2. Carefully pull out any jammed media from either the top or the bottom of the jam-access area.

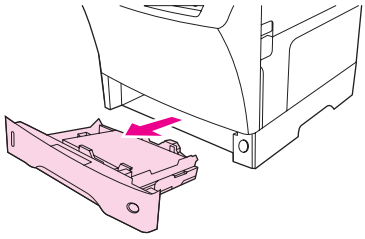


Note Use an upward or downward pulling motion to avoid tearing the media and to prevent toner from falling into the MFP.

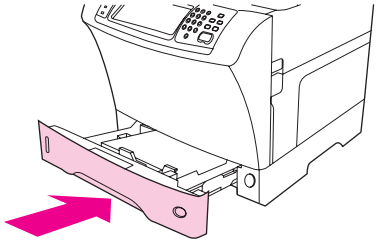
3. Close the jam-access cover.



4. Slide the tray completely out of the MFP, and remove any damaged media from the tray.



5. Slide the tray into the MFP.



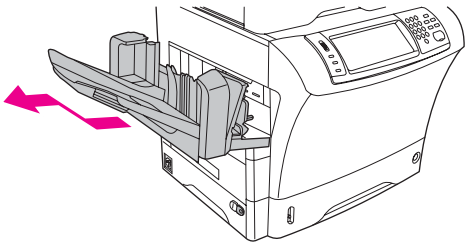
6. If a jam message persists, jammed media is still in the MFP. Look for the jam in another location.

Clearing jams from the optional duplexer

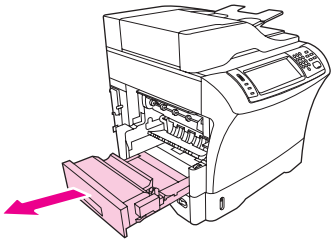
If a jam occurs during a duplex printing job, use this procedure to check for the jam and to clear it.

To clear jams from the optional duplexer

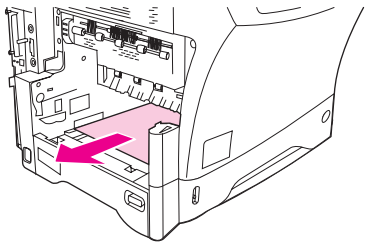
1. Remove the output bin (or remove the stapler/stacker or the mailbox).



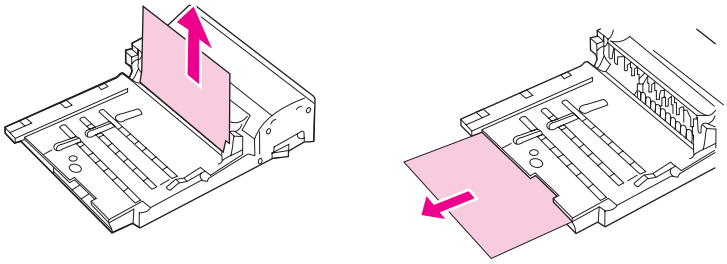
2. Remove the optional duplexer, and set it aside.



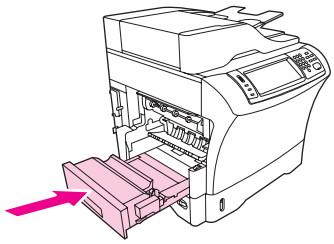
3. Check for jammed paper inside the MFP. Carefully pull out the jammed paper.



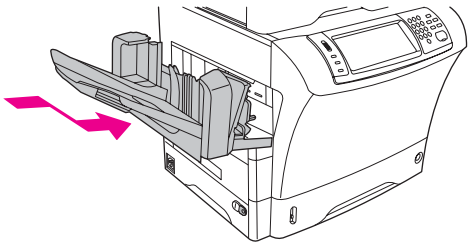
4. Check for jammed paper in the optional duplexer. Carefully pull out the jammed paper.



5. Reinstall the duplexer.



6. Reinstall the output bin (or reinstall the 3-bin mailbox or the stapler/stacker).



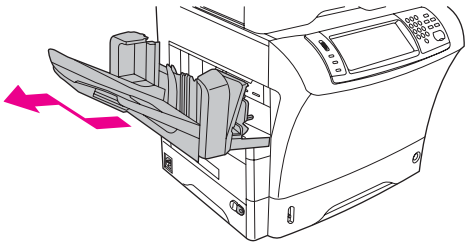
7. If a jam message persists, jammed media is still in the MFP. Look for the jam in another location.

Clearing jams from the output areas

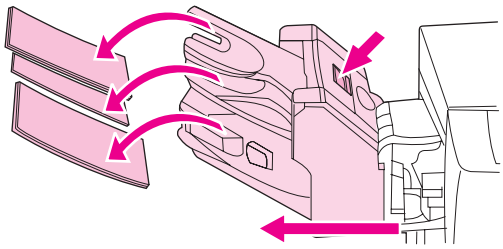
Use this procedure to clear jams that occur in the output bin, the 3-bin mailbox, or the stapler/stacker.

To clear jams from the output areas

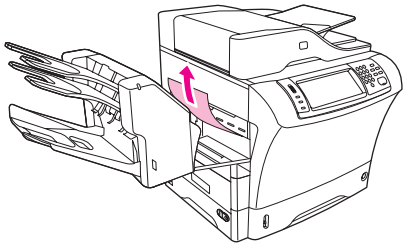
1. If you are using the standard output bin, grasp the handle at the bottom of the output-bin assembly, and pull it out and then up to remove it.



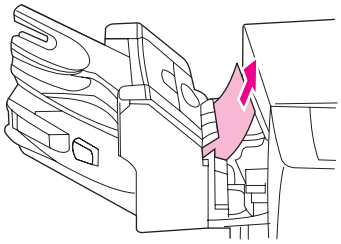
2. If you are using a 3-bin mailbox or a stapler/stacker, remove any media that is stacked, and then press and hold the release button on the top of the device. Pull the device away from the MFP.



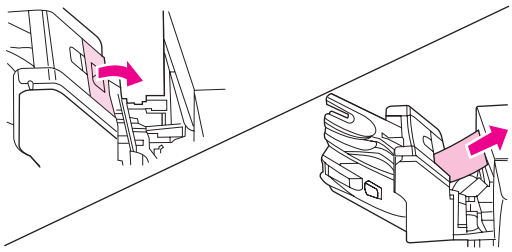
3. If the jammed media is inside the MFP, carefully pull the jammed media out of the MFP.



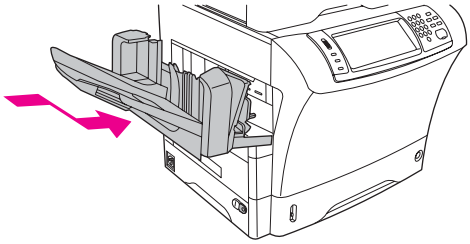
4. If the jammed media is inside the 3-bin mailbox or the stapler/stacker, carefully pull the jammed media up and out of the device.



5. If you are using a 3-bin mailbox, the jammed media might be completely inside the device. Open the jam-access cover that is on the top of the 3-bin mailbox, and carefully pull the jammed media out of the mailbox.



6. Reinstall the output-bin assembly, the 3-bin mailbox, or the stapler/stacker. Insert the device at an angle, and then slide it into the MFP.



7. If a jam message persists, jammed media is still in the MFP. Look for the jam in another location.

Clearing jams from the fuser

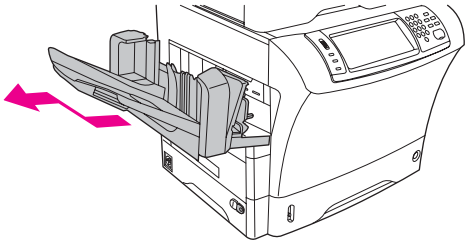
Use this procedure to clear jams that occur in the fuser.

To clear jams from the fuser

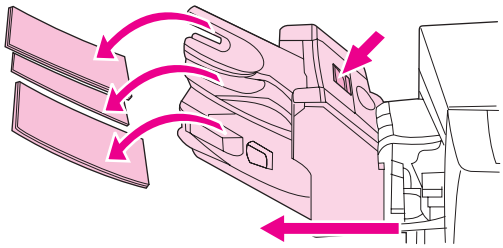
1. Turn the MFP off and wait 30 minutes for the fuser to cool.

WARNING! The fuser is very hot. To avoid minor burns, wait 30 minutes for the fuser to cool before removing it from the MFP.

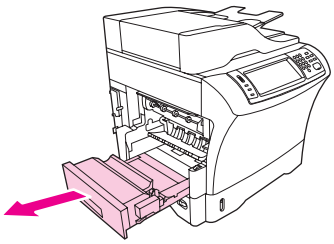
2. If you are using the standard output bin, grasp the handle at the bottom of the output-bin assembly, and pull it out and then up to remove it.



3. If you are using a 3-bin mailbox or a stapler/stacker, remove any media that is stacked, and then press and hold the release button on the top of the device. Pull the device away from the MFP.

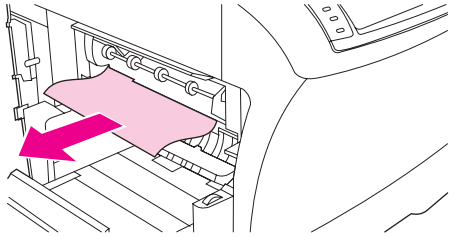


4. Remove the optional duplexer or the duplex cover.

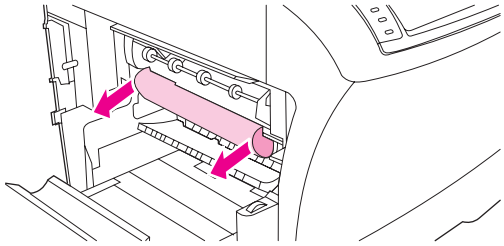


5. If you cannot see the jammed media inside the fuser, skip to step 9.

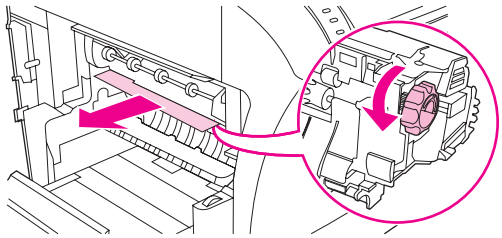
6. If you can see either the leading edge or the trailing edge of the jammed media inside the fuser, carefully pull it out.



7. If you can see the jammed media, but neither the leading edge nor the trailing edge is visible, gently pull on the sides of the sheet of media until one edge becomes free. Then carefully pull the jammed media out of the fuser.



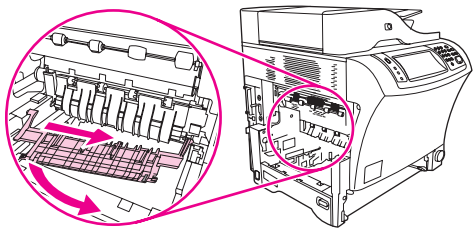
8. If the media tears as you are removing it, turn the green dial on the fuser, and then carefully pull out the jammed media. Go to step 13.



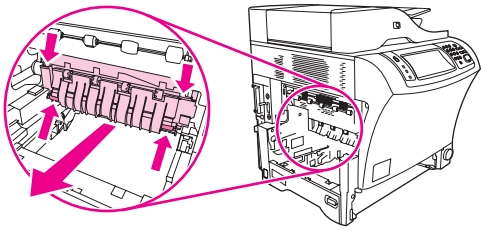
9. If you cannot see the jammed media inside the fuser, you must remove the fuser.

WARNING! The fuser is very hot. To avoid minor burns, wait 30 minutes for the fuser to cool before removing it from the MFP.

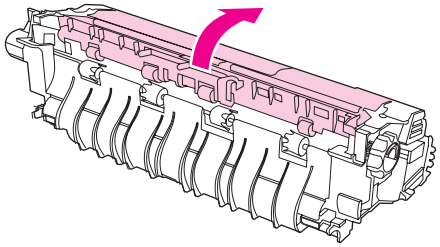
a. To remove the fuser-entrance guide, push inward at the left edge to free the left-side alignment pin. Then lift up slightly on the fuser-entrance guide, and remove it from the MFP.



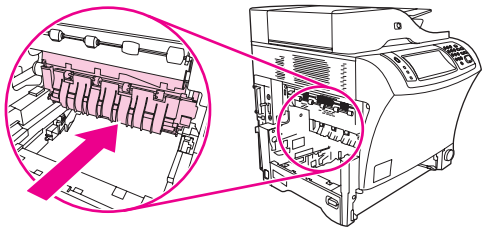
b. Place your forefingers on the blue levers on the bottom of each side of the fuser. Place your thumbs on the grip points on the top of each side of the fuser. Squeeze the blue levers up, and remove the fuser from the MFP.



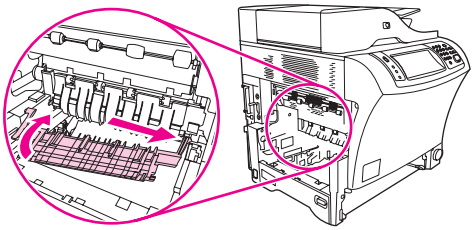
10. Open the black cover at the top of the fuser, and remove the jammed media.



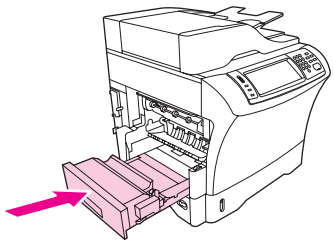
11. Reinstall the fuser. Push on the fuser with your thumbs to be sure it snaps securely into place.



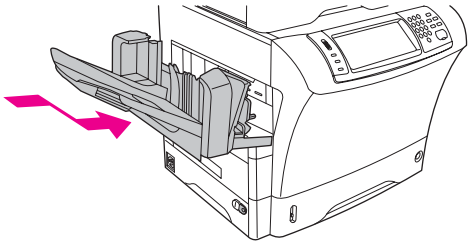
12. To reinstall the fuser-entrance guide, first insert the right-side mounting pin into the hole on the right side, and then lower the left-side mounting pin into the hole on the left side.



13. Reinstall the duplexer or the duplex cover.



14. Reinstall the output-bin assembly, the 3-bin mailbox, or the stapler/stacker. Insert the device at an angle, and then slide it into the MFP.

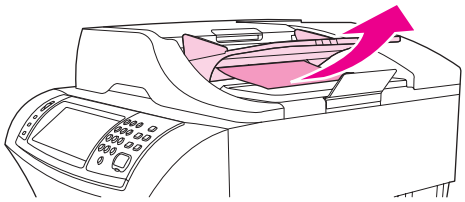


15. If a jam message persists, jammed media is still in the MFP. Look for the jam in another location.

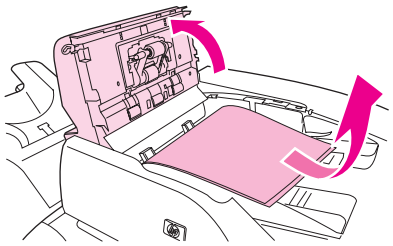
Clearing jams from the ADF

Use this procedure to clear jams from the ADF.

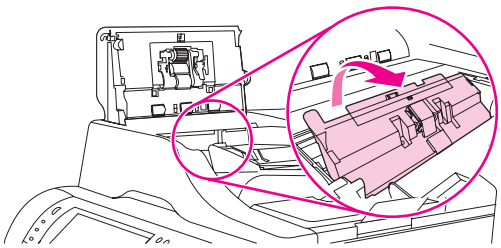
1. Lift the ADF-input tray, and check for jammed media underneath the tray. Carefully remove any jammed media.



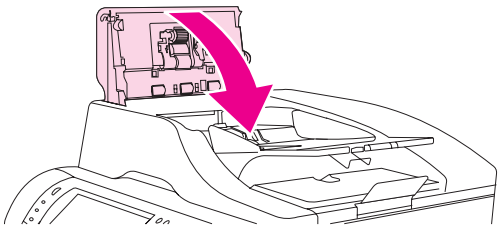
2. Pull up on the ADF-cover-release lever, and open the ADF cover. Carefully remove any jammed media.



3. Lift up on the ADF-document guide, and check for jammed media. Carefully remove any jammed media.



4. Close the ADF cover.



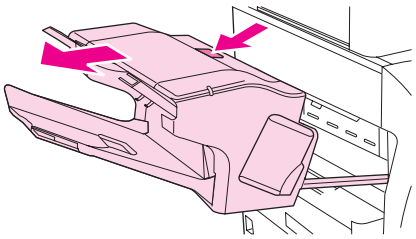
5. If a jam message persists, jammed media is still in the MFP. Look for the jam in another location.

Clearing staple jams

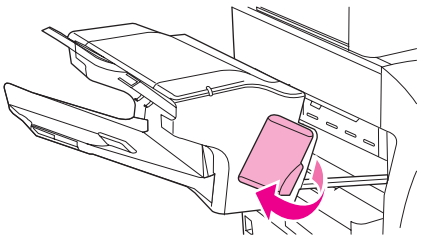
Occasionally, staples become jammed in the optional stapler/stacker. If jobs are not being stapled correctly or are not being stapled at all, use this procedure to clear staple jams.

To clear staple jams

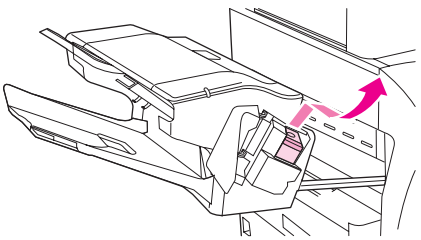
1. Turn off the MFP.
2. Press and hold the release button on the top of the stapler/stacker. Pull the stapler/stacker away from the MFP.



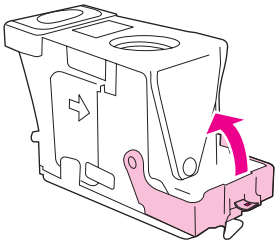
3. Open the staple-cartridge cover.



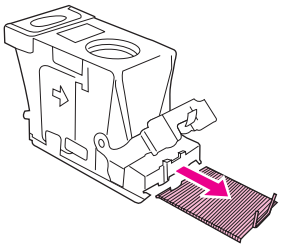
4. To remove the staple cartridge, pull up on the green handle and pull out the staple cartridge.



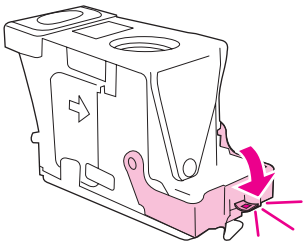
5. Lift up on the small lever at the back of the staple cartridge.



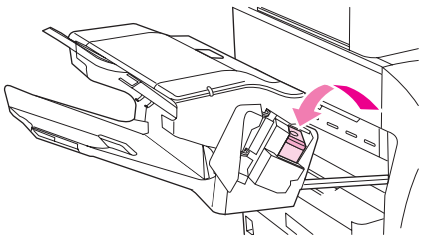
6. Remove the staples that protrude from the staple cartridge.



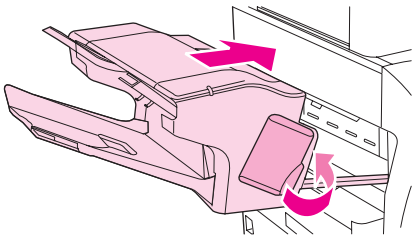
7. Close the lever at the back of the staple cartridge. Be sure that it snaps into place.



8. Reinsert the staple cartridge into the staple-cartridge holder, and push down on the green handle until it snaps into place.



9. Close the staple-cartridge cover, and slide the stapler/stacker into the MFP.



Solving repeated jams

Situation	Solution
General repeated jam problems	1. Make sure that the media is loaded correctly in the trays and that all width guides are set correctly (see Loading input trays). 2. Make sure that the tray is set for the size of media that is installed and that the tray is not overloaded. 3. Try turning over the stack of media in the tray. If you are using prepunched or letterhead paper, try printing from tray 1. 4. Do not use media that has been printed on previously or torn, worn, or irregular media. See Print media specifications. 5. Check the media specifications. (See Print media specifications.) If media is outside of the recommended specifications, problems can occur. 6. The MFP might be dirty. Clean the MFP as described in Cleaning the fuser. 7. Check that all damaged or jammed media is removed from MFP.
Repeated jams in the ADF	1. The ADF might be dirty. Clean the ADF as described in Cleaning the ADF delivery system. 2. Make sure that the media is loaded squarely and that the media-width guides are adjusted to the sides of the media stack. 3. Make sure that no more than 50 sheets of 75 g/m^2 (20 lb) bond paper are loaded in the ADF. 4. If the original document that is being copied has been folded or stapled, flatten it as much as you can and smooth any wrinkles. Make sure the pages are not stuck together where the staple was. 5. Media that has been pre-punched or perforated in any way might be difficult to feed through the ADF. If the leading edge of the document is excessively worn or frayed, try rotating the document 180 degrees before copying. 6. Make sure that the media is being stored correctly. If the media is too dry, the sheets might stick together. See Print media specifications.

Note

If jams continue, contact your HP-authorized service provider. (See the HP support flyer or go to http://www.hp.com/support/lj4345mfp.)

Using the paper-path test

The paper path test can be used to verify that various paper paths are working correctly or to troubleshoot problems with tray configuration.

To start the paper-path test

1. Touch **Menu**.
2. Scroll to and touch **DIAGNOSTICS**.

3. Scroll to and touch **PAPER PATH TEST**.
4. Select the input tray that you want to test, the output bin, the duplex printing accessory (if available), and number of copies, touching **OK** after you set the value for each. After selecting the last option, touch **PRINT TEST PAGE**.

Understanding MFP messages

Messages appear on the control-panel display to relay the normal status of the MFP (such as **Processing Job**), or an error condition (such as **CLOSE TOP COVER**) that needs attention. Resolving control-panel messages lists messages that require attention, or that might raise questions. Messages are listed in alphabetical order, with numeric messages at the beginning of the list. Not all messages are listed because some (such as **Ready**) are self-explanatory.

Note

Some messages are affected by the **AUTO CONTINUE** and **CLEARABLE WARNINGS** settings in the **CONFIGURE DEVICE** menu, **SYSTEM SETUP** submenu, on the control panel. See System setup submenu for more information.

Using the MFP help system

This MFP features a help system on the control panel that provides instructions for resolving most MFP errors. Certain control-panel messages alternate with instructions about using the help system.

Whenever a **?** appears in an error message or a message alternates with **FOR HELP TOUCH ?**, touch the (Help) button to view the help.

To exit the help system, touch the (Help) button.

If a message persists

- Some messages (for example, requests to load a tray or a message that a previous print job remains in the MFP memory) allow you to touch **CONTINUE** to print, or to press STOP to clear the job and eliminate the message.
- If a message persists after performing all of the recommended actions, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)

Resolving control-panel messages

Control-panel messages

Control panel message	Description	Recommended action
10.XX.YY SUPPLY MEMORY ERROR	The MFP cannot read or write to at least one print cartridge e-label or an e-label is missing from a print cartridge.	Reinstall the print cartridge, or install a new HP print cartridge.
11.XX Internal clock error To continue touch OK	The MFP real time clock has experienced an error.	Whenever the MFP is turned off and then turned on again, set the time and date at the control panel. See Setting the real-time clock. If the error persists, you might need to replace the formatter.
13.JJ.NT JAM IN ENVELOPE FEEDER	Media is jammed in the envelope feeder.	Remove the jammed media from the envelope feeder. Follow the instructions in the onscreen dialog box. See Clearing jams from the optional envelope-feeder area. Also see Print media specifications.
13.JJ.NT JAM IN OUTPUT BIN	Media is jammed in the output bin.	Remove the output bin and gently remove the jammed media. Reattach output bin. Follow the instructions in the onscreen dialog box.
13.JJ.NT JAM IN TRAY 1	Media is jammed in tray 1.	Remove the jammed media from tray 1. Follow the instructions in the onscreen dialog box. See Clearing jams from the tray 1 area.
13.JJ.NT JAM IN TRAY X	Media is jammed in the specified tray.	Follow the instructions in the onscreen dialog box. See Clearing jams from the tray 2, 3, 4, or 5 areas.
13.JJ.NT JAM INSIDE DUPLEXER Remove duplexer from lower left area	Media is jammed in the duplexer.	Follow the instructions in the onscreen dialog box. See Clearing jams from the optional duplexer.
13.JJ.NT JAM INSIDE LEFT OUTPUT AREA Remove output bin and duplexer	Media is jammed in the output area.	Follow the instructions in the onscreen dialog box. See Clearing jams from the output areas.
13.JJ.NT JAM INSIDE RIGHT ACCESS DOOR Open all right access doors ABOVE tray X	Media is jammed inside the jam-access door for the tray that is indicated.	Follow the instructions in the onscreen dialog box. See Clearing jams from the tray 2, 3, 4, or 5 areas.
13.JJ.NT JAM INSIDE TOP COVER AREA	Media is jammed in the top cover area.	Follow the instructions in the onscreen dialog box. See Clearing jams from the top-cover and print-cartridge areas.
13.JJ.NT JAM INSIDE TOP COVER AREA Remove print cartridge	Media is jammed in the top cover area and you must remove the print cartridge to clear the jam.	Follow the instructions in the onscreen dialog box. See Clearing jams from the top-cover and print-cartridge areas.
13.JJ.NT JAM INSIDE TRAY 2 AREA	Media is jammed in tray 2.	Follow the instructions in the onscreen dialog box. See Clearing jams from the tray 2, 3, 4, or 5 areas.

Control-panel messages (continued)

Control panel message	Description	Recommended action
13.JJ.NT JAM INSIDE TRAY 2 RIGHT ACCESS DOOR	Media is jammed inside tray 2 in the jam-access door.	Follow the instructions in the onscreen dialog box. See Clearing jams from the tray 2, 3, 4, or 5 areas.
13.JJ.NT JAMS INSIDE TOP COVER AREA Remove print cartridge	Media is jammed in more than one location inside the top cover area. You must remove the print cartridge to clear the jams.	Follow the instructions in the onscreen dialog box. See Clearing jams from the top-cover and print-cartridge areas.
13.JJ.NT PAPER JAM OPEN INPUT TRAYS	Media is jammed inside one or more of the trays.	Follow the instructions in the onscreen dialog box. See Clearing jams from the tray 2, 3, 4, or 5 areas.
20 INSUFFICIENT MEMORY To continue touch OK	The MFP received more data than can fit in the available memory. You might have tried to transfer too many macros, soft fonts, or complex graphics.	Touch **OK** to print the transferred data (some data might be lost), and then simplify the print job or install additional memory. See Installing memory.
21 PAGE TOO COMPLEX To continue touch OK	The page formatting process was not fast enough for the MFP.	Touch **OK** to print the transferred data. (Some data might be lost.) If this message appears often, simplify the print job.
22 EIO X BUFFER OVERFLOW To continue touch OK	Too much data was sent to the EIO card in the specified slot (x). An incorrect communications protocol might be in use.	Touch **OK** to print the transferred data. (Some data might be lost.) Check the host configuration. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
22 EMBEDDED I/O BUFFER OVERFLOW To continue touch OK	Too much data was sent to the embedded HP Jetdirect print server.	Touch **OK** to print the transferred data. (Some data might be lost.)
22 PARALLEL I/O BUFFER OVERFLOW To continue touch OK	Too much data was sent to the parallel port.	Touch **OK** to clear the error message. (Data will be lost.) Check for a loose cable connection, and be sure to use a high-quality cable. Some non-HP parallel cables might be missing pin connections or might otherwise not conform to the IEEE-1284 specification. See Part numbers, or go to http://www.hp.com/support/lj4345mfp.
22 SERIAL I/O BUFFER OVERFLOW To continue touch OK	Too much data was sent to the serial buffer.	Touch **OK** to clear the error message. (Data will be lost.)
30.1.YY SCANNER FAILURE	An error has occurred in the scanner.	Turn the MFP off and then on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
40 BAD EIO X TRANSMISSION To continue touch OK	The connection between the MFP and the EIO card in the specified slot has been broken.	Touch **OK** to clear the error message and continue printing.

Control-panel messages (continued)

Control panel message	Description	Recommended action
40 BAD SERIAL TRANSMISSION To continue touch OK	A serial data error (parity, framing, or line overrun) occurred as data was being sent by the computer.	Touch **OK** to clear the error message. (Data will be lost.)
40 EMBEDDED I/O BAD TRANSMISSION To continue touch OK	A temporary printing error has occurred.	Turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
41.3 MEDIA TOO SHORT CANNOT DUPLEX	The MFP cannot print on both sides of the selected media because the media does not meet the minimum length specification.	Select single-sided printing or load a longer-size media. Resend the job. See Supported types and sizes of print media.
41.3 MEDIA TOO SHORT CANNOT SEND TO FACE DOWN OUTPUT BIN	The MFP cannot deliver the selected media face-down because the media does not meet the minimum length specification.	Select the face-up output option, or load a longer-size media in the tray. Resend the job. See Supported types and sizes of print media.
41.3 UNEXPECTED SIZE IN TRAY XX LOAD TRAY XX <TYPE> <SIZE>	This is typically caused if two or more sheets of media stick together in the MFP or if the tray is not adjusted correctly.	Reload the tray with the correct media size. Reconfigure the size in a tray so that the MFP will use a tray that contains the size required for the print job. Follow the instructions in the onscreen dialog box.
41.3 UNEXPECTED SIZE IN TRAY XX To use another tray touch OK	The specified tray is loaded with media that is longer or shorter in the feed direction than the size configured for the tray.	Touch **OK** to display **TRAY <N> SIZE**. Reconfigure the size in a tray so that the MFP will use a tray that is loaded with the size of media required for the print job. If the message does not clear automatically from the control-panel display, turn the MFP off, and then turn the MFP on.
41.5 UNEXPECTED TYPE IN TRAY XX LOAD TRAY XX <TYPE> <SIZE>	The specified tray is loaded with a media type that is not the type configured for the tray.	Load the tray with the media type indicated, or touch **OK** to use another tray.
41.X ERROR To continue touch OK	A temporary printing error occurred.	Touch **OK** to clear the error. If the error is not cleared, turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
49.XXXXX ERROR To continue turn off then on	A critical firmware error has occurred.	Turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)

Control-panel messages (continued)

Control panel message	Description	Recommended action
50.X FUSER ERROR	A fuser error has occurred.	Turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
51.XY ERROR To continue turn off then on	A temporary printing error has occurred.	Turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
52.XY ERROR To continue turn off then on	A temporary printing error has occurred.	Turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
53.XY.ZZ CHECK RAM DIMM SLOT <X> To continue touch OK	A problem exists with the MFP memory. The DIMM that caused the error will not be used. The following are the values of **X**: **X** = Device location **0** = Onboard memory **1** = Slot 1 **2** = Slot 2	You might need to reseat or replace the specified DIMM. Turn the MFP off, and then replace the DIMM that caused the error. See Installing memory. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
55.XX.YY DC CONTROLLER ERROR To continue turn off then on	The print engine is not communicating with the formatter.	Turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
56.X ERROR To continue turn off then on	A temporary printing error has occurred.	Turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
57.XX ERROR To continue turn off then on	A temporary printing error has occurred.	Turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)

Control-panel messages (continued)

Control panel message	Description	Recommended action
58.XX ERROR To continue turn off then on	A temporary printing error has occurred.	Turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
59.XY ERROR To continue turn off then on	A temporary printing error has occurred.	Turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
60.X ERROR To continue turn off then on	The tray specified by **X** is not lifting correctly.	Follow the instructions in the onscreen dialog box.
62 NO SYSTEM To continue turn off then on	A problem exists with the MFP firmware.	Turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
64 ERROR To continue turn off then on	A scan buffer error occurred.	Turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
66.XY.ZZ OUTPUT DEVICE FAILURE	An error occurred in an external paper-handling accessory.	1. Turn the MFP power off. 2. Check that the accessory is properly seated on and connected to the MFP, without any gaps between the MFP and the accessory. If the accessory uses cables, disconnect and reconnect them. 3. Turn the MFP power on. 4. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
68.X PERMANENT STORAGE FULL To continue touch OK	The MFP NVRAM is full. Some settings saved in the NVRAM might have been reset to the factory defaults. Printing can continue, but some unexpected functions might occur if an error occurred in permanent storage.	Touch **OK** to clear the message. If the message is not cleared, turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)

Control-panel messages (continued)

Control panel message	Description	Recommended action
68.X PERMANENT STORAGE WRITE FAIL To continue touch OK	The MFP NVRAM is failing to write. Printing can continue, but some unexpected functions might occur if an error occurred in permanent storage.	Touch **OK** to clear the message. If the message is not cleared, turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
68.X STORAGE ERROR SETTINGS CHANGED To continue touch OK	One or more MFP settings are invalid and have been reset to the factory-default settings. Printing can continue, but some unexpected functions might occur if an error occurred in permanent storage.	Touch **OK** to clear the message. If the message is not cleared, turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
69.X ERROR To continue turn off then on	A temporary printing error occurred.	Turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
79 ERROR To continue turn off then on	A critical hardware error occurred.	Turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
8X.YYYY EIO ERROR	The EIO accessory card has encountered a critical error, as specified by **YYYY**.	Try the following actions to clear the message. 1. Turn the MFP off, and then turn the MFP on. 2. Turn the MFP off, reseat the EIO accessory, and then turn the MFP on. 3. Replace the EIO accessory.
8X.YYYY INTERNAL JETDIRECT ERROR	The embedded HP Jetdirect print server has encountered a critical error, as specified by **YYYY**.	Turn the MFP off, and then turn the MFP on. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
Access denied MENUS LOCKED	The control panel function that you are trying to use has been locked to prevent unauthorized access.	Contact the network administrator.
ACTION NOT CURRENTLY AVAILABLE FOR TRAY X TRAY SIZE CANNOT BE ANY SIZE/ANY CUSTOM	A duplexed (2-sided) document was requested from a tray that is set to **ANY SIZE** or **ANY CUSTOM**. Duplexing is not allowed from a tray configured to **ANY SIZE** or **ANY CUSTOM**.	Select another tray or reconfigure the tray.

Control-panel messages (continued)

Control panel message	Description	Recommended action
ADF Cover Open	The ADF cover is open.	Close the ADF cover. Follow the instructions in the onscreen dialog box.
ADF OUTPUT BIN FULL	The ADF output bin holds 50 sheets of paper. The MFP stops when the bin is full.	Remove the paper from the ADF output bin.
ADF Paper Jam	Media is jammed in the ADF.	Follow the instructions in the onscreen dialog box. See Clearing jams from the ADF. Also see Solving repeated jams.
ADF PICK ERROR	The ADF experienced an error while picking media.	Make sure that your original contains no more than 30 pages. Follow the instructions in the onscreen dialog box.
ADF SKEW ERROR	Media has become skewed in the ADF.	Make sure that the paper guides are aligned on the sides of the originals, and that all of the originals are the same size. Remove the remaining media from the ADF and close the ADF cover. Follow the instructions in the onscreen dialog box.
Authentication information is incorrect. Please re-enter information.	A user name or password is incorrect.	Type the information again.
AUTHENTICATION REQUIRED	Authentication has been enabled for this feature or destination. A username and password are required.	Type the user name and password, or contact the network administrator.
AUTHENTICATION REQUIRED TO USE THIS FEATURE	A user name and password are required.	Type the user name and password, or contact the network administrator.
BAD DUPLEXER CONNECTION	The duplex printing accessory is not connected correctly to the MFP.	Remove and reinstall the duplexer. If this message persists, contact an HP-authorized service or support provider. See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.
BAD ENV FEEDER CONNECTION	The envelope feeder is not connected properly.	Remove and reinstall the envelope feeder. If this message persists, contact an HP-authorized service or support provider. See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.
CARTRIDGE FAILURE RETURN FOR REPLACEMENT	The print cartridge still contains part of the sealing tape.	Try to remove the remaining sealing tape. If it cannot be removed, insert a new print cartridge and return the faulty print cartridge to receive a replacement. (See Part numbers, or go to http://www.hp.com/support/lj4345mfp.)
CARTRIDGE OUT REPLACE CARTRIDGE	The print cartridge is out of toner. Printing cannot continue because damage to the MFP might result.	Replace the print cartridge. (See Managing the print cartridge.)
CHECK CABLES CHECK SCANNER LOCK To continue turn off then on	The scanner might be locked or the interface cable might be seated incorrectly.	Make sure that the scanner is unlocked and the interface cable is seated correctly.

Control-panel messages (continued)

Control panel message	Description	Recommended action
CHECK CABLES Then turn off then on	The cable that connects the scanner to the MFP is experiencing an error.	Make sure that the cable between the scanner and the MFP is connected. Turn the MFP off then on. If the error persists, replace the cable. If the error still persists, contact an HP-authorized service or support provider. See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.
CHECK COPY CONNECT CARD	An error has occurred with the Copy Connect card.	Make sure that the Copy Connect board on the formatter is firmly in place. Check for LED light activity on the Copy Connect board. If the problem persists, replace the Copy Connect board.
CHECK OUTPUT DEVICE	An error has occurred with the output device.	Remove and reinstall the output device. Observe the LED on the device. If is flashing or is amber, see Understanding accessory lights for the 3-bin mailbox and stapler/stacker.
Check the glass and remove any paper, then press START	A digital send or copy job has been performed from the scanner glass, but the original document needs to be removed.	Remove the original document from the scanner glass and press START.
CHOSEN PERSONALITY NOT AVAILABLE To continue touch OK	A print job requested a MFP language (personality) that is not available for this MFP. The job will not print and will be cleared from memory.	Print the job by using a printer driver for a different printer language, or add the requested language to the MFP (if possible). To see a list of available personalities, print a configuration page. (See Checking the MFP configuration.)
CLOSE RIGHT ACCESS DOOR <X>	The specified jam-access cover is open.	Close the specified jam-access cover.
CLOSE RIGHT ACCESS DOORS	More than one jam-access cover is open.	Close all jam-access covers to continue printing.
CLOSE TOP COVER	The top cover is open.	Close the top cover.
Digital Send Communication Error	An error has occurred during a digital send task.	Contact the network administrator.
Digital Send server is not responding Contact administrator	The MFP cannot communicate with the server.	Verify the network connection. Contact the network administrator.
DUPLEXER ERROR REMOVE DUPLEXER Install duplexer with power off	The duplexer has been removed.	Reinstall the duplexer. (Any print jobs at the MFP might be lost.)
E-mail Gateway did not accept the job because the attachment was too large.	The scanned documents have exceeded the size limit of the server.	Send the job again using a lower resolution, smaller file size setting, or fewer pages. See Using the embedded Web server to learn how to reduce the size of the attachment. Contact the network administrator to enable sending the scanned documents by using multiple e-mails.

Control-panel messages (continued)

Control panel message	Description	Recommended action
E-mail Gateway did not respond. Job failed.	A gateway has exceeded the time out value.	Validate the SMTP IP address. See Solving e-mail problems.
E-mail Gateway rejected the job because of the addressing information. Job failed.	One or more of the e-mail addresses is incorrect.	Send the job again with the correct addresses.
Error executing Digital Send job. Job failed.	A digital send job has failed and cannot be delivered.	Try to send the job again.
Folder list is full. To add a folder, you must first delete a folder.	The MFP limits the number of folders that can be established.	Delete an unused folder to add a new folder.
Front Side Optical System Error	The scanner has experienced an error.	To temporarily clear the message so you can send a fax or send to e-mail, touch **IGNORE**. If this message persists, contact an HP-authorized service or support provider. See the HP support flyer or go to http://www.hp.com/support/lj4345mfp.
HP Digital Sending: Delivery Error	A digital send job has failed and cannot be delivered.	Try to send the job again.
INSERT OR CLOSE TRAY XX	The specified tray is missing or open.	Insert or close the specified tray to continue.
INSTALL CARTRIDGE	The print cartridge has been removed or has been installed incorrectly.	Replace or reinstall the print cartridge correctly to continue printing.
INSUFFICIENT MEMORY TO LOAD FONTS/DATA <DEVICE> To continue touch OK	The MFP does not have enough memory to load the data (for example, fonts or macros) from the location specified.	Touch **OK** to continue without this information. If the message persists, add more memory.
JAM IN DOCUMENT FEEDER	Media is jammed in the ADF.	Remove jammed media from the ADF. Follow the instructions in the onscreen dialog box. See Clearing jams from the ADF. Also see Solving repeated jams. If the message persists after all jams have been cleared, a sensor might be stuck or broken. Contact an HP-authorized service or support provider. See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.
LDAP Server is not responding Contact administrator	The LDAP server has exceeded the time out value for an address request.	Verify the LDAP server address. See Solving e-mail problems. Contact the network administrator.
LOAD ENVELOPE FEEDER <TYPE> <SIZE>	The envelope feeder is empty.	Load the envelope feeder.
LOAD TRAY 1 <TYPE> <SIZE>	The tray is empty or configured for a different size than the size requested.	Follow the instructions in the onscreen dialog box.
MANUALLY FEED <TYPE> <SIZE>	The specified job requires manual feed from tray 1.	Load the requested media into tray 1. To override the message, touch **OK** to use a type and size of media that is available in another tray.

Control-panel messages (continued)

Control panel message	Description	Recommended action
Mechanical Error	The ADF has experienced a mechanical error.	Turn the MFP off then on. To temporarily clear this message, touch **IGNORE**. If the message persists, contact an HP-authorized service or support provider. See the HP support flyer or go to http://www.hp.com/support/lj4345mfp.
Network connection required For Digital Sending. Contact administrator.	A digital-sending feature has been configured, but a network connection is not detected.	Verify the network connection. See Solving network connectivity problems. Contact the network administrator.
NON HP SUPPLY INSTALLED Economode disabled	A non-HP supply or a refilled HP supply has been installed.	Follow the instructions in the onscreen dialog box.
Novell Login Required	Novell authentication has been enabled for this destination.	Enter Novell network credentials to access the copy and fax features.
ORDER CARTRIDGE	The number of pages remaining for the print cartridge has reached the low threshold. The MFP was set to stop printing when a supply needs to be ordered.	Touch **OK** to continue printing until the print cartridge is out of toner. To order a new print cartridge, see Ordering parts, accessories, and supplies.
OUTPUT BIN <X> FULL	The specified output bin is full and printing cannot continue.	Empty the bin to continue printing.
OUTPUT PAPER PATH OPEN	The paper path between the MFP and the output device is open and must be closed before printing can continue.	1. If you have a 3-bin mailbox installed, make sure the jam-access door is closed. 2. If you have a stapler/stacker installed, make sure the staple cartridge is snapped into position and that the staple-cartridge door is closed.
PAPER WRAPPED AROUND FUSER	A jam has occurred because paper has wrapped around the fuser.	Follow the instructions in the onscreen dialog box. See Clearing jams from the fuser.
Password or name is incorrect. Please enter correct login.	The user name or password was typed incorrectly.	Retype the user name and password.
Phone Book is full. To add a phone number, you must first delete a phone number.	The MFP limits the number of phone numbers that you can add.	Delete an unused phone number to add a new one.
PIN is incorrect. Please enter a 4-digit number.	The PIN format is incorrect.	Type the 4-digit PIN.
PIN is incorrect. Please re-enter PIN.	The PIN was typed incorrectly.	Retype the PIN.
Please turn device off and install hard disk.	The requested job requires a hard disk, but the MFP does not have a hard disk installed.	Turn the MFP off and install a hard disk. See Installing EIO cards.

Control-panel messages (continued)

Control panel message	Description	Recommended action
Reattach output bin	The standard output bin was detached when the MFP was turned on, or the cable on the stapler/stacker or the 3-bin mailbox is not connected to the MFP.	Turn the MFP off. If you are using the stapler/stacker or the 3-bin mailbox, make sure that the cable is connected to the MFP. Reattach the output bin, and then turn the MFP on. Observe the LED on the output device. If it is flashing or amber, see Understanding accessory lights for the 3-bin mailbox and stapler/stacker.
REINSERT DUPLEXER	The duplexer has been removed and must be reinstalled.	Reinsert the duplexer in the MFP.
REINSTALL OUTPUT DEVICE	The output device has been removed or is not attached.	Make sure the output bin, 3-bin mailbox, or stapler/stacker is correctly installed on the MFP.
REPLACE CARTRIDGE	The print cartridge has reached the end of its life. Printing cannot continue.	Replace the print cartridge. To order a new print cartridge, see Ordering parts, accessories, and supplies.
REPLACE STAPLE CARTRIDGE	The stapler is out of staples.	Replace the staple cartridge. For information about replacing the staple cartridge see Loading staples. For information about ordering a new staple cartridge, see Part numbers.
SANITIZING DISK <X>% COMPLETE Do not power off	The hard disk or flash memory card is being cleaned.	Contact the network administrator.
SCAN CARRIAGE LOCKED Check lock switch, cycle power	The flatbed scanner carriage is locked for shipping.	Turn off the MFP, unlock the scanner carriage, and turn on the MFP.
SCAN FAILURE Press 'Start' to rescan	The scan was unsuccessful and the document needs to be rescanned.	If necessary, reposition the document to rescan it, and then press START.
SMTP GATEWAY	The SMTP gateway has exceeded a time out value.	Verify the e-mail server address. See Solving e-mail problems. Contact the network administrator.
STAPLER LOW ON STAPLES	Fewer than 20 staples remain in the staple cartridge. Printing continues until the cartridge runs out of staples and the **REPLACE STAPLE CARTRIDGE** message appears on the control-panel display.	Replace the staple cartridge. For information about replacing the staple cartridge see Loading staples. For information about ordering a new staple cartridge, see Part numbers.
The Digital Sending Service at <IP Address> does not service this MFP. Contact administrator.	The MFP cannot communicate with the specified IP address.	Verify the IP address. Contact the network administrator.
The Digital Sending Service must be upgraded to support this version of the MFP firmware. Contact administrator.	The Digital Sending Service is not supported by the version of the firmware that is currently installed for the MFP.	Check the firmware version. Contact the network administrator.
The folder you have entered is not a valid folder.	The folder name was entered incorrectly, or the folder does not exist.	Re-enter the folder name correctly, or add the folder.
TOO MANY PAGES IN JOB TO STAPLE	The maximum number of sheets the stapler can staple is 30.	For print jobs that have more than 30 pages, staple them manually.

Control-panel messages (continued)

Control panel message	Description	Recommended action
Unable to connect		To temporarily hide this message in order to fax or send to e-mail, touch **IGNORE**. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
UNABLE TO COPY	The MFP was unable to copy the document. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)	To temporarily hide this message in order to fax or send to e-mail, touch **IGNORE**.
UNABLE TO SEND		To temporarily hide this message in order to fax or send to e-mail, touch **IGNORE**. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
Unable to send Fax. Please check fax configuration.	The MFP was unable to send the fax.	Contact the network administrator.
UNABLE TO SEND JOB		To temporarily hide this message in order to fax or send to e-mail, touch **IGNORE**. If this message persists, contact an HP-authorized service or support provider. (See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.)
User name or password is incorrect. Please re-enter.	The user name or password was typed incorrectly.	Retype the user name and password.
User Name, Job Name, or PIN is missing.	One or more of the required items has not been selected or typed.	Select the correct user name and job name, and type the correct PIN.

Understanding accessory lights for the 3-bin mailbox and stapler/stacker

The following table lists errors that can occur in the 3-bin mailbox or stapler/stacker and that are reported by the accessory lights and on the control-panel display.

Accessory lights

Light	Explanation and solution
Solid green	• The accessory is receiving power and is ready. • The stapler is low on staples. **STAPLER LOW ON STAPLES** appears on the control-panel display. Fewer than 20 staples remain in the staple cartridge. Replace the staple cartridge. See Loading staples. • The number of pages in the job exceeds the 30-page limit for stapling. **TOO MANY PAGES IN JOB TO STAPLE** appears on the printer control-panel display. For jobs that have more than 30 pages, staple the pages manually.
Solid amber	• The accessory is experiencing a hardware malfunction. **66.XY.ZZ OUTPUT DEVICE FAILURE** appears on the control-panel display. (See the section for this message in Understanding MFP messages.)
Blinking amber	• The accessory has a staple jam. **13.JJ.NT JAM IN STAPLER** appears on the control-panel display. (See the section for this message in Understanding MFP messages.) • The accessory has a paper jam, or a sheet needs to be removed from the unit, even if the sheet is not jammed. **13.JJ.NT JAM IN OUTPUT BIN** appears on the control-panel display. (See the section for this message in Understanding MFP messages.) • The bin is full. **STACKER BIN FULL** appears on the control-panel display. (See the section for **OUTPUT BIN <X> FULL** in Understanding MFP messages.) • The stapler is out of staples. **REPLACE STAPLE CARTRIDGE** appears on the control-panel display. (See the section for this message in Understanding MFP messages.) • The jam-access cover is open. **OUTPUT PAPER PATH OPEN** appears on the control-panel display. (See the section for this message in Understanding MFP messages.) • The stapler unit is open. **OUTPUT PAPER PATH OPEN** appears on the control-panel display. Make sure the staple-cartridge cover is completely closed. (See the section for this message in Understanding MFP messages.) • The firmware is corrupt. **CORRUPT FIRMWARE IN EXTERNAL ACCESSORY** appears on the control-panel display. (See the section for this message in Understanding MFP messages.)

Light	Explanation and solution
Off	• The MFP might be in sleep mode. Press any button on the control panel. • The accessory is not receiving power. Turn the MFP power off. Check that the accessory is properly seated on and connected to the MFP, without any gaps between the MFP and the accessory. Turn the MFP power on. • The accessory might have been disconnected and reconnected while the MFP power was on. **66.12.99 REINSTALL OUTPUT DEVICE** appears on the control-panel display. Reconnect the cable on the accessory. • The job might have stalled between the MFP and the accessory. **Processing Job** appears on the control-panel display. Turn the MFP power off and then on.

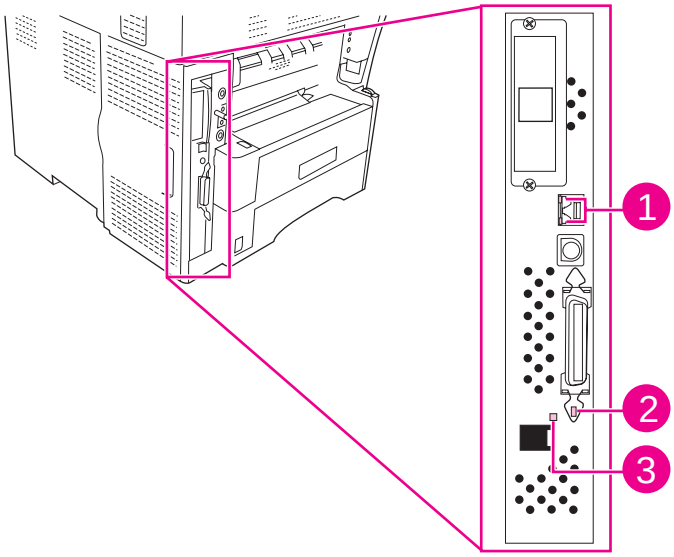
Replacing accessories or accessory components

If you are unable to resolve problems that are indicated by the 3-bin mailbox or stapler/stacker accessory lights, contact the HP Customer Care Center. (See HP customer care.) If an HP Customer Care Center representative recommends replacement of the 3-bin mailbox, the stapler/stacker, or the staple cartridge, see Ordering parts, accessories, and supplies and Part numbers for information about ordering a replacement.

- For the steps to replace the entire 3-bin mailbox or the entire stapler/stacker, see the install guide that came with the accessory.
- For the steps to replace the staple cartridge, see Loading staples.

Understanding lights on the formatter

Three LEDs on the formatter indicate that the MFP is functioning correctly.



1 HP Jetdirect LEDs
2 Heartbeat LED
3 Fax LED

HP Jetdirect LEDs

The embedded HP Jetdirect print server has two LEDs, one for each possible link speed. When an LED is lit, the print server is functioning correctly. A link failure is indicated when both LEDs are off.

For link failures, check all of the network cable connections. In addition, you can try to manually configure the link settings on the embedded print server by using the MFP control-panel menus.

1. Touch **Menu**.
2. Touch **CONFIGURE DEVICE**.
3. Touch **I/O**.
4. Touch **EMBEDDED JETDIRECT MENU**
5. Touch **LINK SPEED**. Select the appropriate link speed.

Heartbeat LED

The heartbeat LED indicates that the formatter is functioning correctly. While the MFP is initializing after you turn it on, the LED blinks rapidly, and then turns off. When the MFP has finished the initialization sequence, the heartbeat LED pulses on and off.

If the heartbeat LED is off, the formatter might have a problem. Contact an HP-authorized service or support provider. See the HP support flyer, or go to http://www.hp.com/support/lj4345mfp.

Fax LED

The LED on the HP LaserJet analog fax accessory 300 indicates that it is functioning correctly. If the LED is off, see the *HP LaserJet Analog Fax Accessory 300 User Guide* for information about solving the problem.

Correcting print-quality and copy-quality problems

This section helps you define print-quality problems and what to do to correct them. Often print-quality problems can be handled easily by making sure that the printer is properly maintained, using print media that meets HP specifications, or running a cleaning page.

Print-quality checklist

General print-quality problems can be solved by following the checklist below.

- Check the printer driver to make sure that you are using the best available print quality option.
- Try printing with one of the alternative printer drivers. The most recent printer drivers area available for download from http://www.hp.com/go/lj4345mfp_software.
- Clean the inside of the MFP, and process a cleaning page to clean the fuser (see Cleaning the MFP).
- Check the paper type and quality (see Print media specifications).
- Check to make sure that EconoMode is off in the software.
- Troubleshoot general printing problems (see Determining MFP problems).
- Install a new HP print cartridge, and then check the print quality again. (See the instructions provided with the print cartridge.)

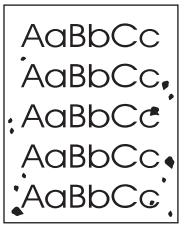
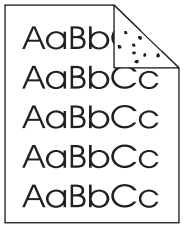
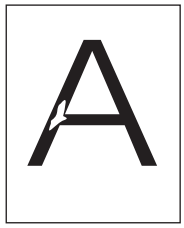
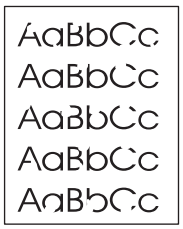
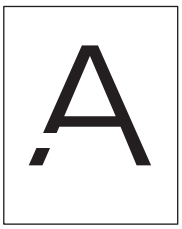
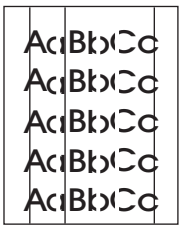
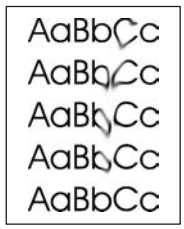
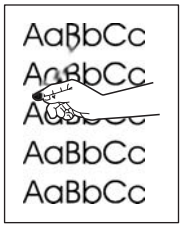
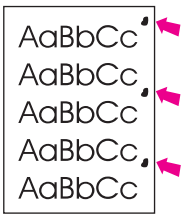
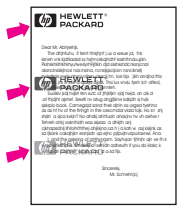
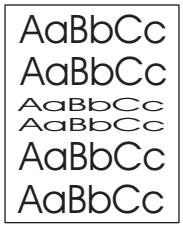
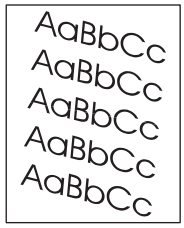
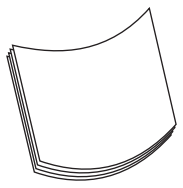
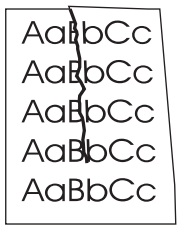
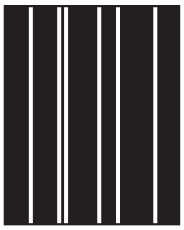
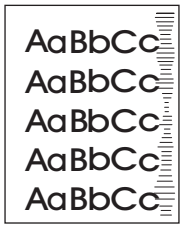
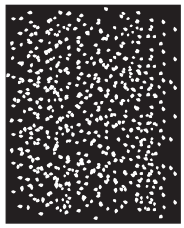
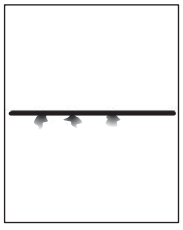
Note

If the page is totally blank (all white) check to make sure that the sealing tape is removed from the print cartridge and ensure that the print cartridge is installed correctly. Newer printers and MFPs have been optimized to print characters more accurately. This might result in characters that look lighter or thinner than you are used to from an older printer. If the page is printing images that are darker than those from an older printer, and you want the images to match the older printer, make these changes in your printer driver: on the **Finishing** tab, select **Print Quality**, select **Custom**, click **Details**, and click the check box for **Print Images Lighter**.

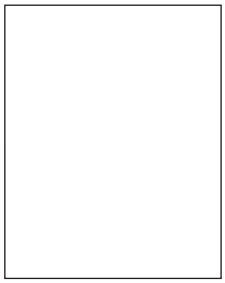
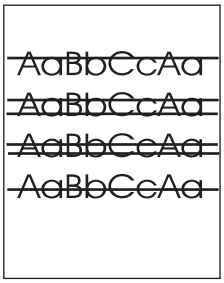
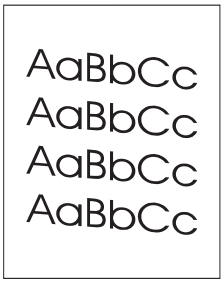
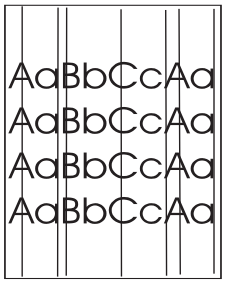
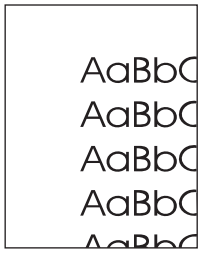
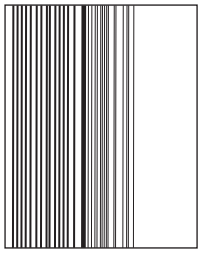
Image defect examples

Use the examples in this image-defect table to determine which print-quality problem you are experiencing, and then see the corresponding reference pages to troubleshoot the defect. These examples identify the most common print-quality problems. If you still have problems after trying the suggested remedies, contact HP Customer Support. (See HP customer care.)

Defects that can occur during printing

See Light print (partial page)	See Light print (entire page)	 See Specks	 See Specks	 See Dropouts
 See Dropouts	 See Dropouts	 See Lines	See Gray background	 See Toner smear
 See Loose toner	 See Repeating defects	 See Repeating image	 See Misformed characters	 See Page skew
 See Curl or wave	 See Wrinkles or creases	 See Vertical white lines	 See Tire tracks	 See White spots on black
 See Scattered lines.	See Blurred print.	See Random image repetition (dark)	See Random image repetition (light)	

Defects that can occur when using the ADF

 See Blank page (ADF)	 See Horizontal lines (ADF)	 See Page skew (ADF)
 See Vertical lines (ADF)	 See Image shifted (ADF)	 See Unexpected image (ADF)

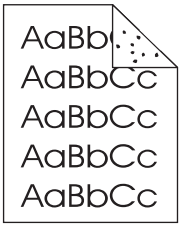
Light print (partial page)

1. Make sure that the print cartridge is fully installed.
2. The toner level in the print cartridge might be low. Replace the print cartridge.
3. The media might not meet HP specifications (for example, the paper is too moist or too rough). See Print media specifications.
4. The MFP might be due for maintenance. Check this by printing a copy of the supplies status page. (See Checking the MFP configuration.) If maintenance is due, order and install the printer maintenance kit or the ADF maintenance kit. (See Performing preventive maintenance.)

Light print (entire page)

1. Make sure that the print cartridge is fully installed.
2. Make sure that the EconoMode setting is turned off at the control panel and in the printer driver.
3. Open the **CONFIGURE DEVICE** menu at the control panel. Open the **PRINT QUALITY** submenu and increase the **TONER DENSITY** setting. See Print quality submenu.
4. Try using a different type of paper.
5. The print cartridge might be almost empty. Replace the print cartridge.

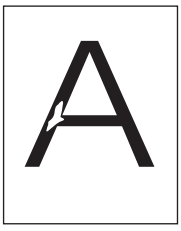
Specks



Specks might appear on a page after a jam has been cleared.

1. Print a few more pages to see if the problem corrects itself.
2. Clean the inside of the MFP and run a cleaning page to clean the fuser. (See Cleaning the MFP.)
3. Try using a different type of paper.
4. Check the print cartridge for leaks. If the print cartridge is leaking, replace it.

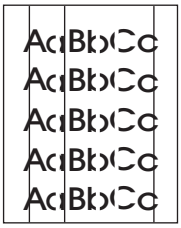
Dropouts



1. Make sure that the environmental specifications for the MFP are being met. (See Environmental specifications.)
2. Make sure that type and quality of the paper you are using meet HP specifications. (See Print media specifications.)

3. If the paper is rough, and the toner easily rubs off, open the **CONFIGURE DEVICE** menu at the control panel. Open the **PRINT QUALITY** submenu, select **FUSER MODES**, and then select the paper type you are using. Change the setting to HIGH 1 or HIGH 2, which helps the toner fuse more completely onto the paper. (See Print quality submenu.)
4. Try using a smoother paper.

Lines

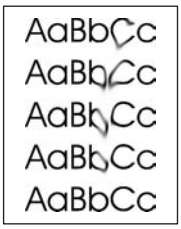


1. Print a few more pages to see if the problem corrects itself.
2. Clean the inside of the MFP and run a cleaning page to clean the fuser. (See Cleaning the MFP.)
3. Replace the print cartridge.
4. The MFP might be due for maintenance. Check this by printing a copy of the supplies status page. (See Checking the MFP configuration.) If maintenance is due, order and install the printer maintenance kit or the ADF maintenance kit. (See Performing preventive maintenance.)

Gray background

1. Do not use paper that has already been run through the MFP.
2. Try using a different type of paper.
3. If you are copying, try using the **BACKGROUND REMOVAL** feature. See Enhancement submenu.
4. Print a few more pages to see if the problem corrects itself.
5. Turn over the stack of paper in the tray. Also, try rotating the paper 180°.
6. Open the **CONFIGURE DEVICE** menu at the printer control panel. On the **PRINT QUALITY** submenu, increase the **TONER DENSITY** setting. See Print quality submenu.
7. Make sure that the environmental specifications for the printer are being met. (See Environmental specifications.)
8. Replace the print cartridge.

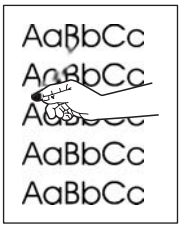
Toner smear



1. Print a few more pages to see if the problem corrects itself.
2. Try using a different type of paper.
3. Make sure that the environmental specifications for the MFP are being met. (See Environmental specifications.)
4. Clean the inside of the MFP and run a cleaning page to clean the fuser. (See Cleaning the MFP.)
5. The MFP might be due for maintenance. Check this by printing a copy of the supplies status page. (See Checking the MFP configuration.) If maintenance is due, order and install the printer maintenance kit or the ADF maintenance kit. (See Performing preventive maintenance.)
6. Replace the print cartridge.

Also see Loose toner.

Loose toner

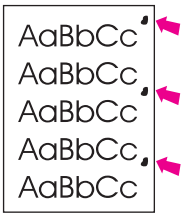


Loose toner, in this context, is defined as toner that can be rubbed off the page.

1. If paper is heavy or rough, open the **CONFIGURE DEVICE** menu at the control panel. On the **PRINT QUALITY** submenu, select **FUSER MODES**, and then select the paper type you are using. Change the setting to **HIGH1** or **HIGH2**, which helps the toner fuse more completely onto the paper. (See Print quality submenu.) You must also set the type of paper for the tray you are using. (See Printing by type and size of media (locking trays).)
2. If you have observed a rougher texture on one side of your paper, try printing on the smoother side.
3. Try using a different type of paper.
4. Make sure that the environmental specifications for the printer are being met. (See Environmental specifications.)
5. Make sure that type and quality of the paper you are using meet HP specifications. (See Print media specifications.)

6. The MFP might be due for maintenance. Check this by printing a copy of the supplies status page. (See Checking the MFP configuration.) If maintenance is due, order and install the printer maintenance kit or the ADF maintenance kit. (See Performing preventive maintenance.)

Repeating defects



1. Print a few more pages to see if the problem corrects itself.
2. If the distance between defects is 38 mm (1.5 inches), 55 mm (2.2 inches), or 94 mm (3.7 inches), the print cartridge might need to be replaced. See Repetitive defect ruler.
3. If the distance between defects is 47 mm (1.9 inches) or 94 mm (3.7 inches) one of the components in the maintenance kit might need to be replaced. See Printer preventive maintenance.
4. Clean the inside of the MFP and run a cleaning page to clean the fuser. (See Cleaning the MFP.)
5. The MFP might be due for maintenance. Check this by printing a copy of the supplies status page. (See Checking the MFP configuration.) If maintenance is due, order and install the printer maintenance kit or the ADF maintenance kit. (See Performing preventive maintenance.)

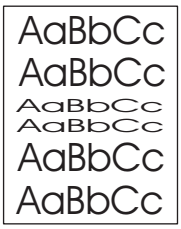
Also see Repeating image.

Repeating image

This type of defect might occur when using preprinted forms or a large quantity of narrow paper.

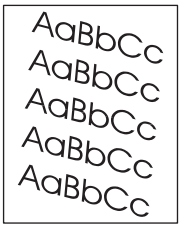
1. Print a few more pages to see if the problem corrects itself.
2. Make sure that type and quality of the paper that you are using meet HP specifications. (See Print media specifications.)
3. The MFP might be due for maintenance. Check this by printing a copy of the supplies status page. (See Checking the MFP configuration.) If maintenance is due, order and install the printer maintenance kit or the ADF maintenance kit. (See Performing preventive maintenance.)
4. If the distance between defects is 38 mm (1.5 inches), 55 mm (2.2 inches), or 94 mm (3.7 inches), the print cartridge might need to be replaced.

Misformed characters



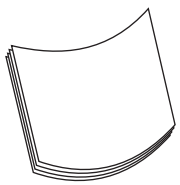
1. Print a few more pages to see if the problem corrects itself.
2. Make sure that the environmental specifications for the printer are being met. (See Environmental specifications.)
3. The MFP might be due for maintenance. Check this by printing a copy of the supplies status page. (See Checking the MFP configuration.) If maintenance is due, order and install the printer maintenance kit or the ADF maintenance kit. (See Performing preventive maintenance.)

Page skew



1. Print a few more pages to see if the problem corrects itself.
2. Verify that no torn pieces of paper are inside the MFP.
3. Make sure that paper is loaded correctly and that all adjustments have been made. (See Loading input trays.) Make sure that the guides in the tray are not too tight or too loose against the paper.
4. Turn over the stack of paper in the tray. Also, try rotating the paper 180°.
5. Make sure that the type and quality of the paper that you are using meet HP specifications. (See Print media specifications.)
6. Make sure that the environmental specifications for the MFP are being met. (See Environmental specifications.)

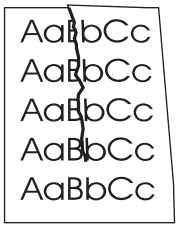
Curl or wave



1. Turn over the stack of paper in the tray. Also, try rotating the paper 180°.

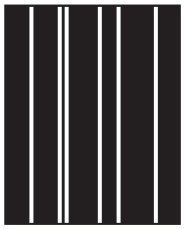
2. Make sure that the type and quality of the paper that you are using meet HP specifications. (See Print media specifications.)
3. Make sure that the environmental specifications for the MFP are being met. (See Environmental specifications.)
4. If paper is lightweight and smooth, open the **CONFIGURE DEVICE** menu at the control panel. On the **PRINT QUALITY** submenu, select **FUSER MODES**, and then select the paper type you are using. Change the setting to **LOW 1**, which helps reduce the heat in the fusing process. (See Print quality submenu.) You must also set the type of paper for the tray you are using. (See Printing by type and size of media (locking trays).)

Wrinkles or creases



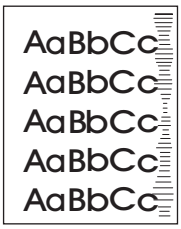
1. Print a few more pages to see if the problem corrects itself.
2. Make sure that the environmental specifications for the MFP are being met. (See Environmental specifications.)
3. Turn over the stack of paper in the tray. Also, try rotating the paper 180°.
4. Make sure that paper is loaded correctly and all adjustments have been made. (See Loading input trays.)
5. Make sure that the type and quality of the paper that you are using meet HP specifications. (See Print media specifications.)
6. If envelopes are creasing, try storing envelopes so that they lie flat.

Vertical white lines



1. Print a few more pages to see if the problem corrects itself.
2. Make sure that the type and quality of the paper that you are using meet HP specifications. (See Print media specifications.)
3. Replace the print cartridge.

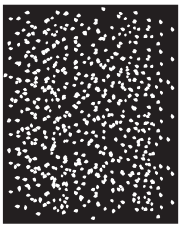
Tire tracks



This defect typically occurs when the print cartridge has far exceeded its rated life of 18,000 pages. For example, if you are printing a very large quantity of pages with very little toner coverage, toner might still remain in the print cartridge but you have printed more than 18,000 pages.

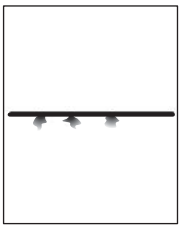
1. Replace the print cartridge.
2. Reduce the number of pages that you print with very low toner coverage.

White spots on black



1. Print a few more pages to see if the problem corrects itself.
2. Make sure that the type and quality of the paper that you are using meet HP specifications. (See Print media specifications.)
3. Make sure that the environmental specifications for the MFP are being met. (See Environmental specifications.)
4. Replace the print cartridge.

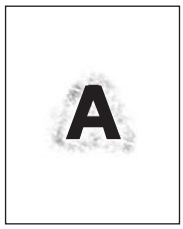
Scattered lines



1. Make sure that the type and quality of the paper you are using meet HP specifications. (See Print media specifications.)
2. Make sure that the environmental specifications for the MFP are being met. (See Environmental specifications.)
3. Turn over the stack of paper in the tray. Also, try rotating the paper 180°.

4. Open the **CONFIGURE DEVICE** menu at the control panel. Open the **PRINT QUALITY** submenu and change the **TONER DENSITY** setting. (See Print quality submenu.)
5. Open the **CONFIGURE DEVICE** menu at the control panel. On the **PRINT QUALITY** submenu, open **OPTIMIZE** and set **LINE DETAIL=ON**.

Blurred print



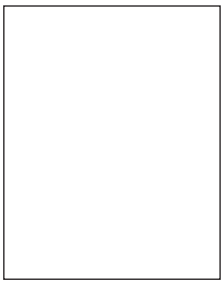
1. Make sure that the type and quality of the paper that you are using meet HP specifications. (See Print media specifications.)
2. Make sure that the environmental specifications for the MFP are being met. (See Environmental specifications.)
3. Turn over the stack of paper in the tray. Also, try rotating the paper 180°.
4. Do not use paper that already has been run through the MFP.
5. Decrease the toner density. Open the **CONFIGURE DEVICE** menu at the control panel. Open the **PRINT QUALITY** submenu and change the **TONER DENSITY** setting. (See Print quality submenu.)
6. Open the **CONFIGURE DEVICE** menu at the control panel. On the **PRINT QUALITY** submenu, open **OPTIMIZE** and set **HIGH TRANSFER=ON**. (See Print quality submenu.)

Random image repetition

If an image that appears at the top of the page (in solid black) repeats farther down the page (in a gray field), the toner might not have been completely erased from the last job. (The repeated image might be lighter or darker than the field it appears in.)

- Change the tone (darkness) of the field that the repeated image appears in.
- Change the order in which the images are printed. For example, have the lighter image at the top of the page, and the darker image farther down the page.
- From your software program, rotate the whole page 180° to print the lighter image first.
- If the defect occurs later in a print job, turn the MFP power off for 10 minutes, and then turn the MFP power on to restart the print job.

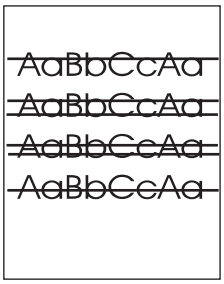
Blank page (ADF)



If the page is completely blank, the original page might have been placed face-down in the ADF, the ADF was unable to detect the original page in the ADF, or the original page fed through the ADF with another page.

1. Remove and then reinsert the original page into the ADF, making sure it is placed face-up.
2. If several pages are feeding at the same time, check the ADF separation pad and rollers for damage. If the rollers are dirty, clean them. See Cleaning the ADF delivery system. If the ADF separation pad or rollers are worn, replace them. See The ADF maintenance kit.

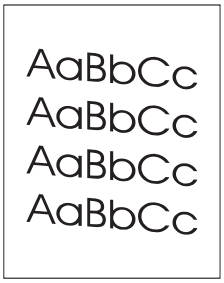
Horizontal lines (ADF)



Horizontal lines on copied documents indicate that components of the ADF need to be cleaned or that the scanner needs to be calibrated.

1. Clean the ADF. See Cleaning the ADF delivery system.
2. If the mylar strip is dirty or worn, replace it. Replacement mylar strips are stored in an envelope that is underneath the white, vinly ADF backing. Follow the instructions that are in the envelope.
3. If the problem persists, calibrate the scanner. See Calibrating the scanner.

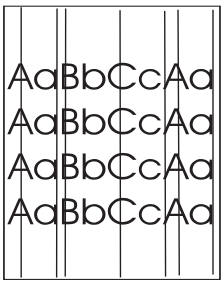
Page skew (ADF)



A skewed image can indicate that the clear mylar strip in the ADF is dirty, the ADF needs to be calibrated, or the ADF input tray guides are not correctly adjusted.

1. Make sure the ADF input tray guides are adjusted so that they are lightly touching the sides of the paper stack.
2. If the mylar strip is dirty or worn, replace it. Replacement mylar strips are stored in an envelope that is underneath the white, vinly ADF backing. Follow the instructions that are in the envelope.
3. If the problem persists, calibrate the scanner. See Calibrating the scanner.

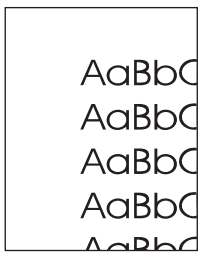
Vertical lines (ADF)



Vertical lines can indicate that the components in the ADF are dirty or the ADF needs to be calibrated.

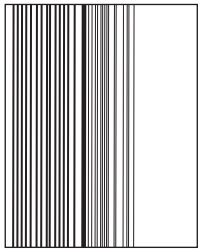
1. Clean the ADF. See Cleaning the ADF delivery system.
2. If the mylar strip is dirty or worn, replace it. Replacement mylar strips are stored in an envelope that is underneath the white, vinly ADF backing. Follow the instructions that are in the envelope.
3. If the problem persists, calibrate the scanner. See Calibrating the scanner.

Image shifted (ADF)



An image that is shifted on the page horizontally, vertically, or both ways indicates that the scanner is incorrectly calibrated. See Calibrating the scanner.

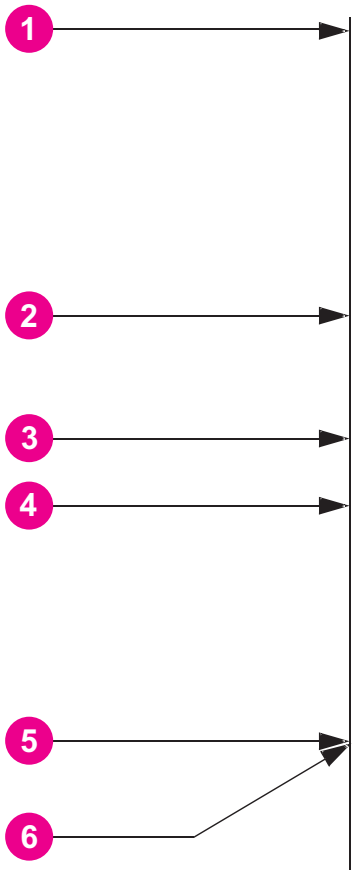
Unexpected image (ADF)



If the copy does not look at all like the original document, make sure that no media is on the flatbed glass from a previous copy job.

Repetitive defect ruler

If defects repeat at regular intervals on the page, use this ruler to identify the cause of the defect. Place the top of the ruler at the first defect. The marking that is beside the next occurrence of the defect indicates which component needs to be replaced.



1 First occurrence of the defect
2 Print cartridge (37.7 mm [1.5 inches])
3 Transfer roller (part of the maintenance kit) (47 mm [1.9 inches
4 Print cartridge (54.0 mm [2.13 inches])
5 Print cartridge (62.8 mm [2.5 inches])
6 Fuser (part of the maintenance kit) (94.0 mm [3.75 inches])
7 Print cartridge (94.2 mm [3.75 inches])

To identify if the print cartridge is the problem, insert a print cartridge from another HP LaserJet 4345mfp, if one is available, before ordering a new print cartridge.

If the defect repeats at 94.0 mm (3.75 inch) intervals, try replacing the print cartridge before replacing the fuser.

Solving e-mail problems

If you are unable to send e-mails by using the digital-send feature, you might need to reconfigure the SMTP gateway address or the LDAP gateway address. Print a configuration page to find the current SMTP and LDAP gateway addresses. See Configuration page. Use the following procedures to check if the SMTP and LDAP gateway addresses are valid.

To validate the SMTP gateway address

Note This procedure is for Windows operating systems.

1. Open an MS-DOS command prompt: click **Start**, click **Run**, and then type `cmd`.
2. Type `telnet` followed by the SMTP gateway address and then the number 25, which is the port over which the MFP is communicating. For example, type `telnet 123.123.123.123 25` where "123.123.123.123" represents the SMTP gateway address.
3. Press Enter. If the SMTP gateway address is *not* valid, the response contains the message `Could not open connection to the host on port 25: Connect Failed.`
4. If the SMTP gateway address is not valid, contact the network administrator.

To validate the LDAP gateway address

Note This procedure is for Windows operating systems.

1. Open Windows Explorer. In the address bar, type `LDAP://` immediately followed by the LDAP gateway address. For example, type `LDAP://12.12.12.12` where "12.12.12.12" represents the LDAP gateway address.
2. Press Enter. If the LDAP gateway address is valid, the **Find People** dialog box opens.
3. If the LDAP gateway address is not valid, contact the network administrator.

Solving network connectivity problems

If the MFP is having problems communicationg with the network, use the information in this section to resolve the problem.

Troubleshooting network printing problems

Note HP recommends that you use the MFP CD-ROM to install and set up the MFP on a network.

- Make sure that the network cable is securely seated into the MFP's RJ45 connector.
- Make sure that the Link LED on the formatter is lit. See Understanding lights on the formatter.
- Make sure that the I/O card is ready. Print a configuration page (see Checking the MFP configuration). If an HP Jetdirect print server is installed, printing a configuration page also prints a second page that shows the network settings and status.

Note The HP Jetdirect embedded print server supports various network protocols (TCP/IP, IPX/SPX, Novell/Netware, AppleTalk, and DCL/LLC). Make sure that the correct protocol is enabled for your network.

On the HP Jetdirect configuration page, verify the following items for your protocol:

  - Under HP Jetdirect Configuration, the status is "I/O Card Ready".
  - The status is "Ready".
  - An IP address is listed.
  - The configuration method (Config by:) is listed correctly. See the network administrator if you are not sure which method is correct.

- Try printing the job from another computer.
- To verify that a MFP works with a computer, use a parallel cable to connect it directly to a computer. You will have to reinstall the printing software. Print a document from a program that has printed correctly in the past. If this works, a problem with the network might exist.
- Contact your network administrator for assistance.

Verifying communication over the network

If the HP Jetdirect configuration page shows an IP address for the MFP, use this procedure to verify that the MFP is communicating with other devices on the network.

To verify communication over the network

1. Open a command prompt:
   a. **Windows**: Click **Start**, click **Run**, and then type `cmd`. An MS-DOS command prompt opens.

b. Mac: Click **Applications**, click **Utilities**, and then open the Terminal application. The terminal window opens.

2. Type `ping` followed by the IP address. For example, type `ping XXX.XXX.XXX.XXX` where "XXX.XXX.XXX.XXX" is the IP address that is shown on the HP Jetdirect configuration page. If the MFP is communicating over the network, the response is a list of replies from the MFP.
3. Verify that the IP address is not a duplicate address on the network by using the address resolution protocol (arp -a) command. At the prompt, type `arp -a`. Find the IP address in the list and compare its physical address to the hardware address that is listed on the HP Jetdirect configuration page in the section called HP Jetdirect Configuration. If the addresses match, all network communications are valid.
4. If you cannot verify that the MFP is communicating over the network, contact the network administrator.

A Supplies and accessories

This section provides information about ordering parts, supplies, and accessories. Use only parts and accessories that are specifically designed for this printer.

- Ordering parts, accessories, and supplies
- Part numbers

Ordering parts, accessories, and supplies

Several methods are available for ordering parts, supplies, and accessories:

- Ordering directly from HP
- Ordering through service or support providers
- Ordering directly through the embedded Web server (for printers that are connected to a network)
- Ordering directly through the HP Toolbox software (for printers that are directly connected to a computer)

Ordering directly from HP

You can obtain the following directly from HP:

- **Replacement parts** To order replacement parts in the U.S. see http://www.hp.com/go/hpparts/. Outside the United States, order parts by contacting your local authorized HP service center.
- **Supplies and accessories** To order supplies in the U.S., see http://www.hp.com/go/ljsupplies. To order supplies worldwide, see http://www.hp.com/ghp/buyonline.html. To order accessories, see http://www.hp.com/support/lj4345mfp.

Ordering through service or support providers

To order a part or accessory, contact an HP-authorized service or support provider. (See HP customer care.)

Ordering directly through the embedded Web server (for printers that are connected to a network)

Use the following steps to order printing supplies directly through the embedded Web server. (See Using the embedded Web server for an explanation of this feature.)

To order directly through the embedded Web server

1. In the Web browser on the computer, type the IP address for the MFP. The MFP status window appears.
2. In the **Other links** area, double-click **Order Supplies**. This provides a URL from which to purchase consumables. Supplies information with part numbers and printer information is provided.
3. Select the part numbers that you want to order and follow the instructions on the screen.

Ordering directly through the HP Toolbox software (for printers that are directly connected to a computer)

The HP Toolbox software gives you the ability to order supplies and accessories directly from the computer. To order supplies by using the HP Toolbox, click **Toolbox Links**, and then click **Order Supplies**. A link is provided to the HP Web site for ordering supplies.

Part numbers

The following list of accessories was current at the time of printing. Ordering information and availability of the accessories might change during the life of the printer.

Accessories

Item	Description	Part number
Optional 500-sheet tray and feeder unit	Optional tray to increase paper capacity. Holds Letter, A4, Legal, A5, B5 (JIS), Executive, and 8.5 x 13 inch paper sizes. The printer can accommodate up to three optional 500-sheet feeders.	Q5968A
Envelope feeder	Holds up to 75 envelopes.	Q2438B
Duplexer (duplex printing accessory)	Allows automatic printing on both sides of the paper.	Q5969A
3-bin mailbox	Provides three output bins that hold a total of 700 sheets.	Q5692A
500-sheet stapler/stacker	Allows for high-volume output with automatic job finishing. Staples up to 30 sheets of paper.	Q5691A
5,000-staple cartridge	Provides one staple cartridge.	C8091A
Storage cabinet	Raises the height of the MFP and provides room to store paper.	Q5970A
HP LaserJet analog fax accessory 300	Provides fax capability for the mfp. This is included with the HP LaserJet 4345x mfp, 4345xs mfp, and 4345xm mfp models.	Q3701A

Print cartridges

Item	Description	Part number
HP LaserJet print cartridge	18,000-page cartridge	Q5945A

Maintenance kits

Item	Description	Part number
Printer maintenance kit. Includes a replacement fuser, a transfer roller, a transfer-roller tool, a pickup roller, eight feed rollers, and one pair of disposable gloves. Includes instructions for installing each component. The printer maintenance kit is a consumable item, and its cost is not covered under the warranty or most extended warranty options.	110-volt printer maintenance kit	Q5998A
	220-volt printer maintenance kit	Q5999A
ADF maintenance kit Includes a roller assembly, a separation pad, and mylar shields. The ADF maintenance kit is a consumable item, and its cost is not covered under the warranty or most extended warranty options.	Contains maintenance parts for the ADF	Q5997A

Memory

Item	Description	Part number
100-pin DDR memory DIMM (dual inline memory module) Boosts the ability of the printer to handle large or complex print jobs.	64 MB	Q2625A
	128 MB	Q2626A
	256 MB	Q2627A
Hard disk	Greater than 20-GB permananent storage for fonts and forms. Also used for making multiple original prints and for job-storage features.	J6054B

Cables and interfaces

Item	Description	Part number
Enhanced I/O (EIO) cards HP Jetdirect print server multi-protocol EIO network cards	HP Jetdirect 620n Fast Ethernet (10/100Base-TX) print server	J7934A
	HP Jetdirect Connectivity card for USB, serial, and LocalTalk connections	J4135A
Parallel cables	2-meter IEEE 1284-B cable	C2950A
	3-meter IEEE 1284-B cable	C2951A

Print media

For more information about media supplies, go to http://www.hp.com/go/ljsupplies.

Item	Description	Part number
HP LaserJet paper For use with HP LaserJet printers. Good for letterhead, high-value memos, legal documents, direct mail, and correspondence. Specifications: 96 bright, 24 lb (90 g/m^2).	Letter (8.5 x 11 inch), 500 sheets/ream, 10-ream carton	HPJ1124/North America
	Legal (8.5 x 14 inch), 500 sheets/ream, 10-ream carton	HPJ1424/North America
	A Letter (220 x 280 mm), 500 sheets/ream, 5-ream carton	Q2398A/Asia-Pacific countries/ regions
	A4 (210 x 297 mm), 500 sheets/ ream, 5-ream carton	Q2400A/Asia-Pacific countries/ regions
	A4 (210 x 297 mm), 500 sheets/ ream	CHP310/Europe
HP Printing paper For use with HP LaserJet and inkjet printers. Created especially for small and home offices. Heavier and brighter than copier paper. Specifications: 92 bright, 22 lb.	Letter (8.5 x 11 inch), 500 sheets/ream, 10-ream carton	HPP1122/North America and Mexico
	Letter (8.5 x 11 inch), 500 sheets/ream, 3-ream carton	HPP113R/North America
	A4 (210 x 297 mm), 500 sheets/ ream, 5-ream carton	CHP210/Europe
	A4 (210 x 297 mm), 300 sheets/ ream, 5-ream carton	CHP213/Europe

Item	Description	Part number
HP Multipurpose paper For use with all office equipment-laser and inkjet printers, copiers, and fax machines. Created for businesses that want one paper for all their office needs. Brighter and smoother than other office papers. Specifications: 90 bright, 20 lb (75 g/m^2).	Letter (8.5 x 11 inch), 500 sheets/ream, 10-ream carton Letter (8.5 x 11 inch), 500 sheets/ream, 5-ream carton Letter (8.5 x 11 inch), 250 sheets/ream, 12-ream carton Letter (8.5 x 11 inch), 3-hole, 500 sheets/ream, 10-ream carton Legal (8.5 x 14 inch), 500 sheets/ream, 10-ream carton	HPM1120/North America HPM115R/North America HP25011/North America HPM113H/North America HPM1420/North America
HP Office paper For use with all office equipment-laser and inkjet printers, copiers, and fax machines. Good for high-volume printing. Specifications: 84 bright, 20 lb (75 g/m^2).	Letter (8.5 x 11 inch), 500 sheets/ream, 10-ream carton	HPC8511/North America and Mexico
	Letter (8.5 x 11 inch), 3-hole, 500 sheets/ream, 10-ream carton	HPC3HP/North America
	Legal (8.5 x 14 inch), 500 sheets/ream, 10-ream carton	HPC8514/North America
	Letter (8.5 x 11 inch), Quick Pack; 2,500-sheet carton	HP2500S/North America and Mexico
	Letter (8.5 x 11 inch), Quick Pack 3-hole; 2,500-sheet carton	HP2500P/North America
	A Letter (220 x 280 mm), 500 sheets/ream, 5-ream carton	Q2408A/Asia-Pacific countries/ regions
	A4 (210 x 297 mm), 500 sheets/ ream, 5-ream carton	Q2407A/Asia-Pacific countries/ regions
	A4 (210 x 297 mm), 500 sheets/ ream, 5-ream carton	CHP110/Europe
	A4 (210 x 297 mm), Quick Pack; 2500 sheets/ream, 5-ream carton	CHP113/Europe

Item	Description	Part number
HP Office recycled paper For use with all office equipment-laser and inkjet printers, copiers, and fax machines. Good for high-volume printing. Satisfies U.S. Executive Order 13101 for environmentally preferable products. Specifications: 84 bright, 20 lb, 30% post-consumer content.	Letter (8.5 x 11 inch), 500 sheets/ream, 10-ream carton	HPE1120/North America
	Letter (8.5 x 11 inch), 3-hole, 500 sheets/ream, 10-ream carton	HPE113H/North America
	Legal (8.5 x 14 inch), 500 sheets/ream, 10-ream carton	HPE1420/North America
HP LaserJet transparencies For use only with HP LaserJet monochrome printers. For crisp, sharp text and graphics, rely on the only transparencies specifically designed and tested to work with monochrome HP LaserJet printers. Specifications: 4.3-mil thickness.	Letter (8.5 x 11 inch), 50 sheets to a carton	92296T/North America, Asia-Pacific countries/regions, and Europe
	A4 (210 x 297 mm), 50 sheets to a carton	922296U/Asia-Pacific countries/regions and Europe

B Service and support

Hewlett-Packard limited warranty statement

HP PRODUCT	DURATION OF LIMITED WARRANTY
HP LaserJet 4345mfp, HP LaserJet 4345x mfp, HP LaserJet 4345xs mfp, HP LaserJet 4345xm mfp	1 year, On-site

HP warrants HP hardware, accessories, and supplies against defects in materials and workmanship for the period specified above. If HP receives notice of such defects during the warranty period, HP will, at its option, either repair or replace products which prove to be defective. Replacement products may be either new or like-new.

HP warrants that HP software will not fail to execute its programming instructions, for the period specified above, due to defects in material and workmanship when properly installed and used. If HP receives notice of such defects during the warranty period, HP will replace software media which does not execute its programming instructions due to such defects.

HP does not warrant that the operation of HP products will be uninterrupted or error free. If HP is unable, within a reasonable time, to repair or replace any product to a condition as warranted, customer will be entitled to a refund of the purchase price upon prompt return of the product.

HP products may contain remanufactured parts equivalent to new in performance or may have been subject to incidental use.

Warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts or supplies not supplied by HP, (c) unauthorized modification or misuse, (d) operation outside of the published environmental specifications for the product, or (e) improper site preparation or maintenance.

TO THE EXTENT ALLOWED BY LOCAL LAW, THE ABOVE WARRANTIES ARE EXCLUSIVE AND NO OTHER WARRANTY, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED AND HP SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT ALLOWED BY LOCAL LAW, THE REMEDIES IN THIS WARRANTY STATEMENT ARE THE CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES. EXCEPT AS INDICATED ABOVE, IN NO EVENT WILL HP OR ITS SUPPLIERS BE LIABLE FOR LOSS OF DATA OR FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE.

FOR CONSUMER TRANSACTIONS IN AUSTRALIA AND NEW ZEALAND; THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

The warranty period begins on the date of the delivery or on the date of installation if installed by HP. If customer schedules or delays HP installation more than 30 days after delivery, warranty begins on the 31st day from delivery.

Print Cartridge Limited Warranty Statement

This HP Print Cartridge is warranted to be free from defects in materials and workmanship.

This warranty does not apply to print cartridges that (a) have been refilled, refurbished, remanufactured or tampered with in any way, (b) experience problems resulting from misuse, improper storage, or operation outside of the published environmental specifications for the printer product or (c) exhibit wear from ordinary use.

To obtain warranty service, please return the product to place of purchase (with a written description of the problem and print samples) or contact HP customer support. At HP's option, HP will either replace products that prove to be defective or refund your purchase price.

TO THE EXTENT ALLOWED BY LOCAL LAW, THE ABOVE WARRANTY IS EXCLUSIVE AND NO OTHER WARRANTY OR CONDITION, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED AND HP SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE.

TO THE EXTENT ALLOWED BY LOCAL LAW, IN NO EVENT WILL HP OR ITS SUPPLIERS BE LIABLE FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE.

THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

Availability of support and service

Around the world, HP provides a variety of service and support options for purchase. Availability of these programs will vary depending upon your location.

HP maintenance agreements

HP has several types of maintenance agreements that meet a wide range of support needs. Maintenance agreements are not part of the standard warranty. Support services vary by location. Contact HP Customer Care or to to http://www.hp.com/services/carpack to determine the services that are available to you and for more information about maintenance agreements. In general, the MFP will have the following maintenance agreements:

Priority Onsite Service

This agreement provides 4-hour service response to your site for calls made during normal HP business hours.

Next business day

This agreement provides next-business-day service, Monday through Friday. This service agreement comes standard with the MFP for a period of one year. You can purchase an extension of this agreement.

Installation and maintenance-kit replacement

An HP-authorized service or support provider will come to your site to install the MFP or to replace the maintenance kits.

Repacking the MFP

If HP Customer Care determines that your MFP needs to be returned to HP for repair, follow the steps below to repack the MFP before shipping it.

CAUTION Shipping damage as a result of inadequate packing is the customer's responsibility.

To repack the MFP

1. Remove and retain any DIMMs or flash memory cards that you have purchased and installed in the printer. Do not remove the DIMM that came with the MFP. Also remove the HP LaserJet analog fax accessory 300 and any EIO cards that are installed.

CAUTION Static electricity can damage DIMMs. When handling DIMMs, either wear an antistatic wrist strap, or frequently touch the surface of the DIMM antistatic package and then touch bare metal on the printer. To remove the DIMMs, see Installing memory.

2. Remove and retain the print cartridge.

CAUTION It is *extremely important* to remove the print cartridge before shipping the MFP. A print cartridge that is left in the MFP during shipping will leak and entirely cover the MFP with toner.

To prevent damage to the print cartridge, avoid touching the roller on it, and store the print cartridge in its original packing material or so that it is not exposed to light.

3. Lock the scanner lock.
4. Remove and retain the power cable, interface cable, and optional accessories.
5. If possible, include print samples and 50 to 100 sheets of paper or other print media that did not print correctly.
6. Include a completed copy of the Service information form.
7. In the U.S., call HP Customer Care to request new packing material. In other areas, use the original packing material, if possible. Hewlett-Packard recommends insuring the equipment for shipment.

Service information form

WHO IS RETURNING THE EQUIPMENT?		Date:
Person to contact:		Phone:
Alternate contact:		Phone:
Return shipping address:	Special shipping instructions:	
WHAT ARE YOU SENDING?		
Model name:	Model number:	Serial number:
Please attach any relevant printouts. Do NOT ship accessories (manuals, cleaning supplies, etc.) that are not required to complete the repair.		
HAVE YOU REMOVED THE PRINT CARTRIDGE?		
You must remove the print cartridge before shipping the MFP, unless a mechanical problem prevents you from doing so.		
□ Yes.	□ No, I cannot remove it.	
WHAT NEEDS TO BE DONE? (Attach a separate sheet if necessary.)		
1. Describe the conditions of the failure. (What was the failure? What were you doing when the failure occurred? What software were you running? Is the failure repeatable?)		
2. If the failure is intermittent, how much time elapses between failures?		
3. If the unit connected to any of the following, give the manufacturer and model number.		
Personal computer:	Modem:	Network:
4. Additional comments:		
HOW WILL YOU PAY FOR THE REPAIR?		
□ Under warranty	Purchase/received date:	
(Attach proof of purchase or receiving document with original received date.)		
□ Maintenance contract number:		
□ Purchase order number:		
Except for contract and warranty service, a purchase order number and/or authorized signature must accompany any request for service. If standard repair prices do not apply, a minimum purchase order is required. Standard repair prices can be obtained by contacting an HP-authorized repair center.		
Authorized signature:		Phone:
Billing address:	Special billing instructions:	

C MFP specifications

This section provides the following specifications:

- Physical specifications
- Electrical specifications
- Acoustic specifications
- Environmental specifications
- Image area
- Skew specifications

Specifications for the HP LaserJet analog fax accessory 300 are available in the *HP LaserJet Analog Fax Accessory 300 User Guide*. A printed copy of this guide is provided with the HP LaserJet 4345x mfp, HP LaserJet 4345xs mfp, and HP LaserJet 4345xm mfp.

Physical specifications

Product dimensions

Product	Height	Depth	Width	Weight[1]
HP LaserJet 4345mfp	545 mm (21.5 inches)	483 mm (19.0 inches)	762 mm (30.0 inches)	44.1 kg (97.2 lb)
HP LaserJet 4345x mfp	667 mm (26.3 inches)	483 mm (19.0 inches)	762 mm (30.0 inches)	52.4 kg (115.5 lb)
HP LaserJet 4345xs mfp	111.0 cm (43.7 inches)	483 mm (19.0 inches)	914 mm (36.0 inches)	58.4 kg (128.7 lb)
HP LaserJet 4345xm mfp	111.0 cm (43.7 inches)	483 mm (19.0 inches)	914 mm (36.0 inches)	58.2 kg (128.3 lb)
Optional 500-sheet feeder	122 mm (4.8 inches)	483 mm (19.0 inches)	559 mm (22.0 inches)	8.3 kg (18.3 lb)
Optional cabinet	440 mm (17.3 inches)	762 mm (30.0 inches)	825.5 mm (32.5 inches)	41.8 kg (92.2 lb)
Optional stapler/stacker				6.0 kg (13.2 lb)
Optional 3-bin mailbox				5.8 kg (12.8 lb)
Optional Envelope feeder				2.5 kg (5.5 lb)
Optional duplexer				2.5 kg (5.5 lb)

[1]Without print cartridge

Product dimensions, with all doors and trays fully opened

Product	Height	Depth	Width
HP LaserJet 4345mfp	889 mm (35.0 inches)	876 mm (34.5 inches)	142.2 cm (56.0 inches)
HP LaserJet 4345x mfp	101 cm (39.8 inches)	876 mm (34.5 inches)	142.2 cm (56.0 inches)
HP LaserJet 4345xs mfp	145 cm (57.0 inches)	117 cm (46.0 inches)	157.5 cm (62.0 inches)
HP LaserJet 4345xm mfp	145 cm (57.0 inches)	117 cm (46.0 inches)	157.5 cm (62.0 inches)

Electrical specifications

WARNING! Power requirements are based on the country/region where the printer is sold. Do not convert operating voltages. This can damage the printer and void the product warranty.

Power requirements (HP LaserJet 4345mfp Series)

Specification	110-volt models	230-volt models
Power requirements	110 to 127 volts (± 10%) 50/60 Hz (± 2 Hz)	220 to 240 volts (± 10%) 50/60 Hz (± 2 Hz)
Rated current	10.0 Amps	4.5 Amps

Power consumption HP LaserJet 4345mfp Series (average, in watts)[1]

Product model	Copying	Printing[2]	Ready	Sleep	Off
HP LaserJet 4345mfp	800 W	790 W[3]	44 W	15 W	0.25 W
HP LaserJet 4345x mfp	800 W	790 W[3]	49 W	15 W	0.25 W
HP LaserJet 4345xs mfp	800 W	790 W[3]	49 W	15 W	0.25 W
HP LaserJet 4345xm mfp	800 W	790 W[3]	49 W	15 W	0.25 W

[1]Values subject to change. See http://www.hp.com/support/lj4345mfp for current infromation.
[2]Power numbers are the highest values measured using all standard voltages.
[3]HP LaserJet 4345mfp Series printing and copying speeds are 45 ppm Letter size and 43 ppm A4 size.
[4]Default time from Ready mode to Sleep = 60 minutes.
[5]Recovery time from Sleep to start of printing = less than 10 seconds.
[6]Heat dissipation in Ready mode = 167 BTU/hour.

Acoustic specifications

Sound power and pressure level[1] (HP LaserJet 4345mfp Series)

Sound power level	**Declared per ISO 9296**
Printing[2]	L_{WAd}= 7.0 Bels (A) [70 dB(A)]
Copying	L_{WAd}= 7.2 Bels (A) [72 dB(A)]
Ready	L_{pAm}=33 dB (A)
Sound pressure level	**Declared per ISO 9296**
Printing[2]	L_{pAm}=55 dB (A)
Copying	L_{pAm}=56 dB (A)
Ready	L_{pAm}=33 dB (A)

[1]Values subject to change. See http://www.hp.com/support/lj4345mfp for current information.
[2]HP LaserJet 4345mfp Series speed is 43 ppm A4 size.
[3]Configuration tested (HP LaserJet 4345mfp): Base model, simplex printing with A4 paper size.

Environmental specifications

Environmental condition	Printing	Storage/standby
Temperature (printer and print cartridge)	10° to 32.5°C (50° to 89°F)	-20° to 40°C (-4° to 104°F)
Relative humidity	10% to 80%	10% to 90%

Image area

The MFP can place printed or copied images on the page within the following margins:

- **Printing**: 4.23 mm (0.167 inches) from each edge
- **Copying** (standard): 4.23 mm (0.167 inches) from each edge
- **Copying** (edge-to-edge): 2.0 mm (0.08 inches) from each edge

To use edge-to-edge copying, touch **CONFIGURE DEVICE**, touch **SYSTEM SETUP**, touch **COPY/SEND SETTINGS**, and then touch **EDGE-TO-EDGE COPIES**.

Note Do not use edge-to-edge copying as the default setting because it can result in printing off the page. This can cause print-quality defects and can cause damage to the MFP internal components.

Note Margins vary when using digital sending. The margins depend on the type of file being sent and its dpi resolution.

Skew specifications

The MFP has the following skew specifications:

- **Print engine** (cut-sheet paper): less than 1.5 mm (0.059 inches) over a 260 mm (10.24 inch) length
- **Print engine** (envelopes): less than 3.3 mm (0.13 inches) over a 220 mm (8.66 inch) length
- **ADF and scanner glass** (cut-sheet paper): less than 0.6%

D Media specifications

Print media specifications

For complete paper specifications for all HP LaserJet printers and MFPs, see the *HP LaserJet Printer Family Print Media Guide* (available at http://www.hp.com/support/ljpaperguide).

Category	Specifications
Acid content	5.5 pH to 8.0 pH
Caliper	0.094 to 0.18 mm (3.0 to 7.0 mils)
Curl in ream	Flat within 5 mm (0.02 inch)
Cut edge conditions	Cut with sharp blades that create no visible fray.
Fusing compatibility	Must not scorch, melt, offset, or release hazardous emissions when heated to 200°C (392°F) for 0.1 second.
Grain	Long grain
Moisture content	3% to 9% by weight
Smoothness	100 to 250 Sheffield

Printing and paper storage environment

Ideally, the printing and paper storage environment should be at or near room temperature, and not too dry or too humid. Remember paper is hygroscopic; it absorbs and loses moisture rapidly.

Heat works with humidity to damage paper. Heat causes the moisture in paper to evaporate, while cold causes it to condense on the sheets. Heating systems and air conditioners remove most of the humidity from a room. As paper is opened and used, it loses moisture, causing streaks and smudging. Humid weather or water coolers can cause the humidity to increase in a room. As paper is opened and used it absorbs any excess moisture, causing light print and dropouts. Also, as paper loses and gains moisture it can distort. This can cause jams.

As a result, paper storage and handling are as important as the paper-making process itself. Paper storage environmental conditions directly affect the feed operation.

Care should be taken not to purchase more paper than can be easily used in a short time (about 3 months). Paper stored for long periods might experience heat and moisture extremes, which can cause damage. Planning is important to prevent damage to a large supply of paper.

Unopened paper in sealed reams can remain stable for several months before use. Opened packages of paper have more potential for environmental damage, especially if they are not wrapped with a moisture-proof barrier.

The paper storage environment should be properly maintained to ensure optimum MFP performance. The required condition is 20° to 24°C (68° to 75°F), with a relative humidity of 45% to 55%. The following guidelines should be helpful when evaluating the paper's storage environment:

- Paper should be stored at or near room temperature.
- The air should not be too dry or too humid (due to the hygroscopic properties of paper).
- The best way to store an opened ream of paper is to rewrap it tightly in its moisture-proof wrapping. If the printer environment is subject to extremes, unwrap only the amount of paper to be used during the day's operation to prevent unwanted moisture changes.

Envelopes

Envelope construction is critical. Envelope fold lines can vary considerably, not only between manufacturers, but also within a box from the same manufacturer. Successful printing on envelopes depends upon the quality of the envelopes. When selecting envelopes, consider the following components:

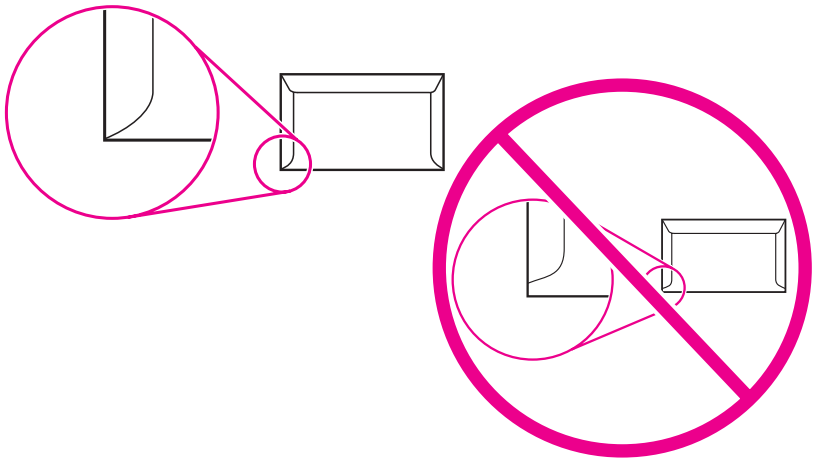
- **Weight:** The weight of the envelope paper should not exceed 105 g/m^2 (28 lb) or jamming might occur.
- **Construction:** Prior to printing, envelopes should lie flat with less than 6 mm (0.25 inch) curl, and should not contain air.
- **Condition:** Envelopes should not be wrinkled, nicked, or otherwise damaged.
- **Temperature:** You should use envelopes that are compatible with the heat and pressure of the printer.
- **Size:** You should use only envelopes within the following size ranges.
  - **Minimum**: 76 x 127 mm (3 x 5 inches)
  - **Maximum**: 216 x 356 mm (8.5 x 14 inches)

Note

Use only tray 1 or the optional envelope feeder to print envelopes.You might experience some jams when using any media with a length less than 178 mm (7 inches). This might be caused by paper that has been affected by environmental conditions. For optimum performance, make sure you are storing and handling the paper correctly (see Printing and paper storage environment). Choose envelopes in the printer driver (see Using the printer drivers).

Envelopes with double side seams

Double side-seam construction has vertical seams at both ends of the envelope rather than diagonal seams. This style might be more likely to wrinkle. Be sure the seam extends all the way to the corner of the envelope as illustrated below.



1 Acceptable envelope construction
2 Unacceptable envelope construction

Envelopes with adhesive strips or flaps

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 in the printer. The extra flaps and strips might cause wrinkling, creasing, or even jams and might even damage the fuser.

Envelope margins

The following gives typical address margins for a commercial #10 or DL envelope.

Type of address	Top margin	Left margin
Return address	15 mm (0.6 inch)	15 mm (0.6 inch)
Delivery address	51 mm (2.0 inches)	89 mm (3.5 inches)

Note

For the best print quality, position margins no closer than 15 mm (0.6 inch) from the edges of the envelope. Avoid printing over the area where the envelope's seams meet.

Envelope storage

Proper storage of envelopes helps contribute to print quality. Envelopes should be stored flat. If air is trapped in an envelope, creating an air bubble, then the envelope might wrinkle during printing.

For more information, see Printing on envelopes.

Labels

CAUTION To avoid damaging the MFP, use only labels recommended for laser printers. Never print on the same sheet of labels more than once or print on a partial sheet of labels.

Label construction

When selecting labels, consider the quality of each component:

- **Adhesives:** The adhesive material should be stable at 200°C (392°F), the printer's fusing temperature.
- **Arrangement:** Only use labels with no exposed backing between them. Labels can peel off sheets with spaces between the labels, causing serious jams.
- **Curl:** Prior to printing, labels must lie flat with no more than 13 mm (0.5 inch) of curl in any direction.
- **Condition:** Do not use labels with wrinkles, bubbles, or other indications of separation.

For more information, see Printing on labels.

Note Choose labels in the printer driver (see Using the printer drivers).

Transparencies

Transparencies used in the printer must be able to withstand 200°C (392°F), the printer's fusing temperature.

CAUTION To avoid damaging the MFP, use only transparencies recommended for use in HP LaserJet printers, such as HP-brand transparencies. (For ordering information, see Part numbers.)

For more information, see Printing on transparencies.

Note Choose transparencies in the printer driver (see Using the printer drivers).

Supported types and sizes of print media

Supported types of media

Type of media	Tray 1	Trays 2, 3, 4, and 5	Optional duplexer	Optional envelope feeder	3-bin mailbox or stacker part of stapler/ stacker	Stapler part of stapler/ stacker
Plain	X	X	X	X	X	X
Preprinted	X	X	X	X	X	X
Letterhead	X	X	X	X	X	X
Transparency	X	X			X	
Prepunched	X	X		X	X	X
Labels	X	X	X	X	X	
Bond	X	X	X	X	X	X
Recycled	X	X	X	X	X	X
Color	X	X	X	X	X	X
Rough	X	X	X	X	X	X
Envelope	X			X	X[1]	

[1]Face-up delivery only.

Tray 1 supported sizes and weights

Size	Dimensions[1]	Weight	Capacity[2]
Letter	216 x 279 mm (8.5 x 11 inches)	60 to 200 g/m^2 (16 to 53 lb)	100 sheets of 75 g/m^2 (20 lb) paper
A4	210 x 297 mm (8.3 x 11.7 inches)		
Legal	216 x 356 mm (8.5 x 14 inches)		
Executive	184 x 267 mm (7.3 x 10.5 inches)		
Statement	140 x 216 mm (5.5 x 8.5 inches)		
8.5x13	216 x 330 mm (8.5 x 13 inches)		
A5	148 x 210 mm (5.8 x 8.3 inches)		
B5 (JIS)	182 x 257 mm (7.2 x 10.1 inches)		
Executive (JIS)	216 x 330 mm (8.5 x 13 inches)		
D Postcard (JIS)	148 x 200 mm (5.8 x 7.9 inches)		
16K	197 x 273 mm (7.75 x 10.75 inches)		
Custom[3]	Minimum: 76 x 127 mm (3 x 5 inches) Maximum: 216 x 356 mm (8.5 x 14 inches)		
Envelope Commercial #10	105 x 241 mm (4.1 x 9.5 inches)	75 to 105 g/m^2 (20 to 28 lb)	10 envelopes
EnvelopeDL ISO	110 x 220 mm (4.3 x 8.7 inches)		
EnvelopeC5 ISO	162 x 229 mm (6.4 x 9.0 inches)		
EnvelopeB5 ISO	176 x 250 mm (6.9 x 9.8 inches)		
EnvelopeMonarch #7-3/4	98 x 191 mm (3.9 x 7.5 inches)		

[1]The MFP supports a wide range of sizes. Check the MFP software for supported sizes.
[2]Capacity can vary depending on paper weight and thickness, as well as environmental conditions.
[3]To print on custom-size paper, see Printing on small sizes, custom sizes, or heavy paper.

Trays 2, 3, 4, and 5 supported sizes and weights

Size	Dimensions[1]	Weight	Capacity[2]
Letter	216 x 279 mm (8.5 x 11 inches)	60 to 120 g/m^2 (16 to 32 lb)	500 sheets of 75 g/m^2 (20 lb) paper
A4	210 x 297 mm (8.3 x 11.7 inches)		
Executive	184 x 267 mm (7.3 x 10.5 inches)		
Legal	216 x 356 mm (8.5 x 14 inches)		
B5 (JIS)	182 x 257 mm (7.2 x 10.1 inches)		
A5	148 x 210 mm (5.8 x 8.3 inches)		
8.5x13	216 x 330 mm (8.5 x 13 inches)		
Executive (JIS)	216 x 330 mm (8.5 x 13 inches)		
16K	197 x 273 mm (7.75 x 10.75 inches)		
Custom[3]	Minimum: 148 x 210 mm (5.8 x 8.3 inches) Maximum: 216 x 356 mm (8.5 x 14 inches)		

[1]The MFP supports a wide range of sizes. Check the MFP software for supported sizes.
[2]Capacity can vary depending on paper weight and thickness, as well as environmental conditions.
[3]To print on custom-size paper, see Printing on small sizes, custom sizes, or heavy paper.

Optional duplexer supported sizes and weights

Size	Dimensions	Weight
Letter	216 x 279 mm (8.5 x 11 inches)	60 to 120 g/m^2 (16 to 32 lb)
A4	210 x 297 mm (8.3 x 11.7 inches)	
Executive	184 x 267 mm (7.3 x 10.5 inches)	
Legal	216 x 356 mm (8.5 x 14 inches)	
B5 (JIS)	182 x 257 mm (7.2 x 10.1 inches)	
A5	148 x 210 mm (5.8 x 8.3 inches)	
8.5x13	216 x 330 mm (8.5 x 13 inches)	
Executive (JIS)	216 x 330 mm (8.5 x 13 inches)	
16K	197 x 273 mm (7.75 x 10.75 inches)	

Optional envelope feeder supported sizes and weights

Size	Dimensions	Weight	Capacity
Monarch #7-3/4	98 x 191 mm (3.9 x 7.5 inches)	75 to 105 g/m^2 (20 to 28 lb)	75 envelopes
Commercial#10	105 x 241 mm (4.1 x 9.5 inches)		
DL ISO	110 x 220 mm (4.3 x 8.7 inches)		
C5 ISO	162 x 229 mm (6.4 x 9.0 inches)		
B5 ISO	176 x 250 mm (6.9 x 9.8 inches)		

Optional 3-bin mailbox or stacker part of the stapler/stacker supported sizes and weights

Size	Dimensions[1]	Weight	Capacity[2]
Letter	216 x 279 mm (8.5 x 11 inches)		For the stacker on the stapler/stacker or the lower bin on the 3-bin mailbox: 500 sheets of 75 g/m^2 (20 lb) paper For the top two bins on the 3-bin mailbox: each can hold 100 sheets of 75 g/m^2 (20 lb) paper.
A4	210 x 297 mm (8.3 x 11.7 inches)		
Executive	184 x 267 mm (7.3 x 10.5 inches)		
Legal	216 x 356 mm (8.5 x 14 inches)		
B5 (JIS)	182 x 257 mm (7.2 x 10.1 inches)		
A5	148 x 210 mm (5.8 x 8.3 inches)		
Statement	140 x 216 mm (5.5 x 8.5 inches)		
8.5x13	216 x 330 mm (8.5 x 13 inches)		
Executive(JIS)	216 x 330 mm (8.5 x 13 inches)		
DPostcard(JIS)	148 x 200 mm (5.8 x 7.9 inches)		
16K	197 x 273 mm (7.75 x 10.75 inches)		
Envelope #10 [4]	105 x 241 mm (4.1 x 9.5 inches)		
Envelope Monarch #7-3/4 [4]	98 x 191 mm (3.9 x 7.5 inches)		
Envelope C5 ISO [4]	162 x 229 mm (6.4 x 9.0 inches)		
Envelope DL ISO [4]	110 x 220 mm (4.3 x 8.7 inches)		
Envelope B5 ISO [4]	176 x 250 mm (6.7 x 9.8 mm)		
Custom[3]	Minimum: 76 x 127 mm (3 x 5 inches) Maximum: 216 x 356 mm (8.5 x 14 inches)		

[1]The MFP supports a wide range of sizes. Check the MFP software for supported sizes.
[2]Capacity can vary depending on paper weight and thickness, as well as environmental conditions.
[3]To print on custom-size paper, see Printing on small sizes, custom sizes, or heavy paper.
[4]Face-up delivery only.

Stapler part of the optional stapler/stacker supported sizes and weights

Size	Dimensions	Weight	Capacity
Letter	216 x 279 mm (8.5 x 11 inches)	For plain media: 60 to 120 g/m^2 (16 to 32 lb) For thick media: 128 to 199 g/m^2 (34 to 53 lb)	For plain media: 30 sheets of 75 g/m^2 (20 lb) paper For glossy media: 20 sheets For thick media: the stack height must not exceed 7 mm (0.27 inch)
A4	210 x 297 mm (8.3 x 11.7 inches)		
Legal	216 x 356 mm (8.5 x 14 inches)		
8.5x13	216 x 330 mm (8.5 x 13 inches)		
Executive(JIS)	216 x 330 mm (8.5 x 13 inches)		

ADF supported sizes and weights

Size	Dimensions	Weight	Capacity
Letter	216 x 279 mm (8.5 x 11 inches)	60 to 120 g/m^2 (16 to 32 lb)	50 sheets of 75 g/m^2 (20 lb) paper
A4	210 x 297 mm (8.3 x 11.7 inches)		
A5	148 x 210 mm (5.8 x 8.3 inches)		
Legal	216 x 356 mm (8.5 x 14 inches)		

E MFP memory and expansion

This section explains the memory features of the printer and provides steps for expansion.

- Memory overview
- Determining memory requirements
- Installing memory
- Checking memory installation
- Saving resources (permanent resources)
- Installing EIO cards

Memory overview

The MFP has two double data rate (DDR) DIMM slots to provide more MFP memory. DDR DIMMs are available in 64, 128, and 256 MB, and can be combined in the MFP for a maximum of 512 MB.

The MFP has two flash memory slots to provide the following features:

- Flash memory cards, available in 16, 32, and 64 MB. Unlike standard MFP memory, flash memory cards can be used to permanently store downloaded items in the MFP, even when the MFP is off. The MFP supports Type 1 and Type 2 flash memory.
- To add flash-based memory accessory fonts, macros, and patterns, use the appropriate DDR DIMM.
- To add other flash-based printer languages and MFP options, use the appropriate DDR DIMM.

Note

Single in line memory modules (SIMMs) that are used on previous HP LaserJet products are not compatible with this MFP.

For ordering information, see Ordering parts, accessories, and supplies, or go to http://www.hp.com/support/lj4345mfp.

Determining memory requirements

The amount of memory you need depends on the types of documents you print. Your MFP can print most text and graphics at 1,200 dpi FastRes without additional memory.

You might want to add more memory to the MFP if you often print complex graphics or PostScript (PS) documents, print two-sided documents (duplex printing), or use many downloaded fonts.

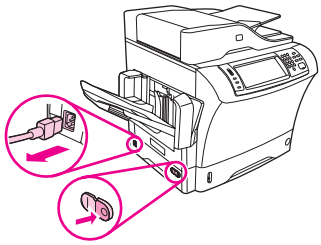
Installing memory

Use this procedure to install additional memory. Before you begin, print the configuration page (touch **Menu**, touch **INFORMATION**, and then touch **PRINT CONFIGURATION**) to find out how much memory is installed in the MFP before adding more memory.

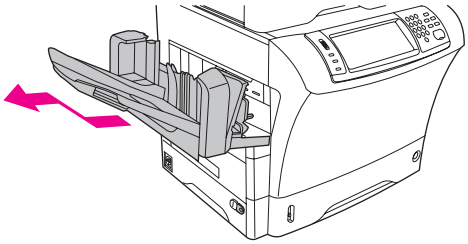
CAUTION Static electricity can damage DDR DIMMs. When handling DDR DIMMs, either wear an antistatic wrist strap, or frequently touch the surface of the DIMM antistatic package and then touch bare metal on the MFP.

To install memory DIMMs

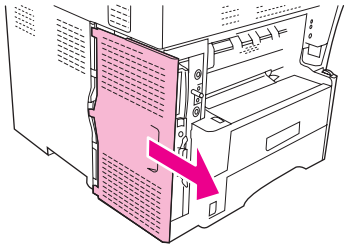
1. If you have not already done so, print the configuration to find out how much memory is installed in the MFP before adding more memory.
2. Turn off the MFP, and disconnect all the cables.



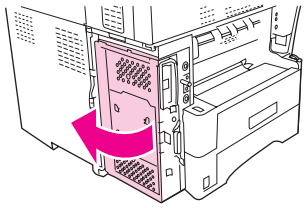
3. Remove the output bin, the 3-bin mailbox, or the stapler/stacker.



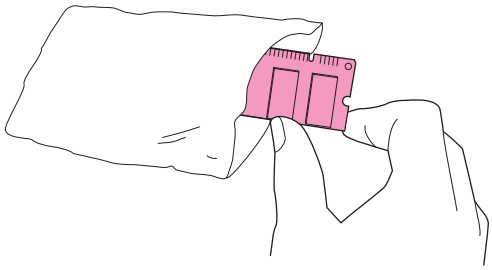
4. At the back of the MFP, remove the formatter cover.



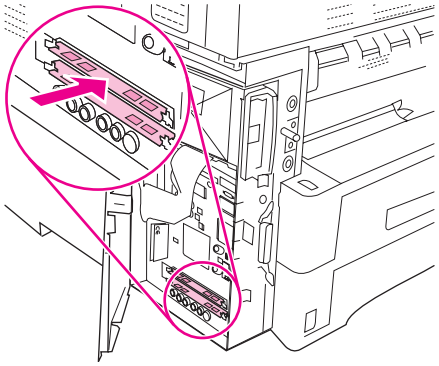
5. Open the formatter door.



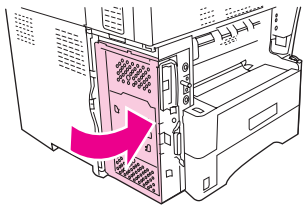
6. Remove the DIMM from the antistatic package. Hold the DIMM with your fingers against the side edges and thumbs against the back edge. Align the notches on the DIMM with the DIMM slot. (Check that the locks on each side of the DIMM slot are open, or outward.)



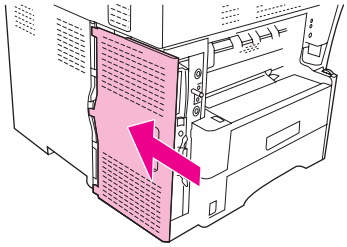
7. Press the DIMM straight into the slot (press firmly). Make sure the locks on each side of the DIMM snap inward into place. (To remove a DIMM, the locks must be released.)



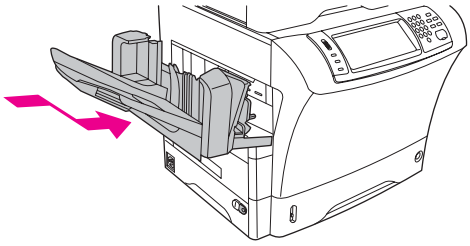
8. Close the formatter door.



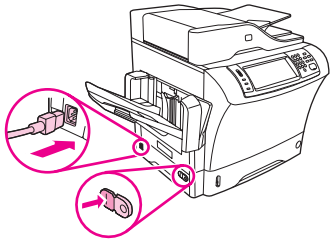
9. Replace the formatter cover.



10. Reinstall the output bin, the 3-bin mailbox, or the stapler/stacker.



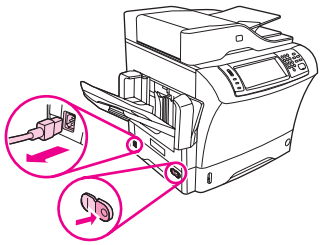
11. Reconnect all the cables, and turn on the MFP.



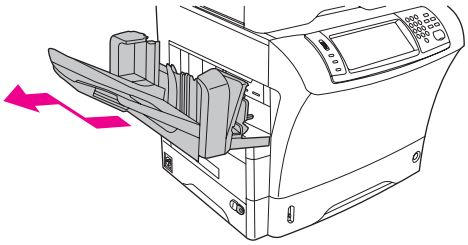
To install a flash memory card

CAUTION Do not insert a flash memory card that is designed for use with a digital camera into the MFP. The MFP does not support photo printing directly from a flash memory card. If you install a camera-type flash memory card, a message asking if you want to reformat the flash memory card appears on the control-panel display. If you choose to reformat the card, all data on the card will be lost.

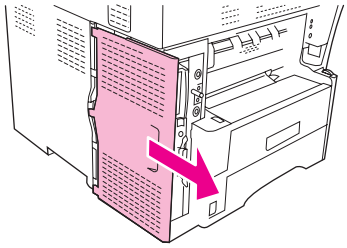
1. Turn off the MFP, and disconnect all the cables.



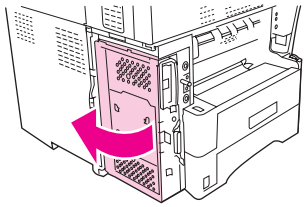
2. Remove the output bin, the 3-bin mailbox, or the stapler/stacker.



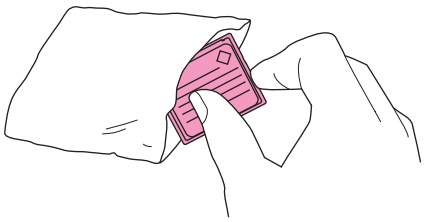
3. At the back of the MFP, remove the formatter cover.



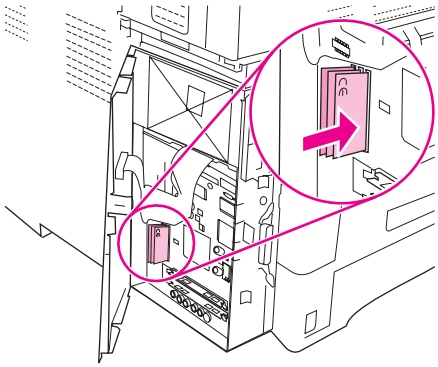
4. Open the formatter door.



5. Remove the flash memory card from the antistatic package. Hold the flash memory card with your fingers against the side edges and thumbs against the back edge.



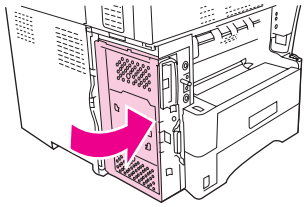
6. Press the flash memory card straight into the slot. If it does not go in easily, rotate it 180 degrees and try to insert it again.



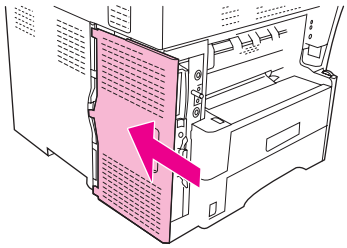
CAUTION Do not insert the flash memory card at an angle.

Note The first flash memory slot, marked "Firmware Slot," is reserved for firmware only. Slots 2 and 3 should be used for all other solutions.

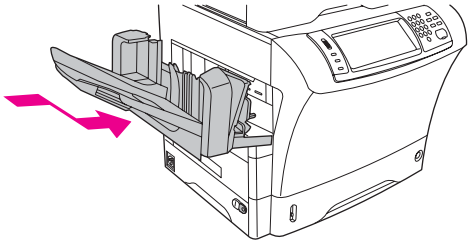
7. Close the formatter door.



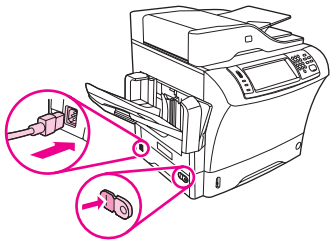
8. Replace the formatter cover.



9. Reinstall the output bin, the 3-bin mailbox, or the stapler/stacker.



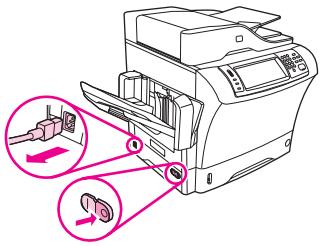
10. Reconnect all the cables, and turn on the MFP.



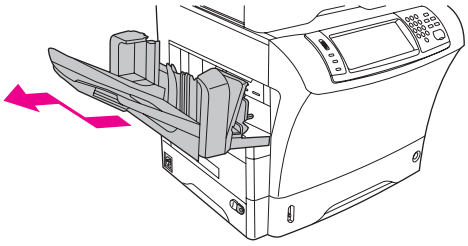
Replacing the hard-disk drive

If the hard-disk drive becomes corrupted, use this procedure to remove it and to install a new one.

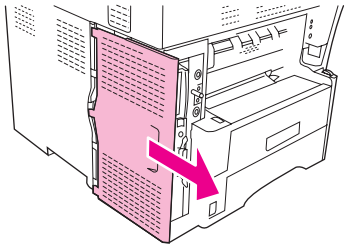
1. Turn off the MFP, and disconnect all of the cables.



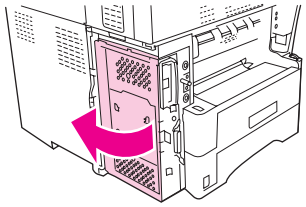
2. Remove the output bin, the 3-bin mailbox, or the stapler/stacker.



3. At the back of the MFP, remove the formatter cover.

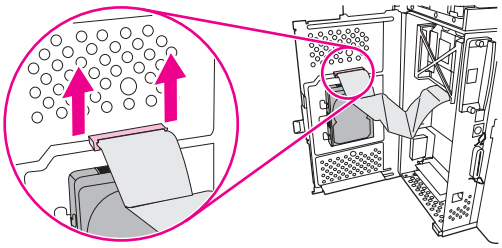


4. Open the formatter door.



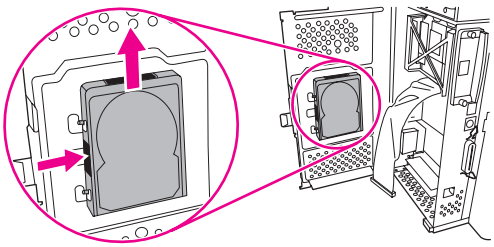
5. The hard disk is attached to the inside of the formatter door. Disconnect the ribbon cable from the top of the hard disk by *gently* pulling up on both ends of the blue plastic connector.

CAUTION Be careful not to tear the ribbon cable.

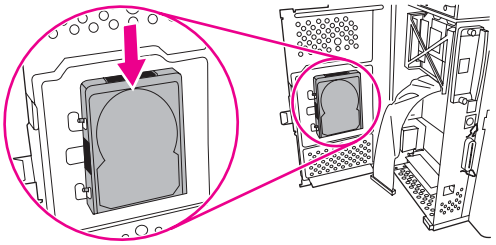


6. On the left side of the hard disk, press inward on the black plastic latch to release the hard disk. Slide the hard disk up to remove it from the MFP.

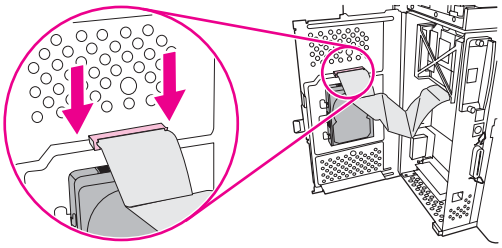
Note You might need to push with some force to begin moving the hard disk.



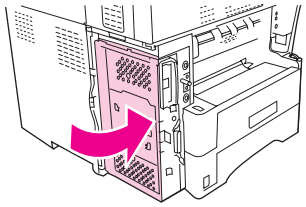
7. Slide the new hard disk into the slot on the formatter door. Make sure that the black plastic latch on the left side of the hard disk is firmly seated in its slot.



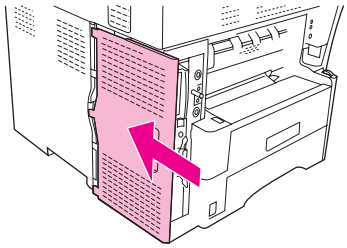
8. Reconnect the ribbon cable to the top of the new hard disk.



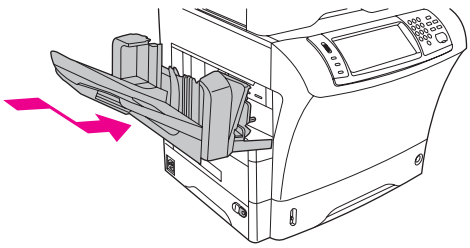
9. Close the formatter door.



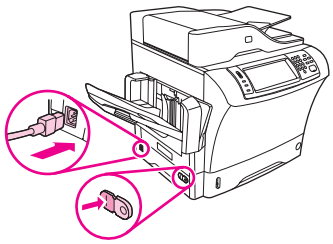
10. Replace the formatter cover.



11. Reinstall the output bin, the 3-bin mailbox, or the stapler/stacker.



12. Reconnect all of the cables, and turn on the MFP.



Checking memory installation

After installing the DIMM or flash memory card, make sure that the installation was successful.

To verify that memory devices are installed correctly

1. Check that **Ready** appears on the control-panel display when the MFP power is turned on. If an error message appears, a memory device might have been incorrectly installed. See Understanding MFP messages.
2. Print a new configuration page. (See Checking the MFP configuration.)
3. Check the memory section on the configuration page and compare it to the configuration page that was printed before the memory installation. If the amount of memory has not increased, the DIMM or flash memory card might not be installed correctly, or the DIMM or flash memory card might be defective. Repeat the installation procedure. If necessary, install a different DIMM or flash memory card.

Note If you installed a printer language (personality), check the "Installed Personalities and Options" section on the configuration page. This area should list the new printer language.

Saving resources (permanent resources)

Utilities or jobs that you downloaded to the MFP sometimes include resources (for example, fonts, macros, or patterns). Resources that are internally marked as permanent remain in the MFP memory until you turn the MFP off.

If you do not have a flash memory card for storing downloaded resources, you might want to change the amount of memory that is allocated to each language when you download an unusually large number of fonts, or if the MFP is in a shared environment.

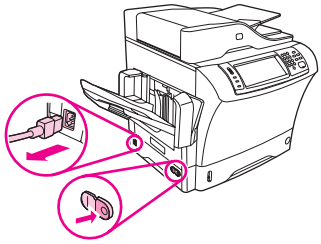
The minimum amount of memory that can be allocated to resource-saving is 400 KB each for PCL and PS.

Installing EIO cards

Follow this procedure to install an EIO card.

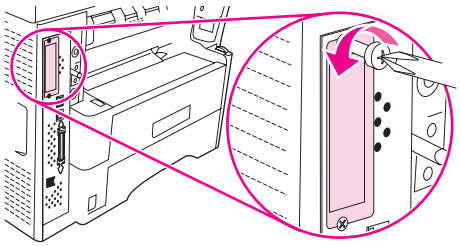
To install EIO cards

1. Turn off the MFP, and disconnect all of the cables.

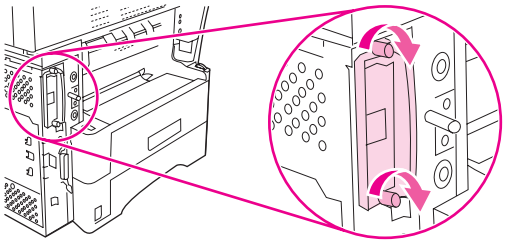


2. Remove the two screws and cover plate from the EIO slot on the left side of the MFP.

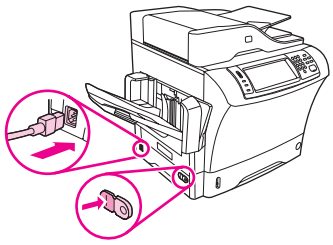
Note Do not discard the screws or the cover plate. Save them for future use if you remove the EIO card.



3. Install the EIO card in the EIO slot and tighten the screws.



4. Reconnect all the cables, and turn on the MFP.



5. Print a configuration page to verify that the EIO card was successfully installed. See Checking the MFP configuration.

F Regulatory information

Introduction

This section contains the following regulatory information:

- FCC regulations
- Environmental Product Stewardship program
- Declaration of conformity (HP LaserJet 4345mfp)
- Laser safety statement
- Canadian DOC statement
- Korean EMI statement
- Finnish laser statement

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. If this equipment is not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation; the presence of interference can be determined by turning the equipment off and on. If this equipment does cause harmful interference to radio or television communications, the user is encouraged to try to correct the interference by one or more of the following measures:

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

Note

Any changes or modifications to the printer that are 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 with the Class B limits of Part 15 of FCC rules.

Telecom

The HP LaserJet 4345x mfp, HP LaserJet 4345xs mfp, and HP LaserJet 4345xm mfp models have the HP LaserJet analog fax accessory 300 already installed to provide communication to the public switch telephone network (PSTN) for fax functionality. See the *HP LaserJet Analog Fax Accessory 300 User Guide* for all regulatory approval information and regulatory notices associated with the fax functionality and that device.

Environmental Product Stewardship program

Protecting the environment

Hewlett-Packard Company is committed to providing quality products in an environmentally sound manner. This product has been designed with several attributes to minimize impacts on our environment.

Ozone production

This product generates no appreciable ozone gas (O_3).

Energy consumption

Power usage drops significantly while in sleep mode, which saves natural resources and saves money without affecting the high performance of this product. This product qualifies for ENERGY STAR® (Multifunctional devices, Version 1.0), which is a voluntary program to encourage the development of energy-efficient office products.

ENERGY STAR® is a U.S. registered service mark owned by the U.S. government. As an ENERGY STAR partner, Hewlett-Packard Company has determined that this product meets ENERGY STAR Guidelines for energy efficiency. For more information, see http://www.energystar.gov.

Toner consumption

EconoMode uses significantly less toner, which might extend the life of the print cartridge.

Paper use

This product's optional automatic duplex feature (two-sided printing) and n-up printing (multiple pages printed on one page) capabilities can reduce media usage and the resulting demands on natural resources. (The automatic duplex feature is available only for models that include a built-in duplexer. Manual duplexing is available for all models. See Printing on both sides of paper (optional duplexer).)

Plastics

Plastic parts over 25 grams are marked according to international standards that enhance the ability to identify plastics for recycling purposes at the end of the product's life.

HP LaserJet printing supplies

In many countries/regions, this product's printing supplies (for example, print cartridge and fuser) can be returned to HP through the HP Printing Supplies Environmental Program. An easy-to-use and free take back program is available in more than 30 countries/regions. Multilingual program information and instructions are included in every new HP LaserJet print cartridge and supplies package.

HP Printing Supplies Returns and Recycling Program Information

Since 1992, HP has offered HP LaserJet supplies return and recycling free of charge in 86% of the world market where HP LaserJet supplies are sold. Postage-paid and pre-addressed labels are included within the instruction guide in most HP LaserJet print cartridge boxes. Labels and bulk boxes are also available through the Web site at http://www.hp.com/recycle.

More than 10 million HP LaserJet print cartridges were recycled globally in 2002 through the HP Planet Partners supplies recycling program. This record number represents 26 million pounds of print cartridge materials that were diverted from landfills. Worldwide, HP recycled an average of 80% of the print cartridge by weight, consisting primarily of plastic and metals. Recycled plastics and metals are used to make new products, such as HP products, plastic trays, and spools. The remaining materials are disposed of in an environmentally responsible manner.

- **U.S. returns** For a more environmentally responsible return of used cartridges and supplies, HP encourages the use of bulk returns. Simply bundle two or more cartridges together and use the single, prepaid, preaddressed UPS label that is supplied in the package. For more information in the U.S., call 1-800-340-2445 or visit the HP LaserJet Supplies Web site at http://www.hp.com/recycle.
- **Non-U.S. returns** Non-U.S. customers should call the local HP Sales and Service Office or visit the http://www.hp.com/recycle Web site for further information regarding availability of the HP Supplies Returns and Recycling Program.

Paper

This product is capable of using recycled papers when the paper meets the guidelines outlined in the *HP LaserJet Printer Family Print Media Guide*. Go to http://www.hp.com/support/ljpaperguide to download this guide in .PDF format. This product is suitable for the use of recycled media according to EN12281:2002.

Material restrictions

This HP product contains mercury in the fluorescent lamp of the control-panel liquid-crystal-display that might require special handling at end of life.

This HP product may initially contain lead in solder that might require special handling at end-of-life. This product will eventually switch to lead-free construction in compliance with the European Waste from Electrical and Electronic Equipment (WEEE) law.

This HP product contains a battery that might require special handling at end-of-life.

Type	Lithium Carbon Monofluoride (BR1632), 3 Volt, button-style battery, 1.5 grams
Materials	Mercury-free, Cadmium-free, Lead-free
Location	On printed circuit board
User removable	No

For recycling information, you can contact http://www.hp.com/recycle or contact your local authorities or the Electronics Industry Alliance: http://www.eiae.org.

Material safety data sheet

Material Safety Data Sheets (MSDS) for supplies that contain chemical substances (for example, toner) can be obtained by contacting the HP Web site at http://www.hp.com/go/msds or http://www.hp.com/hpinfo/community/environment/productinfo/safety.

For more information

To obtain information about the following environmental topics, visit http://www.hp.com/go/environment or http://www.hp.com/hpinfo/community/environment/productinfo/safety.

- Product environmental profile sheet for this and many related HP products.
- HP's commitment to the environment
- HP's environmental management system
- HP's end-of-life product return and recycling program
- Material Safety Data Sheets (MSDS)

Declaration of conformity (HP LaserJet 4345mfp)

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 4345 mfp
Model Number:	Q3942A Regulatory model number: BOISB-0407-00[3)]
Product Options:	ALL

conforms to the following Product Specifications:

Safety:	IEC 60950-1:2001 / EN60950-1: 2001 IEC 60825-1:1993 +A1 +A2 / EN 60825-1:1994 +A11 +A2 (Class 1 Laser/LED Product) GB4943-2001
EMC:	CISPR 22:1998 / EN 55022:1998 - Class B[1)] EN 61000-3-2:2000 EN 61000-3-3:1995 + A1:2001 EN 55024:1998 FCC Title 47 CFR, Part 15 Class B[2)] / ICES-003, Issue 4 GB9254-1998

Supplementary Information:

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

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

2) This Device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

3) For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the marketing name or the product number(s).

Boise, Idaho , USA

May 26, 2004

For regulatory topics only:

Australia Contact:	Product Regulations Manager, Hewlett-Packard Australia Ltd., 31-41 Joseph Street Blackburn, Victoria 3130, Australia
European Contact:	Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ-TRE / Standards Europe, Herrenberger Strasse 140 , D-71034, Böblingen (FAX: +49-7031-14-3143)
USA Contact:	Product Regulations Manager, Hewlett-Packard Company, PO Box 15, Mail Stop 160 Boise, ID 83707-0015, (Phone: 208-396-6000)

Declaration of conformity (HP LaserJet 4345x mfp, 4345xs mfp, and 4345xs mfp)

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 Names:	HP LaserJet 4345x mfp, HP LaserJet 4345xs mfp, HP LaserJet 4345xm mfp
Model Numbers:	Q3943A, Q3944A, Q3945A Regulatory Model: BOISB-0404-01[3]
Product Options:	ALL

conforms to the following Product Specifications:

Safety:	IEC 60950-1:2001 / EN60950-1: 2001 IEC 60825-1:1993 +A1 +A2 / EN 60825-1:1994 +A11 +A2 (Class 1 Laser/LED Product)
EMC:	CISPR 22:1998 / EN 55022:1998 - Class B[1)] EN 61000-3-2:2000 EN 61000-3-3:1995 + A1:2001 EN 55024:1998 FCC Title 47 CFR, Part 15 Class B[2)] / ICES-003, Issue 4 GB9254-1998 **Telecom:**[4] TBR-21:1998, EG 201 121:1998

Supplementary Information:

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

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

2) This Device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

3) For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the marketing name or the product number(s).

4) The product includes the HP Analog Fax Accessory, HP Regulatory Model Number BOISB-0308-00.

Boise, Idaho , USA

May 26, 2004

For regulatory topics only:

Australian Contact:	Product Regulations Manager, Hewlett-Packard Australia Ltd., 31-41 Joseph Street Blackburn, Victoria 3130, Australia
European Contact:	Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ-TRE / Standards Europe, Herrenberger Strasse 140 , D-71034, Böblingen (FAX: +49-7031-14-3143)
USA Contact:	Product Regulations Manager, Hewlett-Packard Company, PO Box 15, Mail Stop 160 Boise, ID 83707-0015, (Phone: 208-396-6000)

Country-/region-specific safety statements

Laser safety statement

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. The 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 the printer is completely confined within protective housings and external covers, the laser beam cannot escape during any phase of normal user operation.

WARNING! Using controls, making adjustments, or performing procedures other than those specified in this user guide may result in exposure to hazardous radiation.

Canadian DOC statement

Complies with Canadian EMC Class B requirements.

«Conforme àla classe B des normes canadiennes de compatibilité électromagnétiques (CEM).»

Japanese VCCI statement

この装置は，情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＢ情報技術装置です。この装置は，家庭環境で使用することを目的としていますが，この装置がラジオやテレビジョン受信機に近接して使用されると，受信障害を引き起こすことがあります。
取り扱い説明書に従って正しい取り扱いをして下さい。

Korean EMI statement

사용자 안내문 (B 급 기기)

이 기기는 비업무용으로 전자파장해검정을 받은 기기로서, 주거지역에서는 물론 모든 지역에서 사용할 수 있습니다.

Finnish laser statement

LASERTURVALLISUUS
LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT
HP LaserJet 4345mfp, HP LaserJet 4345x mfp, HP LaserJet 4345xs mfp,
HP LaserJet 4345xm mfp -laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalissa käytössä kirjoittimen suojakotelointi estää lasersäteen pääsyn laitteen ulkopuolelle.
Laitteen turvallisuusluokka on määritetty standardin EN60825-1 (1994) mukaisesti.
VAROITUS!
Laitteen käyttäminen muulla kuin käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.
VARNING!
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 4345mfp, HP LaserJet 4345x mfp, HP LaserJet 4345xs mfp,
HP LaserJet 4345xm mfp -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.
VARNING!
Om laserprinterns skyddshölje öppnas då apparaten är i funktion, utsättas användaren för osynlig laserstrålning. Betrakta ej strålen.
Tiedot laitteessa käytettävän laserdiodin säteilyominaisuuksista:
Aallonpituus 770-800 nm
Teho 5 mW
Luokan 3B laser

Australia

This equipment complies with Australian EMC requirements.

Index

Symbols/Numerics

3-bin mailbox
- capacity 6
- jams, clearing 193
- light status 216
- media specifications 269
- media types supported 265
- models including 3
- modes 124
- part number 9, 241
- reattach error message 214
- selecting 77, 124
- specifications, physical 253

500-sheet input tray
- models including 2

500-sheet trays
- adding 9
- cabinet/stand 131
- configuring media settings 28
- insert or close error message 212
- jams, clearing 191
- loading 24, 70, 73
- locking 74
- locking and unlocking 11
- media sizes supported 267
- part numbers 9, 241
- registration, setting 89
- selection settings 52
- settings 39
- specifications, physical 253
- unexpected size or type error message 206
- usage page 164

A

access denied message 209
accessories
- lights 216
- locking and unlocking 11
- moving 10
- ordering 240
- part numbers 9, 241
- troubleshooting 217

accounting hardware 139
acoustic specifications 256
address books, e-mail
- auto-complete function 113
- importing 150
- LDAP server errors 212
- LDAP support 108
- recipient lists, creating 114

ADF
- blank pages 231
- capacity 6
- cleaning delivery system 174
- coying from 103
- error messages 210
- image shift, troubleshooting 233
- jams, clearing 198
- jams, frequent 201
- lines on copies 231, 232
- maintenance kit 179, 242
- media specifications 270
- skewed pages 232
- troubleshooting print quality 222

ADF input tray
- locating 8

ADF output bin
- capacity 6
- selecting 77

adhesive labels. *See* labels
agreements, maintenance 249
Alerts tab, HP Toolbox 153
allocating memory 283
Alternative Letterhead Mode 71, 82
analog fax accessory. *See* fax accessory
anticounterfeit website 166
Apple Macintosh. *See* Macintosh
Australian EMC statement 294
authentication error messages 210
Auto Cleaning Page 174
Auto Clenaing Page 51
auto continue 54
automatic document feeder. *See* ADF
autoscaling copies 104
AUX connection 6

B

background removal, copying 104
battery specifications 289
binding edge settings 87

bins
capacities 6
full, error messages 213
jams, clearing 193
locating 8
reattach error message 214
selecting 77
usage page 164
blank pages, troubleshooting 220, 231
blurred print, troubleshooting 230
both sides, printing on
error messages 209, 210, 211, 214, 206
layout options 87
loading paper 87
paper sizes supported 86
registration, setting 89
using duplexer 86, 88
browser requirements
embedded Web server 148
HP Toolbox 152
HP Web Jetadmin 155
buffer overflow errors 205
buttons, control panel 30, 31

C

cabinet/stand
locking and unlocking 11
models including 3
part number 9, 241
setting up 131
specifications, physical 253
cables
error messages 210
cables, part numbers 243
calibrating scanner 178
Canadian DOC statement 293
capacity
3-bin mailbox 6, 269
500-sheet tray 267
ADF 6, 270
envelope feeder 268
output bins 6
stacker 269
stapler 270
stapler/stacker 6
tray 1 266
card stock
output path 78
printing on 83
cartridges
status, viewing with embedded Web server 149
status, viewing with HP Toolbox 153
cartridges, print
EconoMode 50
error messages 210, 212
jams, clearing 186
life expectancy 166
low toner message 167
non-HP 166
ordering iii
out of toner message 168
part numbers 241
recycling 289
storing 166
supplies status page, printing 163
supply level, checking 167
warranty 248
cartridges, staple
empty, stop or continue settings 129
jams 199
loading 129
low error message 214
part numbers 9, 241
characters, misformed 227
chosen personality not available 211
cleaning
about 173, 175
ADF delivery system 174
ADF rollers 175
fuser 173
glass 173
outside of MFP 173
touchscreen 173
cleaning page
automatic 174
manual 173
settings 51
clearable warnings 54
clock
error message 204
setting 158
close door error messages 211
coated paper 83
colored paper, copying 104
configuration page 161
configurations, models 2
Configure device menu 40
connectivity features 6
consumables. *See* supplies
contracts, maintenance 249
contrast, copy 104
control panel
access denied 209
buttons 30, 31
cleaning touchscreen 173
Configure device menu 40
copy-screen 100
Copy/send settings 55
Copying submenu 41
Diagnostics menu 64
EIO X Jetdirect submenu 58
Embedded Jetdirect submenu 58
Enhancement submenu 41
e-mail screen 111

Fax menu 63
features 29
help 33
I/O submenu 57
Information menu 36
jam messages 185
lights 30
locating 8
locking menus 144
menu map 34
messages, alphabetical list 204
messages, numerical list 204
messages, settings 54
messages, troubleshooting 203
navigation 32
Originals submenu 40
Paper handling menu 28, 37
PCL submenu 46
print cartridge supply level, checking 167
Print quality submenu 48
Printing submenu 44
Resets submenu 61
Retrieve job menu 35
Sending submenu 42
Service menu 67
System setup submenu 51
troubleshooting 184
Copitrak devices 139
Copy Connect card error messages 211
Copy/send settings 55
copying
background removal 104
contrast settings 104
control-panel navigation 100
error messages 215
features 5, 99
Job Mode 103
multiple originals 103
Originals settings 40
quality, troubleshooting 220
reducing or enlarging 104
sharpness 104
speed specifications 4
storing jobs 105
usage page 164
using ADF 103
using custom settings 101
using default settings 101
using scanner glass 103
Copying submenu 41
counterfeit supplies 166
covers, locating 8
covers, paper 91
creased paper, troubleshooting 228
crooked pages 227, 232
curled paper, troubleshooting 227
custom-size paper
3-bin mailbox specifications 269
500-sheet tray specifications 267
driver settings 91
loading 23, 26
printing on 83
tray 1 specifications 266
tray settings 84
customer support
embedded Web server links 151
HP Instant Support Professional Edition (ISPE) iii
Macintosh iv
maintenance agreements 249
online iii
repacking printer 250
service dealers iv
service information form 251
telephone iii

D

date, setting 158
declaration of conformity 291
default settings, restoring 61
defects, repeating 226, 234
delay, sleep 160
density, troubleshooting 222
Describe Original settings 101
Device Settings window, HP Toolbox 154
DHCP servers 156
Diagnostics menu 64
dial-up connections 7
digital faxing 122
digital sending
about 107, 112
address books 114
configuring e-mail 109
control-panel settings 111
embedded Web server settings 150
error messages 211, 212, 213, 214, 215
folders 116
LDAP support 108
loading documents 112
Originals settings 40
Secondary E-mail option 116
sending documents 112
settings 42
SMTP servers 108
troubleshooting 184
validating gateway addresses 235
workflow 116
Digital Sending tab, embedded Web server 150
DIMMs
error messages 207
expansion slots 272
installing 274
part numbers 242
verifying installation 282

disk. *See* hard disk
Disk Erase feature 141
Disk Management Utility 17
DLC/LLC settings 58
document feeder. *See* ADF
document feeder kit, replacing 179
dots, troubleshooting 223, 229
double-sided printing
  error messages 209, 210, 211, 214, 206
  layout options 87
  loading paper 87
  paper sizes supported 86
  registration, setting 89
  using duplexer 86, 88
downloading software iii
drivers
  downloading iii
  help 16
  Linux 13
  Macintosh iv
  operating systems supported 13
  OS/2 14
  Print Task Quick Sets 90
  selecting 14
  settings 14
dropouts, troubleshooting 223
drum life out message 168
DSL conections 7
duplex printing accesory
  specifications, physical 253
duplex printing accessory
  binding options 87
  error messages 209, 210, 211, 214, 206
  jams 192
  locating 8
  media specifications 268
  media types supported 265
  models including 2
  orienting media 70
  paper orientation 87
  paper sizes supported 86
  part number 9, 241
  registration, setting 89
  usage page 164
  using 86, 88
duty cycle 4

E

EconoMode 50
edge-to-edge printing 89
EIO cards
  buffer overflow 205
  errors 209
  installing 284
  part numbers 243
electrical specifications 255
Embedded Jetdirect submenu 58
embedded Web server
  assigning a password 138
  Digital Sending tab 150
  features 148
  Information tab 149
  IP address, changing 157
  Networking tab 150
  opening 148
  Other Links tab 151
  print cartridge supply level, checking 167
  Settings tab 149
  system requirements 148
energy consumption 288
energy specifications 255
ENERGY STAR compliance 288
Enhancement submenu 41
enlarging documents
  copying 104
  printing 91
envelope feeder
  envelope specifications 268
  error messages 210
  installing 132
  jams, clearing 188
  load error message 212
  loading 132, 133
  media types supported 265
  part number 9, 241
  removing 133
  settings 37, 74
  specifications 79
  specifications, physical 253
envelopes
  loading 23, 70
  margins 79, 263
  printing from envelope feeder 132, 133
  printing from tray 1 79
  specifications 262, 266
  storing 263
  wrinkled, troubleshooting 228
environment, specifications 257
environmental stewardship 288
EOP X Jetdirect submenu 58
Equitrac devices 139
erasing hard disk 141
error messages
  alphabetical list 204
  jams 185
  numerical list 204
  printing event log 64
  settings 54
  troubleshooting 203
Ethernet cards 6
Ethernet cards, part numbers 243
event log 64

Explorer, versions supported
  embedded Web server 148
  HP Toolbox 152
  HP Web Jetadmin 155
Extended Service iv
extended warranty 249
e-mail
  about 107, 112
  address books 114
  auto-complete function 113
  configuring 109
  control-panel settings 111
  embedded Web server settings 150
  error messages 211, 212, 213, 214, 215
  LDAP errors 212
  LDAP support 108
  loading documents 112
  Originals settings 40
  Secondary option, security 116
  sending documents 112
  settings 42
  SMTP servers 108
  system requirements 7
  troubleshooting 184
  validating gateway addresses 235
e-mail alerts 153

F
face-down output 78
face-up output 78
factory default settings, restoring 61
fans, troubleshooting 184
FastRes 49
fax accessory
  configuration page 161
  connecting phone line 120
  installing 118
  light status 219
  models including 2
  part number 9, 241
  user guide 117
Fax menu 63
faxing, digital 122
FCC statements 286
features 2, 4
Finnish laser statement 294
firmware, upgrading 169
first page, paper for 91
flash memory
  HP Disk Management Utility 17
flash memory cards
  installing 276
  types supported 272
  verifying installation 282
Flip Pages Up binding option 88
folders
  error messages 212
  sending to 116
fonts
  HP Disk Management Utility 17
  included 5
  lists, printing 165
Foreign Interface Harness (FIH) 6, 10, 139
formatter cage, locking 145
formatter cover, locating 8
formatter lights 218
front side optical system errors 212
FTP, sending to 116
function-separator mode, 3-bin mailbox 124
fuser
  cleaning 173
  error messages 207
  jams, clearing 195
  paper wrapping errors 213
  replacing 179
fuser modes 76

G
gateways
  configuring 109
  error messages 211
  finding 110
  settings 42
  validating addresses 235
glass
  cleaning 173
  copying from 103
graphical display, control panel 30, 32
gray background, troubleshooting 224

H
hard disk
  erasing 141
  font lists 165
  HP Disk Management Utility 17
  part number 242
  replacing 278
heartbeat LED 218
heavy paper
  output path 78
  printing on 83
held jobs 97
help
  control panel 33
  drivers 16
HP Digital Sending Software (HP DSS) 116
HP Disk Management Utility 17
HP DSS (Digital Sending Software) 116
HP Instant Support Professional Edition (ISPE) iii

HP Jetdirect print server
configuration page 163
error messages 209
firmware updates 171
installing 284
IP address 156
lights 218
models including 2
part numbers 243
HP Jetdiret print server
settings 58
HP media, ordering 243
HP OpenVMS drivers 14
HP Printing Supplies Returns and Recycling Program 289
HP Toolbox
Alerts tab 153
Device Settings window 154
features 152
links 154
opening 153
print cartridge supply level, checking 167
Status tab 153
HP Web Jetadmin
browsers supported 155
downloading 155
firmware updates 171
IP address, changing 156
HP-Authorized Dealers iv
humidity requirements 257

I
I/O submenu 57
IBM OS/2 drivers 14
image area specifications 258
image repetition, troubleshooting 230
Information menu 36
information pages 161
Information tab, embedded Web server 149
input trays. *See* trays
insert tray error messages 212
install cartridge error message 212
installing
cabinet/stand 131
EIO cards 284
envelope feeder 132
fax accessory 118
flash memory cards 276
hard disk 278
Macintosh software 20
memory 274
network software, Macintosh 19
network software, Windows 18
Windows printing system 17
Windows software using New Hardware Found wizard 21
insufficient memory 212, 205
interface ports
included 6
locating 10
internal clock errors 204
Internet Explorer, versions supported
embedded Web server 148
HP Toolbox 152
HP Web Jetadmin 155
Internet fax 122
IP addresses, configuring 156
IPX/SPX settings 58
ISPE (HP Instant Support Professional Edition) iii

J
jam-access lever, locating 8
jams
3-bin mailbox 193
500-sheet trays 191
ADF 198
control-panel messages 185
duplex printing accessory 192
envelope feeder 188
frequent, troubleshooting 201
fuser 195
locations 185
output bin 193
print-cartridge area 186
print-quality problems 186
recovery settings 55
staple 199
stapler/stacker 193
top-cover 186
tray 1 189
Japanese VCCI statement 293
Jetadmin
browsers supported 155
downloading 155
firmware updates 171
IP address, changing 156
Jetdirect print server
configuration page 163
error messages 209
firmware updates 171
installing 284
IP address 156
lights 218
models including 2
part numbers 243
settings 58
Job Mode, copying 103
job storage
copies 105
features 94
private 94
proof and hold 97
QuickCopy 96

Retrieve job menu 35
settings 51
stored 95

K
Kensington locks 145
kits, maintenance
part number 242
supplies status page, printing 163
using 179
Korean EMI statement 293

L
labels
loading 23
printing 81
specifications 264
LAN fax 122
LAN-connector 6
landscape orientation
duplexing options 87
orignals settings 40
language, control panel 184
languages, printer 5, 53
laser safety statements 293
LDAP servers
connecting to 108
embedded Web server settings 150
error messages 212
settings 42
validating gateway addresses 235
LEDs. *See* lights
letterhead
loading 70
printing on 82
light print, troubleshooting 222
lights
accessories 216
control panel 30
fax accessory 219
formatter 218
lines, troublehsooting 231, 232
lines, troubleshooting 224, 228
link speed, network 58
links
embedded Web server 151
HP Toolbox 154
Linux driver support 13
loading
500-sheet trays 24
coated paper 83
custom-size paper 84
envelope feeder 132, 133
envelopes in tray 1 79
error messages 212
labels 81
orienting media 70
paper for duplexing 87
preprinted paper 82
staples 129
transparencies 81
tray 1 23
unexpected size or type error message 206
locking
accessories 11
control panel menus 144
formatter cage 145
trays 74
log, event 64
loose toner, troubleshooting 186, 225
low on staples 214
low toner message 167

M
Macintosh
drivers supported 13
installing software 20
network installation 19
operating systems supported 12
PPDs 17
software 17
support Web sites iv
mailbox mode 124
mailbox, 3-bin
capacity 6
jams, clearing 193
light status 216
media specifications 269
media types supported 265
models including 3
modes 124
part number 241
part numbers 9
reattach error message 214
selecting 77, 124
specifications, physical 253
maintenance agreements iv, 249
maintenance kit
part number 242
supplies status page, printing 163
using 179
manual feed, tray 1 75
map, menu 34
margins, envelopes 79, 263
Material Safety Data Sheets (MSDS) 290
mechanical error message 213
media
3-bin mailbox specifications 269
500-sheet tray specifications 267
ADF specifications 270
curled 227
custom-size, driver settings 91
custom-size, printing 83, 84
different first page 91

duplexer specifications 268
duplexing, sizes supported 86
envelope feeder specifications 268
fuser modes 76
HP, ordering 243
loading 23, 70
manual feed 75
pages per sheet 92
preprinted 82
prepunched 82
settings 44
small 84
specifications 261
stacker specifications 269
stapler specifications 270
stapling 127
storing 261
tray 1 specifications 266
tray selection 73, 74
tray settings 28, 37
types supported 265
usage page 164
wrinkled 228
media jams. *See* jams
memory
allocating 283
DIMM error messages 207
expansion 272
features 4
flash, installing 276
included 2
installing DIMMs 274
insufficient 212, 205
part numbers 242
permanent storage error messages 208
requirements 273
supply errors 204
verifying installation 282
Menu button 30
menu map, control panel 34
menus, control panel
access denied 209
Configure device 40
Copy/send settings 55
Copying 41
Diagnostics 64
EIO X Jetdirect 58
Embedded Jetdirect 58
Enhancement 41
Fax 63
I/O 57
Information 36
locking 144
Originals 40
Paper handling 28, 37
PCL 46
Print quality 48
Printing 44
Resets 61
Retrieve job 35
Sending 42
Service 67
System setup 51
mercury specifications 289
messages
alphabetical list 204
jams 185
numerical list 204
settings 54
troubleshooting 203
messages, control panel
printing event log 64
Microsoft Windows. *See* Windows
misformed characters, troubleshooting 227
models, features 2
monthly duty cycle 4
moving the MFP 10
multiple pages per sheet 92

N

n-up printing 92
narrow paper, printing on 84
Netscape Navigator, versions supported
embedded Web server 148
HP Toolbox 152
HP Web Jetadmin 155
Networking tab, embedded Web server 150
networks
connectivity features 6
e-mail system requirements 7
HP Jetdirect configuration page 163
HP Jetdirect print server error messages 209
installing EIO cards 284
installing Macintosh software 19
installing Windows software 18
IP addresses 156
print servers included 2
settings 58
SMTP servers 108
troubleshooting printing 236
validating gateway addresses 235
noise specifications 256
non-HP print cartridges 166
Novell login required 213
number of copies 44
NVRAM errors 208

O

on/off switch, locating 8
online customer support iii
online help
control panel 33
drivers 16
OpenVMS drivers 14

operating environment specifications 257
operating systems supported 12, 13
Order Cartridge message 167
order, page 78
ordering
  media, HP 243
  part numbers for 241
  supplies and accessories 240
ordering supplies iii
orientation, page
  duplexing options 87
  orignals settings 40
orientation, paper 70
Originals submenu 40
OS/2 drivers 14
Other links
  embedded Web server 151
  HP Toolbox 154
out of toner message 168
output bins
  capacities 6
  full, error messages 213
  jams, clearing 193
  locating 8
  reattach error message 214
  selecting 77
  usage page 164
output path open error message 213
output quality
  after jams 186
  settings 49
  troubleshooting 220
ozone specifications 288

P
packaging printer 250
page orientation
  duplexing options 87
  orignals settings 40
pages per minute 4
pages per sheet 92
paper
  3-bin mailbox specifications 269
  500-sheet tray specifications 267
  ADF specifications 270
  coated 83
  curled 227
  custom-size, driver settings 91
  custom-size, printing 83, 84
  different first page 91
  duplexer specifications 268
  duplexing, sizes supported 86
  fuser modes 76
  HP, ordering 243
  loading 23, 70
  manual feed 75
  pages per sheet 92
  preprinted 82
  prepunched 82
  settings 44
  small 84
  specifications 261
  stacker specifications 269
  stapler specifications 270
  stapling 127
  storing 261
  tray 1 specifications 266
  tray selection 73, 74
  tray settings 28, 37
  types supported 265
  usage page 164
  wrinkled 228
Paper handling menu 28, 37
paper jams. *See* jams
paper path
  cleaning 174
  testing 64, 201
parallel cable, part number 243
parallel port
  buffer overflow error message 205
  features 6
  locating 10
  not supported for Macintosh 20
part numbers
  cables 243
  EIO cards 243
  maintenance kit 242
  media, HP 243
  memory 242
  print cartridges 241
  trays 241
PCL drivers
  features 14
  operating systems supported 13
  See also drivers
PCL font list 165
PCL submenu 46
PDEs, Macintosh 17
perform printer maintenance message 179
permanent storage errors 208
personality settings 53
phone line, connecting fax accessory 120
phone numbers
  ordering supplies iii
  service agreements iv
  support iii
physical specifications 253
PINs, private jobs 94
platforms supported 12, 13
portrait orientation
  duplexing options 87
  orignals settings 40

ports
included 6
locating 10
postcards 83
PostScript fonts 17
PostScript Printer Description (PPD) files, Macintosh 17
power
consumption 288
specifications 255
troubleshooting 182
power switch, locating 8
PPDs, Macintosh 17
preprinted paper
loading 70
printing on 82
prepunched paper
loading 70
printing on 82
print cartridges
EconoMode 50
error messages 210, 212
jams, clearing 186
life expectancy 166
low toner message 167
non-HP 166
ordering iii
out of toner message 168
part numbers 241
recycling 289
status, viewing with embedded Web server 149
status, viewing with HP Toolbox 153
storing 166
supplies status page, printing 163
supply level, checking 167
warranty 248
print quality
after jams 186
settings 49
troubleshooting 220
Print quality submenu 48
Print Task Quick Sets 90
Printer Dialog Extensions (PDEs), Macintosh 17
printer drivers. *See* drivers
printer languages 5, 53
printer maintenance kit
part number 242
supplies status page, printing 163
using 179
printing
documents 72
output bin, selecting 77
speed specifications 4
usage page 164
Printing submenu 44
priority onsite service 249
private jobs 94
processor speed 4
proof and hold jobs 97
ProRes 49
protocol settings 58
PS driver
features 14
operating system supported 13
See also drivers
PS font list 165
punched paper
loading 70
printing on 82

Q

quality
after jams 186
settings 49
troubleshooting 220
quick sets 90

R

reattach output bin error message 214
recycling
plastics 288
print cartridges 289
reducing documents
copying 104
printing 91
registration, tray 89
regulatory statements
Australian EMC 294
Canadian DOC statement 293
declaration of conformity 291
FCC 286
Finnish laser statement 294
Japanese VCCI statement 293
Korean EMI statement 293
laser safety 293
Material Safety Data Sheets (MSDS) 290
Telecom 287
remote firmware update (RFU) 169
removing software, Windows 22
repacking printer 250
repeated images 230
repeating defects, troubleshooting 226, 234
replacing
hard disk 278
maintenance kits 179
print cartridges 167
staple cartridges 129
Reset button 30, 31
Resets submenu 61
resizing documents
copying 104
printing 91

resolution
settings 49
specifications 4
troubleshooting quality 220
Resolution Enhancement technology (REt) 50
resource saving 283
restoring default settings 61
retention, job
copies 105
features 94
private 94
proof and hold 97
QuickCopy 96
Retrieve job menu 35
stored 95
Retrieve job menu 35
reverse page order 78
rollers
cleaning ADF 175
maintenance kit, included 179
ruler, repetitive defect 234

S

saving settings 90
scaling documents
copying 104
printing 91
scanner calibration 178
scanner errors 212, 214
scanner glass
cleaning 173
copying from 103
scanner tests 64
scanning
speed specifications 4
scanning e-mail
validating gateway addresses 235
scanning to e-mail
about 107, 112
address books 114
configuring 109
control-panel settings 111
embedded Web server settings 150
error messages 211, 212, 213, 214, 215
LDAP support 108
loading documents 112
Originals settings 40
Secondary option, security 116
sending documents 112
settings 42
SMTP servers 108
troubleshooting 184
Secure Disk Erase 141
security
disk erase 141
e-mail 116
Foreign Interface Harness (FIH) 139
locking control panel menus 144
locking formatter cage 145
security features 6
Send to Folder 116
Send to Workflow 116
Sending submenu 42
sending to e-mail
about 107, 109, 112
address books 114
embedded Web server settings 150
error messages 211, 212, 213, 214, 215
LDAP support 108
loading documents 112
Originals settings 40
Secondary option, security 116
sending documents 112
settings 42, 111
SMTP servers 108
troubleshooting 184
validating gateway addresses 235
sensor test 64
serial buffer overflow 205
service
agreements iv, 249
HP-authorized dealers iv
information form 251
repacking printer 250
Service menu 67
Set Registration 89
settings
configuration page 161
drivers, changing 14
Print Task Quick Sets 90
restoring defaults 61
Settings tab, embedded Web server 149
sharpness, copy settings 104
shipping printer 250
Show me how Help 33
size, media
3-bin mailbox specifications 269
500-sheet tray specifications 267
ADF specifications 270
default settings 45
duplexer specifications 268
envelope feeder specifications 268
printing small or custom 83
stacker specifications 269
stapler specifications 270
tray 1 specifications 266
tray selection 73, 74
tray settings 37
unexpected, error message 206

size, paper
printing 91
skew specifications 259
skewed pages 227, 232
Sleep button 30
sleep settings
delay 160
power specifications 255
wake time 159
small paper, printing on 84
smeared toner, troubleshooting 225
SMTP gateways
error messages 214
SMTP servers
connecting to 108
validating gateway addresses 235
software
digital sending (HP DSS) 116
downloading iii
HP Disk Management Utility 17
HP Toolbox 152
installing Macintosh 20
installing on Windows 17
installing using New Hardware Found wizard 21
Linux 13
Macintosh iv
Macintosh, included 17
network installation, Macintosh 19
network installation, Windows 18
operating systems supported 12
uninstalling from Windows 22
space requirements 253
specifications
acoustic 256
electrical 255
envelopes 262
features 4
image area 258
labels 264
operating environment 257
paper 261
physical 253
skew 259
transparencies 264
specifications, media
envelope feeder 268
specks, troubleshooting 223, 229
speed specifications 4
spots, troubleshooting 223, 229
stacker mode, 3-bin mailbox 124
standard output bin
capacity 6
jams, clearing 193
locating 8
reattach error message 214
selecting 77
staple cartridges
empty, stop or continue settings 129
jams 199
loading 129
low error message 214
part numbers 9, 241
stapler/stacker
capacity 6
empty, stop or continue settings 129
light status 216
loading staples 129
media specifications 269, 270
media types supported 265
models including 3
moving the MFP 10
paper jams 193
part number 9, 241
printing to 127
reattach error message 214
selecting 77
specifications, physical 253
staple jams 199
stapling options 92
too many pages error message 214
stapling documents 127
Start button 30, 31
status
e-mail alerts 153
Information tab, embedded Web server 149
lights 216
viewing with HP Toolbox 153
Status button 30
Status tab, HP Toolbox 153
Stop button 30, 31
storage cabinet
locking and unlocking 11
models including 3
part number 9, 241
setting up 131
specifications, physical 253
storage, job
copies 105
features 94
private 94
proof and hold 97
QuickCopy 96
Retrieve job menu 35
settings 51
stored 95
stored jobs 95
storing
envelopes 263
paper 261
print cartridges 166
straight-through paper path 78

supplies
memory errors 204
non-HP 166
ordering iii, 240
part numbers 9, 241
recycling 289
status, viewing with embedded Web server 149
status, viewing with HP Toolbox 153
supply level, print cartridges 167
support
embedded Web server links 151
HP Instant Support Professional Edition (ISPE) iii
Macintosh iv
maintenance agreements 249
online iii
repacking printer 250
service dealers iv
service information form 251
telephone iii
system requirements
drivers 13
embedded Web server 148
HP Toolbox 152
HP Web Jetadmin 155
printing software 12
system requirements, e-mail 7
System setup submenu 51

T
TCP/IP settings 58, 156
technical support
embedded Web server links 151
HP Instant Support Professional Edition (ISPE) iii
Macintosh iv
maintenance agreements 249
online iii
repacking printer 250
service dealers iv
service information form 251
telephone iii
Telecom statement 287
telephone numbers
ordering supplies iii
service agreements iv
support iii
temperature requirements 257
tests 64
text quality, troubleshooting 227, 230
time, setting 158
tire tracks, troubleshooting 229
toner
EconoMode 50
output quality, troubleshooting 225
usage page 164
toner cartridges. *See* print cartridges
Toolbox
Alerts tab 153
Device Settings window 154
features 152
links 154
opening 153
Status tab 153
top cover
jams, clearing 186
locating 8
touchscreen, cleaning 173
transparencies
HP, ordering 245
loading 23
printing 81
specifications 264
tray 1
configuring media settings 28
custom-size paper settings 84
duplexing 87
envelopes, printing 79
insert or close error message 212
jams, clearing 189
load error message 212
loading 23, 70
locating 8
locking 74
manual feed 75
media sizes supported 266
media types supported 265
printing from 73
registration, setting 89
selection settings 52
settings 38
unexpected size or type error message 206
usage page 164
trays
cabinet/stand 131
configuring media settings 28
custom-size paper settings 84
duplexing 87
included 2
insert or close error message 212
jams, clearing 189, 191
loading 23, 70
locking 74
manual feed 75
media size specifications 267
media types supported 265
part numbers 241
registration, setting 89
selecting 73
selection settings 52
settings 38, 39
specifications, physical 253
unexpected size or type error message 206
usage page 164

trays 2, 3, 4, or 5. *See* 500-sheet trays
troubleshooting
  accessories 216, 217
  ADF output quality 231
  blank pages 220, 231
  blurred print 230
  checklist 182
  control panel 184
  control-panel messages 203
  curled paper 227
  digital sending 184
  dropouts 223
  error messages, alphabetical list 204
  error messages, numerical list 204
  gateway addresses 235
  gray background 224
  jams, clearing 185
  jams, frequent 201
  light print 222
  lines 224, 228, 231, 232
  network printing 236
  paper path test 201
  quality 220
  repeating defects 226, 234
  repetitive images 230
  skewed pages 227, 232
  smeared toner 225
  specks 223
  staple jams 199
  text quality 227, 230
  tire tracks 229
  white spots 229
  wrinkled paper 228
TrueType fonts 17
TrueType fonts included 5
two-sided printing
  error messages 209, 210, 211, 214, 206
  layout options 87
  loading paper 87
  paper sizes supported 86
  registration, setting 89
  using duplexer 86, 88
typefaces
  font lists 165
  HP Disk Management Utility 17
  included 5

U

unable to connect, copy, or send 215
unexpected size or type error messages 206
uninstalling software, Windows 22
UNIX driver support 13
unlocking accessories 11
upgrading firmware 169
usage page 164

V

validating gateway addresses 235
voltage specifications 255
voltage, troubleshooting 184

W

wake time, setting 159
warranty
  extended iv, 249
  MFP 247
  print cartridge 248
watermarks 90
wavy paper, troubleshooting 227
Web browser requirements
  embedded Web server 148
  HP Toolbox 152
Web Jetadmin
  browsers supported 155
  downloading 155
  firmware updates 171
  IP address, changing 156
Web sites
  anticounterfeit 166
  customer support iii
  downloading software iii
  environmental information 290
  HP Web Jetadmin, downloading 155
  Macintosh support iv
  Material Safety Data Sheets (MSDS) 290
  ordering supplies iii, 240
  paper specifications 261
  recycling supplies 289
  service agreements iv
  UNIX and Linux drivers 13
weight, media specifications
  3-bin mailbox 269
  500-sheet tray 267
  ADF 270
  duplexer 268
  envelope feeder 268
  stacker 269
  stapler 270
  tray 1 266
What is this? Help 33
white lines or spots, troubleshooting 228
Windows
  drivers supported 13
  installing software 17
  installing using New Hardware Found wizard 21
  network installation 18
  uninstalling software 22
  versions supported 12
Windows 2000 fax 122
workflow, send to 116
wrinkled paper, troubleshooting 228

© 2004 Hewlett-Packard Development Company, L.P.

www.hp.com

Q3942-90951