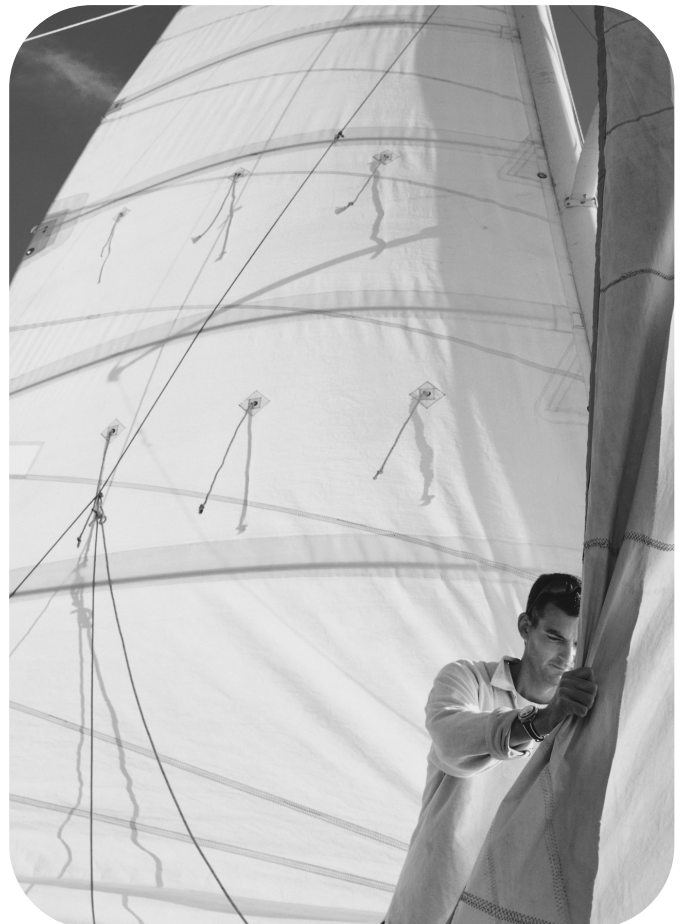


software  
technical  
reference



hp LaserJet 9000mfp





**hp LaserJet 9000mfp**

**software technical reference**

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# Table of Contents

## List of tables

## List of figures

## 1 Purpose and Scope

Introduction . . . . .	17
HP LaserJet 9000mfp . . . . .	18

## 2 Software Description

Introduction . . . . .	19
Supported operating systems . . . . .	19
Technology background information . . . . .	20
HP LaserJet user documentation . . . . .	20
Adobe Acrobat Reader . . . . .	20
HP LaserJet guides . . . . .	20
HP LaserJet product printing-system installation notes . . . . .	21
HP LaserJet product printing-system release notes . . . . .	21
Other HP LaserJet documents . . . . .	21
Bidirectional communication . . . . .	22
Driver Autoconfiguration . . . . .	23
Printer Status and Alerts . . . . .	24
Remote firmware update . . . . .	30
Determining the current level of firmware . . . . .	30
Downloading the new firmware from the HP Web site . . . . .	30
Downloading the new firmware to the product . . . . .	30
Remote firmware update for Windows systems . . . . .	31
Windows 95, Windows 98, and Windows Me . . . . .	31
Remote firmware update for UNIX systems . . . . .	32
Remote firmware update using FTP on a direct network connection . . . . .	32
Using HP Web JetAdmin to download the firmware to the product . . . . .	32
Printer messages during firmware upgrade . . . . .	33
Troubleshooting a firmware update . . . . .	34
HP Web Access . . . . .	35
Information tab . . . . .	36
Device status . . . . .	36
Configuration information . . . . .	37
Links to off-printer solutions . . . . .	37
Settings tab . . . . .	38
Remote printer configuration . . . . .	38
Networking tab . . . . .	39
Configuration . . . . .	39
Security . . . . .	39
Diagnostics . . . . .	39
Network settings . . . . .	39
Configurable e-mail alerts . . . . .	41
Digital sending . . . . .	41
Configuring HP Digital Send from the control panel . . . . .	42

Sending to e-mail . . . . .	42
Foreign Interface Harness . . . . .	43
E-mail command and response . . . . .	43
Euro character . . . . .	44
Printing-system components . . . . .	44
Printing system and installer . . . . .	44
CD browser for Windows systems . . . . .	44
Installer features. . . . .	46
Installable components . . . . .	47
Printer drivers. . . . .	47
PCL 5e, PCL 6, and PS drivers . . . . .	47
Windows 3.1x driver versions . . . . .	47
Windows 95, 98, Me, NT 4.0, 2000, and XP driver versions . . . . .	47
Macintosh and Macintosh-compatible system driver versions . . . . .	47
AutoCAD driver versions . . . . .	48
Additional driver availability . . . . .	48
Macintosh components . . . . .	48
Additional productivity tools . . . . .	49
HP Web Registration . . . . .	49
Optional software. . . . .	49
HP Web JetAdmin. . . . .	49

### 3 Driver features

PCL 6 and PCL 5e driver features . . . . .	51
Help system . . . . .	51
What's this? Help . . . . .	51
Context-sensitive Help . . . . .	51
Constraint messages . . . . .	52
Bubble Help . . . . .	53
Quick Sets . . . . .	54
Factory Defaults . . . . .	55
Custom Quick Sets . . . . .	55
HP LaserJet Multifunction Finisher Quick Sets . . . . .	55
Document Options . . . . .	56
Print on Both Sides option . . . . .	57
Flip Pages Up . . . . .	57
Booklet Printing . . . . .	58
Activating booklet printing . . . . .	59
Selecting a booklet cover . . . . .	60
Staple option . . . . .	60
Stapling a document . . . . .	61
Fold/Saddle Stitch . . . . .	62
Saddle-stitching a booklet or folding a single sheet . . . . .	63
Pages per Sheet . . . . .	63
Print Quality . . . . .	64
Graphics Settings group box . . . . .	66
Output Settings group box . . . . .	66
Resolution . . . . .	66
Resolution Enhancement technology . . . . .	66
Scale Patterns (WYSIWYG) . . . . .	67
Print all Text as Black . . . . .	67
Edge-to-Edge Printing. . . . .	67
Font Settings group box . . . . .	67
EconoMode . . . . .	67
Effects tab features . . . . .	68
ZoomSmart . . . . .	68
Print Document On: setting . . . . .	69
Scale to Fit option . . . . .	69

% of Normal Size option . . . . .	69
Watermarks . . . . .	70
Current Watermarks . . . . .	71
Watermark Message . . . . .	72
Message Angle . . . . .	72
Font Attributes . . . . .	72
Name . . . . .	72
Color . . . . .	72
Shading . . . . .	72
Size . . . . .	73
Default settings . . . . .	73
Paper tab features . . . . .	73
Printer image . . . . .	73
All Pages . . . . .	74
Other Pages . . . . .	75
Back Cover . . . . .	75
Size is: . . . . .	76
Custom..... . . . .	77
Name drop-down menu . . . . .	78
Dynamic command button . . . . .	78
Width and height controls . . . . .	79
Custom width and height control limits . . . . .	80
Paper and envelope icons . . . . .	80
Measurement Units button . . . . .	80
Close button . . . . .	81
Source Is: . . . . .	81
Type Is: . . . . .	82
Printer image . . . . .	82
Destination Features . . . . .	83
Hardware configuration and availability of Job Retention options . . . . .	84
Configuring the printer driver for a printer hard disk . . . . .	84
Job retention modes . . . . .	84
Off. . . . .	84
Quick Copy . . . . .	85
Proof and Hold . . . . .	85
Using a PIN for Private Job and Stored Job . . . . .	85
Private Job . . . . .	85
Stored Job . . . . .	86
Document identifiers used in Job Retention . . . . .	86
User Name . . . . .	86
Job Name . . . . .	87
Using Job Retention options when printing . . . . .	87
Releasing stored jobs at the printer . . . . .	87
Deleting a print job . . . . .	88
Output Bin Options . . . . .	88
Options . . . . .	88
Printer image . . . . .	88
Copies . . . . .	89
Orientation . . . . .	90
Image rotation versus stapling . . . . .	90
About . . . . .	92
Driver extensions . . . . .	93
Paper handling options . . . . .	95
Duplexing unit . . . . .	95
Mopier enabled . . . . .	95
MFP Module . . . . .	95
Tray 1 installed . . . . .	95
Optional Paper Destinations . . . . .	96
Optional Paper Sources . . . . .	96

Other Options . . . . .	97
Storage . . . . .	97
Printer Memory . . . . .	97
Fonts . . . . .	98
Ignore Application Collation . . . . .	99
Automatic Configuration . . . . .	100
Printer image . . . . .	100
Configuring the trays . . . . .	102
Windows PS driver features . . . . .	103
PS 3 Emulation support for the HP LaserJet product . . . . .	103
Page Setup tab features . . . . .	104
Advanced tab features . . . . .	105
Job Retention tab features . . . . .	106
Off . . . . .	106
Quick Copy . . . . .	106
Proof and Hold . . . . .	107
Private Job and Stored Job) . . . . .	107
PIN . . . . .	107
Private Job . . . . .	107
Stored Job . . . . .	107
Device Settings tab features . . . . .	108
HP LaserJet software CD-ROM . . . . .	109
In-box file layout . . . . .	109
HP LaserJet software CD-ROM, Windows partition . . . . .	109
Directory structure . . . . .	109
HP LaserJet software CD-ROM, Macintosh Partition . . . . .	109
Availability and fulfillment . . . . .	109
In-box CD-ROMs . . . . .	109
9000mfp Web ordering . . . . .	110
Web deployment . . . . .	110
Printing-system software . . . . .	111
Printer firmware . . . . .	111
Standalone drivers . . . . .	111
Operating system driver bundles . . . . .	111
Point-and-print bundles . . . . .	111
Other operating systems . . . . .	111
Software component availability . . . . .	112
Software component localization . . . . .	113

## 4 Installing Windows printing system components

Introduction . . . . .	117
System Requirements . . . . .	117
Windows 3.1x . . . . .	117
Windows 95, 98, Me, NT 4.0, 2000, and XP . . . . .	117
Windows 95, 98, Me, NT 4.0, 2000, and XP . . . . .	118
Font support . . . . .	118
Basic fonts . . . . .	118
Default Fonts . . . . .	118
Installation instructions . . . . .	123
General installation for Windows 95, 98, Me, NT 4.0, 2000, and XP OSs . . . . .	123
Installing from the printing system CD-ROM . . . . .	123
Installing from a network or from downloaded files . . . . .	123
Detailed Windows installation . . . . .	123
Typical Installation dialog box sequence . . . . .	124
Custom installation . . . . .	145
Product registration (HP WebReg) . . . . .	147
Invisible installation of all drivers (Internal) . . . . .	157
Customization Utility for Windows . . . . .	157



Silent installer . . . . .	158
Customized silent installer . . . . .	158
Command-line silent install . . . . .	158
Driver-only installation. . . . .	159
Point and Print installation for Windows 95, 98, Me, NT 4.0, 2000, and XP . . . . .	160
Setting a default printer. . . . .	161
Windows 3.1x . . . . .	161
Printer support . . . . .	161
Installing printer drivers on Windows 3.1x . . . . .	162

## 5 Installation and removal for non-Windows operating systems

Introduction . . . . .	163
System Requirements . . . . .	163
Macintosh . . . . .	163
IBM OS/2 . . . . .	163
Macintosh . . . . .	163
Macintosh component descriptions. . . . .	163
HP LaserJet PPDs . . . . .	164
PDEs (Mac OS X) . . . . .	164
HP LaserJet Utility . . . . .	164
Installation notes. . . . .	164
Online Help . . . . .	164
HP Auto Setup Utility . . . . .	164
Screen fonts . . . . .	164
Font support . . . . .	165
Installing the Macintosh printing system . . . . .	167
To install the HP LaserJet printer software for Macintosh OS . . . . .	168
Uninstalling the Macintosh printing system. . . . .	168
In-box disk layout . . . . .	168
Folders and files added through installation of the HP LaserJet software (Macintosh OS) . . . . .	168
Macintosh (Macintosh OS) installation . . . . .	169
Main Install dialog box sequence . . . . .	169
Printer setup using AppleTalk Chooser . . . . .	174
HP LaserJet Screen Fonts Installer dialog box sequence . . . . .	175
IBM OS/2 Warp 3.0 and greater . . . . .	177
OS/2 installation instructions. . . . .	177
Installing a printer in OS/2 when printer object is missing . . . . .	177
Installing a printer in OS/2 with pre-existing printer object on desktop . . . . .	178
Font support . . . . .	179
Changing a printer driver in the printer object. . . . .	180
Changing the printer properties . . . . .	180
Changing the job properties . . . . .	181

## 6 Engineering Detail

Introduction . . . . .	183
Digital Sending Config Applet . . . . .	183
General tab . . . . .	184
Send to E-mail tab . . . . .	185
Advanced E-mail Settings. . . . .	186
Addressing tab . . . . .	187
Advanced Network Addressing Settings. . . . .	189
Preferences tab. . . . .	190
Log tab . . . . .	191
About tab. . . . .	192
E-mail Servers That Function as SMTP Gateways. . . . .	192
Exchange 5.5 . . . . .	192

Exchange 2000 . . . . .	192
Sendmail . . . . .	192
Qmail . . . . .	193
Lotus Domino (Notes) . . . . .	193
SMTP Gateway Verification . . . . .	193
Telnet to Port 25. . . . .	193
Procedure. . . . .	193
Lightweight Directory Access Protocol. . . . .	194
Common Abbreviations for LDAP Attributes . . . . .	194
E-mail Servers that support LDAP . . . . .	194
Enterprise AutoConfiguration (Internal) . . . . .	194
Windows NT 4.0, Windows 2000, and Windows XP requirements . . . . .	195
Driver INF file requirements . . . . .	195
Adding bidirectional communication component files . . . . .	195
Adding mini-installer files. . . . .	196
Windows 95, Windows 98, and Windows Me requirements . . . . .	197
Driver INF file requirements . . . . .	198
Adding bidirectional communication component files . . . . .	198
Adding mini-installer files. . . . .	199
Disabling Enterprise AutoConfiguration . . . . .	200
Media attributes . . . . .	201
Paper-source commands. . . . .	201
Media types and sizes . . . . .	202
PCL 5e and PCL 6 custom paper sizes . . . . .	206
Paper Type commands . . . . .	208
Network Administrator Software . . . . .	209
Novell NetWare (Internal). . . . .	209
Determining the server connection (bindery versus NDS) (Internal) . . . . .	209
Installing the Novell Client (bindery and NDS - Default) (Internal) . . . . .	209
Setting up an NDS-installed client to operate in bindery emulation mode (Internal) . . . . .	210
Using Jet Admin 3.42/4.2 to build Novell queues (Internal) . . . . .	215
Building a bindery queue (Internal) . . . . .	219
Building an NDS queue . . . . .	222
Removing printer objects from the Novell server (Internal) . . . . .	224
Installing drivers using NDPS (.inf install only) (Internal) . . . . .	228
Loading the drivers (Internal) . . . . .	229
Making NDPS print agents (Internal) . . . . .	229
ZENworks 2.0 (Internal) . . . . .	230
Making user policies (Internal) . . . . .	230
Associating the queues with the printer agent (Internal) . . . . .	230
Troubleshooting (Internal) . . . . .	231
Printer Status and Alerts. . . . .	231
HP product models and drivers that support Printer Status and Alerts . . . . .	231
Printer Status and Alerts .INF file (Internal) . . . . .	232
Description of HPSTATUS.INI Entries and their Purpose . . . . .	232
[allprinters] . . . . .	232
[refreshrate] . . . . .	233
[LegacyPrinerDSRates] . . . . .	234
[WindowsSpoolerDSRates] . . . . .	235
[PrinterAlertRates] . . . . .	236
[EWSCconnect] . . . . .	236
[LostJobTimer] . . . . .	237
[biditimeout] . . . . .	237
[bidilevel] . . . . .	238
Enabling or Disabling Printer Status and Alerts support . . . . .	238
Disabling Job Tracking. . . . .	238
Adding or removing Printer Status and Alerts printers . . . . .	238
Removing support for a specific printer . . . . .	239
Driver Support Matrix (HPSASDRV.MTX) . . . . .	240

DSM File Format .....	240
1) General problem solving. ....	241
2) Printer Status and Alerts is causing problems with a specific driver model .....	245
Windows 9x steps .....	247
Windows NT 4.0 steps .....	247
Windows 2000 steps .....	247
All operating systems .....	247
3) Printer Status and Alerts is conflicting with other application(s) .....	248



# List of tables

Table 1. Bidirectional communication support in various operating systems	22
Table 2. Default alerts selection state for connection type	29
Table 3. Update messages	33
Table 4. Troubleshooting a firmware update	34
Table 5. Troubleshooting a firmware update failure	34
Table 6. Page orientation	57
Table 7. Selected paper size	58
Table 8. HP LaserJet 9000mfp EconoMode settings	67
Table 9. Name drop-down menu text strings	79
Table 10. Custom width and height limits for the HP LaserJet 9000mfp	80
Table 11. Close dialog box text strings	81
Table 12. Long edge stapling	91
Table 13. Short edge stapling	92
Table 14. Printer behavior with Ignore Application Collation settings	99
Table 15. CD-ROM versions	110
Table 16. Software component availability for HP LaserJet 9000 product	112
Table 17. Software component localization	113
Table 18. Default Fonts	118
Table 19. Additional PS 3 fonts	120
Table 20. Choose Setup Language dialog box text strings	124
Table 21. Setup dialog box text strings	125
Table 22. Welcome dialog box text strings	126
Table 23. HP Software License Agreement dialog box text strings	127
Table 24. Web Update dialog box text strings	128
Table 25. Type of Connection dialog box text strings	129
Table 26. Select Port dialog box text strings	130
Table 27. Network Setup dialog box text strings	132
Table 28. Network Printer Configuration dialog box text strings	133
Table 29. Identify Printer dialog box text strings	135
Table 30. Specify Network Path dialog box text strings	136
Table 31. Set Network Communication Mode dialog box text strings	137
Table 32. Printer Model dialog box text strings	138
Table 33. Installation Type dialog box text strings	140
Table 34. Printer Name dialog box text strings	141
Table 35. Printer Sharing dialog box text strings	143
Table 36. Finish dialog box text strings	144
Table 37. Exit Setup dialog box text strings	145
Table 38. Custom Installation dialog box text strings	147
Table 39. Hewlett-Packard's Electronic Registration text strings	149
Table 40. Welcome to Hewlett-Packard's Registration dialog box text strings	150
Table 41. Hewlett-Packard's Electronic Registration dialog box text strings (1 of 3)	152
Table 42. Hewlett-Packard's Electronic Registration dialog box text strings (2 of 3)	154
Table 43. Hewlett-Packard's Electronic Registration dialog box text strings (3 of 3)	155
Table 44. Exiting registration text strings	157
Table 45. Windows servers with Windows clients	160
Table 46. hp LaserJet for Macintosh installer splash screen dialog box text strings	169
Table 47. HP LaserJet Installer dialog text strings (easy install)	170
Table 48. HP LaserJet Installer dialog text strings (custom install)	172
Table 49. Installing dialog text strings	173

Table 50. Installation successful dialog text strings . . . . .	173
Table 51. Important! dialog box text strings . . . . .	174
Table 52. How do I select my printer? dialog text strings . . . . .	175
Table 53. HP LaserJet Screen Fonts splash screen dialog text strings . . . . .	175
Table 54. HP LaserJet Screen Fonts installer dialog text strings (1 of 2) . . . . .	176
Table 55. HP LaserJet Screen Fonts installer dialog text strings (2 of 2) . . . . .	176
Table 56. Installation was successful dialog text strings . . . . .	177
Table 57. Drivers that support Enterprise AutoConfiguration . . . . .	194
Table 58. Paper source commands for the HP LaserJet 9000mfp product . . . . .	202
Table 59. Supported features and attributes . . . . .	202
Table 60. Input-device supported sizes for the HP LaserJet 9000mfp product . . . . .	203
Table 61. Supported media sizes — duplexing unit, 3000-Sheet Stacker, and 3000-Sheet Stapler/Stacker . . . . .	204
Table 62. Supported media sizes — HP Multifunction Finisher . . . . .	205
Table 63. PCL 5e and PCL 6 custom paper sizes . . . . .	206
Table 64. Input-device supported media . . . . .	207
Table 65. Output-device supported media . . . . .	207
Table 66. HP Multifunction Finisher supported media . . . . .	208
Table 67. Paper-type commands . . . . .	208
Table 68. Printer Status and Alert driver support . . . . .	231
Table 69. [allprinters] section . . . . .	232
Table 70. [refreshrate] section . . . . .	233
Table 71. [LegacyPrinerDSRater] section . . . . .	234
Table 72. [WindowsSpoolerDSRates] section . . . . .	235
Table 73. [PrinterAlertRates] section . . . . .	236
Table 74. [EWSCconnect] section . . . . .	236
Table 75. [LostJob Timer] section . . . . .	237
Table 76. [biditimeout] section . . . . .	237
Table 77. [budukevek] section . . . . .	238
Table 78. Problem solving . . . . .	241
Table 79. Command line options . . . . .	244

# List of figures

Figure 1.	Printer Status and Alert icons.	26
Figure 2.	Printer Status and Alert window.	27
Figure 3.	Refresh Rate option.	28
Figure 4.	Documents Alert option.	29
Figure 5.	Device Status.	36
Figure 6.	Configuration page.	37
Figure 7.	Configure Device.	38
Figure 8.	Networking tab.	40
Figure 9.	Configurable Alerts.	41
Figure 10.	Installation CD browser main screen.	45
Figure 11.	A typical constraint message with an OK button.	52
Figure 12.	A property page with Bubble Help icons.	53
Figure 13.	The default appearance of the Finishing tab.	54
Figure 14.	Document Options group box - stapler only installed.	56
Figure 15.	Document Options group box - duplexing unit only installed.	56
Figure 16.	The Document Options group box - stapler and duplexing unit.	57
Figure 17.	Activating booklet printing.	59
Figure 18.	Selecting booklet printing type.	60
Figure 19.	Stapling a document.	61
Figure 20.	Stapling options.	62
Figure 21.	Saddle-stitching a booklet.	63
Figure 22.	Page-order preview images.	64
Figure 23.	Print Quality Details dialog box showing Best Quality settings.	65
Figure 24.	Print Quality Details dialog box showing 600 dpi settings.	66
Figure 25.	Effects tab.	68
Figure 26.	Preview images - Legal on Letter; Scale to Fit off (left) and on (right).	69
Figure 27.	Watermark Details dialog box.	71
Figure 28.	Paper tab.	74
Figure 29.	Other Pages mini-tab.	75
Figure 30.	Back Cover mini-tab.	76
Figure 31.	Custom Paper Size dialog box.	77
Figure 32.	Destination tab.	83
Figure 33.	Basics tab.	89
Figure 34.	About This Driver dialog box.	93
Figure 35.	Configure tab.	94
Figure 36.	More Configuration Options dialog box.	97
Figure 37.	Configure Font DIMMs dialog box.	98
Figure 38.	Driver NT Forms tab.	101
Figure 39.	Page Setup tab.	104
Figure 40.	Advanced tab.	105
Figure 41.	Job Retention tab.	106
Figure 42.	Device Settings tab.	108
Figure 43.	Choose Setup Language dialog box.	124
Figure 44.	Setup dialog box.	125
Figure 45.	Welcome dialog box.	125
Figure 46.	HP Software License Agreement dialog box.	126
Figure 47.	Web Update dialog box.	127
Figure 48.	Type of Connection dialog box.	129
Figure 49.	Select Port dialog box.	130

Figure 50.	Network Setup dialog box . . . . .	131
Figure 51.	Network Printer Configuration dialog box . . . . .	133
Figure 52.	Identify Printer dialog box (1 of 2) . . . . .	134
Figure 53.	Identify Printer dialog box (2 of 2) . . . . .	134
Figure 54.	Specify Network Path dialog box. . . . .	136
Figure 55.	Set Network Communication Mode dialog box . . . . .	137
Figure 56.	Printer Model dialog box . . . . .	138
Figure 57.	Installation Type dialog box. . . . .	139
Figure 58.	Printer Name dialog box . . . . .	141
Figure 59.	Printer Sharing dialog box . . . . .	142
Figure 60.	Finish dialog box . . . . .	144
Figure 61.	Exit Setup dialog box. . . . .	145
Figure 62.	Components dialog box, Custom Installation . . . . .	146
Figure 63.	Hewlett-Packard's Electronic Registration dialog box. . . . .	148
Figure 64.	Welcome to Hewlett-Packard's Registration dialog box . . . . .	150
Figure 65.	Hewlett-Packard's Electronic Registration dialog box (1 of 3). . . . .	151
Figure 66.	Hewlett-Packard's Electronic Registration dialog box (2 of 3). . . . .	153
Figure 67.	Hewlett-Packard's Electronic Registration dialog box (3 of 3). . . . .	155
Figure 68.	Exiting registration! dialog box . . . . .	156
Figure 69.	hp LaserJet for Macintosh installer splash screen dialog box . . . . .	169
Figure 70.	HP LaserJet Installer dialog box (easy install) . . . . .	170
Figure 71.	HP LaserJet Installer dialog box (custom install) . . . . .	171
Figure 72.	Installing dialog box. . . . .	173
Figure 73.	Installation was successful dialog box. . . . .	173
Figure 74.	Important! dialog box. . . . .	174
Figure 75.	How do I select my printer? dialog box . . . . .	174
Figure 76.	HP LaserJet Screen Fonts splash screen dialog box . . . . .	175
Figure 77.	HP LaserJet Screen Fonts installer dialog box . . . . .	176
Figure 78.	Installation was successful dialog box. . . . .	177
Figure 79.	Digital Sending Config Applet — General tab . . . . .	184
Figure 80.	Digital Sending Config Applet — Send to E-mail tab . . . . .	185
Figure 81.	Digital Sending Config Applet - Advanced E-mail Settings . . . . .	186
Figure 82.	Digital Sending Config Applet — Addressing tab . . . . .	187
Figure 83.	Digital Sending Config Applet - Advanced Network Addressing Settings . . . . .	189
Figure 84.	Digital Sending Config Applet — Preferences tab. . . . .	190
Figure 85.	Digital Sending Config Applet — the Log tab . . . . .	191
Figure 86.	Digital Sending Config Applet — The About tab . . . . .	192
Figure 87.	NDS Login Authenticator dialog box . . . . .	210
Figure 88.	Novell Client Configuration dialog box . . . . .	211
Figure 89.	Location Profile Properties: Bindery dialog box. . . . .	212
Figure 90.	Novell Login dialog box . . . . .	213
Figure 91.	Novell Client Configuration dialog box . . . . .	214
Figure 92.	HP JetAdmin Utility window. . . . .	215
Figure 93.	Preferences dialog box . . . . .	216
Figure 94.	New Device dialog box . . . . .	217
Figure 95.	General Device Information dialog box . . . . .	218
Figure 96.	NetWare dialog box. . . . .	218
Figure 97.	NetWare dialog box — queues serviced . . . . .	219
Figure 98.	Queues dialog box — Available Queues. . . . .	219
Figure 99.	Create Queue dialog box . . . . .	220
Figure 100.	NetWare dialog box, displaying queues serviced . . . . .	220
Figure 101.	TCP/IP dialog box . . . . .	221



Figure 102.	NetWare dialog box — beginning an NDS queue . . . . .	222
Figure 103.	NetWare dialog box — queues serviced . . . . .	223
Figure 104.	Queues dialog box — NDS queue . . . . .	223
Figure 105.	Create Queue dialog box — NDS queue . . . . .	224
Figure 106.	NetWare Administrator window (NWAdmin32) . . . . .	225
Figure 107.	Print Layout of an NDS Queue. . . . .	226
Figure 108.	NDS print queue objects (NWAdmin32). . . . .	227
Figure 109.	Bindery print queue objects (NWAdmin32) . . . . .	228



# 1

# Purpose and Scope

## Introduction

This Software Technical Reference (STR) provides information and troubleshooting tips for the printing system software for the HP LaserJet 9000mfp.

This document is prepared in an electronic format to serve as a quick-reference tool for Customer Care Center (CCC) agents, support engineers, system administrators, management information systems (MIS) personnel, and HP LaserJet product end-users, as appropriate.

The following information is included in this technical reference:

- descriptions of drivers and platforms with system modifications
- procedures for installing and uninstalling software components
- descriptions of problems that can arise while using the product, and known solutions to those problems
- descriptions of known software issues and workarounds

A description of the product model or models described in this STR is provided below. The printing system software for each product model accommodates the differences between models.

---

### Note

Bundle configurations might vary among geographic regions.

## HP LaserJet 9000mfp

HP LaserJet 9000mfp. This model (model number C8523A) comes with 128 megabytes (MB) random access memory (RAM), expandable to 384 MB; an HP JetDirect print server; copying, HP Digital Sending Software (version 3.0), and wide-format printing capabilities; an enhanced input/output (EIO) network card and EIO hard drive; a 100-sheet multipurpose tray; two 500-sheet input trays (trays 2 and 3); a 2000-sheet input tray 4; a duplexing unit (for printing on both sides of paper); and one of three optional paper-handling devices: a 3000-sheet stacker, a 3000-sheet stapler/stacker, or a multifunction finisher.

The HP LaserJet 9000mfp belongs to the HP LaserJet 9000 Series of printers. The behavior of other models in the series is occasionally described in this document. The other models are:

- HP LaserJet 9000, with 64 MB RAM
- HP LaserJet 9000n, with 64 MB RAM, HP JetDirect print server, Enhanced Input Output (EIO) network card, and multi-purpose paper tray (Tray 1)
- HP LaserJet 9000dn, with 64 MB RAM, HP JetDirect print server, EIO network card, and multi-purpose paper tray (Tray 1), and duplex printing accessory
- HP LaserJet 9000hns, with 64 MB RAM, HP JetDirect print server, EIO network card, and multi-purpose paper tray (Tray 1), duplex printing accessory 2,000-sheet paper feeder (Tray 4), and HP 3,000-sheet stacker/stapler

# 2

# Software Description

## Introduction

The product comes with software and installers for Microsoft (R) Windows (R) and Apple Computer, Inc., Macintosh systems. UNIX (R) and OS/2 systems are supported and are available through the Web. For specific information about a system's installer, drivers, and components, locate the section that corresponds to that system.

## Supported operating systems

The following operating systems (OSs) support the HP LaserJet printing-system software, including standard printer command language (PCL) drivers and PostScript (R) (PS) emulation drivers. Windows OSs support a full-featured configuration of the HP LaserJet product; other OSs support varying levels of functionality.

- Windows 3.1x (PCL 6 and PCL 5e) for the HP LaserJet 9000 multifunction printer (mfp) product is supported through the use of the HP LaserJet 8100 printer drivers. The HP LaserJet 8150 driver supports PS.
- Windows 95 and Windows 98.
- Windows Millennium Edition (Me).
- Windows NT (R) 4.0 (Service packs 3 through 6).
- Windows 2000 (Service packs 1 and 2).
- Windows XP Professional and Windows XP Home Edition (Windows XP).
- IBM OS/2 2.0 or later.
- Mac OS 7.5.3 or later (supports PS).

---

### Note

The HP LaserJet PCL 5e and PCL 6 drivers and the HP LaserJet PS drivers necessary for Windows 3.1x systems are included on the HP LaserJet compact disc - read-only memory (CD-ROM) that came with the product.

---

# Technology background information

This section addresses the following topics:

- "HP LaserJet user documentation" in HP LaserJet user documentation
- "Bidirectional communication" in Bidirectional communication
- "Driver Autoconfiguration" in Driver Autoconfiguration
- "Printer Status and Alerts" in Printer Status and Alerts
- "Remote firmware update" in Remote firmware update
- "HP Web Access" in HP Web Access
- "Digital sending" in Digital sending
- "Foreign Interface Harness" in Foreign Interface Harness
- "E-mail command and response" in E-mail command and response
- "Euro character" in Euro character

## HP LaserJet user documentation

### Adobe Acrobat Reader

The HP LaserJet software CD-ROM includes Adobe (R) Acrobat (R) Reader version 5.0 for viewing online documentation. When you click any of the documentation links in the HP LaserJet software CD browser, the installer scans the system for an installed Portable Document Format (PDF) reader. If the installer cannot find a reader, the installer presents the option to install the Adobe Acrobat Reader.

---

**Note**

Adobe Acrobat Reader 4.0 or later is required to view the documents on the HP LaserJet software CD browser.

### HP LaserJet guides

On the CD-ROM that came with the product, the HP LaserJet 9000mfp *start*, *MFP start*, *MFP poster*, and *introduce* guides are supplied in Adobe Acrobat Reader PDF files for viewing on your computer.

You can either view the guides from the HP LaserJet CD browser or install them on your system. To install the online *start* and *introduce* guides for the HP LaserJet 9000mfp, select the **printer documentation** check box during a Custom Installation. The guides are installed in the Manuals folder on the target system. You can also choose to install the guides later.

In accordance with the Americans with Disabilities Act (ADA), Hewlett-Packard provides a screen-readable version of the HP LaserJet 9000mfp *use* guide on the HP Web Site at <http://www.hp.com/support/lj9000>.

The online HP LaserJet 9000mfp *use* guide is available at the <http://www.hp.com/support/lj9000> Web site.

## HP LaserJet product printing-system installation notes

The HP LaserJet 9000 Series Printing System Installation Notes are available on the HP LaserJet software CD-ROM. The installation notes (filename READ9000.WRI for the HP LaserJet 9000mfp ) contain important information about product features, instructions for installing the printing-system software, and technical assistance. You can either view the file from the HP LaserJet software CD browser, or install it on your system. To view this text file from the HP LaserJet 9000 software CD browser, click **printer documentation**, and then click **installation**. When you have the file open in Notepad, you can click **File**, and then click **Save As** to save a copy of the file to another location. To install the file, select the **printer documentation** check box during a Custom Installation. You can also choose to install the file later. The HP LaserJet Printing System Installation Notes are installed in the Hewlett-Packard\LaserJet 9000 folder on the target system for the HP LaserJet 9000mfp product.

## HP LaserJet product printing-system release notes

The Hewlett-Packard LaserJet 9000mfp Printing System Release notes, a readme text file with late-breaking information, is available on the HP LaserJet software CD-ROM. This readme file (filename README.TXT) contains an overview of the printing-system software components, late-breaking information, and other technical assistance. You can either view the file from the HP LaserJet software CD browser, or you can install it on your system. To view this text file from the HP LaserJet software CD browser, click **printer documentation**, and then click **release notes**. When you have the file open in Notepad, you can click **File**, and then click **Save As** to save a copy of the file to another location. To install the file, select the **printer documentation** check box during a Custom Installation. You can also choose to install the file later. The HP LaserJet Printing System Release notes are installed in the Hewlett-Packard\LaserJet 9000 folder on the target system.

For late-breaking information about known issues and workarounds, visit the Web at the following Uniform Resource Locator (URL) address:

[http://www.hp.com/go/lj9000\\_software](http://www.hp.com/go/lj9000_software)

## Other HP LaserJet documents

Guides for accessories and optional input trays and output bins are also available as Adobe Acrobat PDF files. You can view these documents from the HP LaserJet software CD browser by clicking **accessories documentation** and then clicking the name of the guide you wish to view. To install the file, select the **accessories documentation** check box during a Custom Installation. The following guides are available:

- HP 2000-sheet input (optional tray 4) install guide (click **2000-sheet feeder guide**)
- HP Duplex Printing Accessory install guide (click **duplexer guide**)
- HP multipurpose (tray 1) install guide (click **multipurpose tray guide**)
- HP Jetdirect Administrator's Guide (click **hp jetdirect guide**)
- HP 3000-Sheet Stapler/Stacker Use Guide (click **stacker/stapler guide**)
- HP Multifunction Finisher Guide (click **multifunction finisher guide**)

## Bidirectional communication

Bidirectional communication is the product's ability to respond to data inquiries from the computer and report back information, such as what type of print media is available or what accessories are connected to the printer. If a product does not have this capability (that is, if it has no bidirectional mode), it can only accept commands from the host and cannot report information back.

Driver Autoconfiguration and Printer Status and Alerts use bidirectional communications software. The Typical Installation installs Driver Autoconfiguration in supported environments that contain the bidirectional software. Use Custom Installation when you do not want these features.

Bidirectional communication depends upon your network operating system and the method used to connect your printer to the network.

The following table provides information about the operating systems and network environments that support bidirectional communication.

**Table 1. Bidirectional communication support in various operating systems**

Connection type			Windows 95	Windows 98	Windows Me	Windows NT 4.0	Windows 2000	Windows XP (32-bit only)	Macintosh
Direct Connect <sup>1</sup>									
Network Port	Jetdirect	TCP/IP <sup>2</sup>	X	X	X	X	X	X	X
		IPX/SPX <sup>3</sup>	X	X	X	X	X	X	
	Standard	TCP/IP (HP)	X	X	X	X	X	X	
		TCP/IP (MS <sup>4</sup> )					X	X	X
		IPX/SPX (HP)	X	X	X	X	X	X	
	LPR					X	X	X	X
	AppleTalk								X
Novell <sup>4</sup>	NetWare 4.x	Bindery queue	X	X	X	X	X	X	
		NDS <sup>5</sup> queue	X	X	X	X	X	X	
	NetWare 5.x	Bindery queue	X	X	X	X	X	X	
		NDS queue	X	X	X	X	X	X	
Microsoft Share	Windows 95, 98, or Me host	TCP/IP	X	X	X	X	X	X	X
		IPX/SPX	X	X	X	X	X	X	
	Windows NT 4.0, 2000, or XP <sup>6</sup> host	TCP/IP	X	X	X	X	X	X	X
		IPX/SPX	X	X	X	X	X	X	
		LPR	X	X	X	X	X	X	



<sup>1</sup>Not supported

<sup>2</sup>Transmission control protocol/Internet protocol

<sup>3</sup>Internet packet exchange/sequences packet exchange

<sup>4</sup>Bidirectional functionality is supported only with the client software from Novell. It is not supported with Microsoft Client Service for Netware.

<sup>5</sup>Novell Directory Services

<sup>6</sup>Printer Status and Alerts is not installed when the share computer is running Terminal Server.

## Driver Autoconfiguration

The HP LaserJet PCL 6 and PCL 5e drivers for Windows feature bidirectional communication technology which, in supported network environments, provides automatic discovery and driver configuration for printer accessories at the time of installation or later, if needed. Some accessories that are supported by Driver Autoconfiguration are duplexing unit, optional paper trays, font dual inline memory modules (DIMMs), and the hard drive.

If the network environment supports bidirectional communication, the installer presents Driver Autoconfiguration as an installable component by default for a Typical Installation, and as an optional installable component for a Custom Installation. The Driver Autoconfiguration component installs the bidirectional communication software. If the installation environment does not support bidirectional communication, the Driver Autoconfiguration option does not appear during installation. However, installed drivers will be configured automatically in accordance with the HP printer bundle selected during installation of the printing-system software.

Parallel, USB, and other direct connections do not support bidirectional communication. Therefore, Driver Autoconfiguration is not available with those types of connections. When other printing systems are installed, direct-connect bidirectional communication might be possible, although performance might not be optimal.

Driver Autoconfiguration works in four ways:

- In environments that support bidirectional communication, the computer communicates with the product, determines the physical configuration, and then configures the driver accordingly.
- If the configuration of the HP LaserJet product changes after installation, the driver can be automatically updated with the new configuration in environments that support bidirectional communication. For example, if the base printer model is installed and an optional duplexing unit is added later, you can automatically configure the duplexing unit in the driver by clicking the **Update Now** button on the driver's **Configuration** tab. The **Update Now** button activates the HP Network Registry Agent (HPNRA) and triggers the driver to recheck the registry for new information. The HPNRA automatically updates the registry and changes the configuration information that appears on the **Configuration** tab in the Printer folder.

---

**Note**

---

The bidirectional communication software necessary for the two methods of Driver Autoconfiguration described above is included in a Typical Installation when installing a network printer in supported environments. The feature is also a selectable option for a Custom Installation.

- In environments that do not support bidirectional communication, the driver automatically configures options based on the HP LaserJet product bundle selected during the installation of the printing-system software. For example, if the HP LaserJet 9000dnis selected, the driver automatically configures the optional duplexing unit. There is no communication between the computer and the product. Therefore, configuration is based solely on the definition of the printer bundle. Using the same example, if the HP LaserJet 9000dnis selected during installation, the duplexing unit is configured in the driver whether or not the optional duplexing unit is physically present.
- Enterprise Autoconfiguration (EAC) is a version of bidirectional communication that provides autoconfiguration functionality for an Add Printer Wizard installation (when you do not use autoselect). An Add Printer Wizard installation that includes EAC is identical to other Add Printer installations, except that when installation is complete, the driver for the supported product is configured with the same settings as the physical configuration of the device. Configuration occurs without user interaction. This also occurs if you do not select Driver Autoconfiguration during installation using a printing software CD-ROM.

If bidirectional communication software has been installed previously, EAC will not be activated, and the Add Printer Wizard uses the pre-existing bidirectional communication to configure the printer. If bidirectional communication software has not been installed, EAC configures the driver to match the device configuration, which it detects automatically. EAC is active only as needed to use the autoconfiguration utility, and is then shut off. The files required to install EAC remain on the user's system.

No EAC is available for the HP LaserJet 9000mfp product if it is using Windows 95, Windows 98, or Windows Me. It is supported in Windows NT 4.0 for the PCL 5e and PCL 6 drivers, version 4.3.2.178 or later, and in Windows 2000 and Windows XP for the PCL 5e and 6 drivers, version 4.3.2.167 or later.

## Printer Status and Alerts

The HP LaserJet printing-system software includes a utility called Printer Status and Alerts that you can use to monitor print jobs and printer status from the desktop. The Printer Status and Alerts feature provides printer and job status information such as printing history, job progress, toner and paper levels, and consumables and supplies reorder information, and presents a simulated view of the product control panel. This utility offers several options for configuring pop-up windows to view the status of the printer and of individual print jobs.

Printer Status and Alerts is a selectable component of Custom Installation. To install Printer Status and Alerts, choose **Custom Installation** and select the appropriate check box.

These features are available for printers connected to a network that supports bidirectional functionality. The Printer Status and Alerts feature cannot be installed over infrared (IR), parallel, or serial ports. See "Bidirectional communication."

Windows NT 4.0, Windows 2000, and Windows XP do not support Printer Status and Alerts with terminal servers. In Windows 95, only Internet Explorer 4.0 or later supports printer status. Also, for Windows 95, the Microsoft Winsock2 patch must first be installed. To download the Microsoft Winsock2 patch, go to [http://www.microsoft.com/windows95/downloads/contents/WUAdminTools/S\\_WUNetworkingTools/W95Sockets2/Default.asp](http://www.microsoft.com/windows95/downloads/contents/WUAdminTools/S_WUNetworkingTools/W95Sockets2/Default.asp).

For other operating systems, the computer must have Internet Explorer version 4.1 or later installed. To check the version number, open Internet Explorer, click **Help**, and then click **About Internet Explorer**. The version number is reported as "Version: 5.50.XXXX.XXXX."

HP Printer Status and Alerts communicates with the printer only during an active print job to minimize network traffic.

The following restrictions apply to HP products that use Printer Status and Alerts:

- For **Device Status** (printer icons in the status window), the computer must have Internet Explorer version 4.72.X or later installed. To find the version number, open Internet Explorer and click **Help**, then click About Internet Explorer. No Internet Explorer is necessary for getting status about jobs for network-connected printers. Internet Explorer can be installed after installing Printer Status and Alerts.
- On a few applications, such as Microsoft Excel and Seagate Crystal Reports, multiple copies of the same document show up in the Printer Status and Alerts window as separate jobs. This is because these applications actually send each copy as a separate job.
- For the JAWS for Windows screen reader, the computer must have Internet Explorer version 5.0 or later installed. To find the version number, open Internet Explorer and click **Help**, then click **About Internet Explorer**. Version 5.0 is reported as Version 5.00.X or later. No Internet Explorer is necessary for getting status about jobs for network-connected printers. Internet Explorer can be installed after installing Printer Status and Alerts.
- When renaming a driver, job and device status will not be tracked until the computer is restarted.
- Drivers added after Printer Status and Alerts is installed are not recognized until the computer is restarted.
- Clicking the **Cancel** button in the Printer Status and Alerts window will not always cancel a job. This button sends a cancel request to the printer, but if the job has already been processed, it might not be possible to cancel the job (this is commonly the case with smaller jobs).
- The installation software does not allow the user to install Printer Status and Alerts over a direct connection, such as a parallel connection. If Printer Status and Alerts is tracking a networked product that is subsequently switched to an LPT port, the utility will not be able to track jobs or get device status for that product.
- When using Printer Status and Alerts with Microsoft printer sharing, the following items apply:
  - The Microsoft patch "Vredir" is required if you want to use Printer Status and Alerts on a Windows 95, Windows 98, or Windows Me computer for a printer that has been shared directly from a computer with Windows NT 4.0, Windows 2000, or Windows XP installed. Failure to install the patch could cause an intermittent blue screen to appear on the client computer.

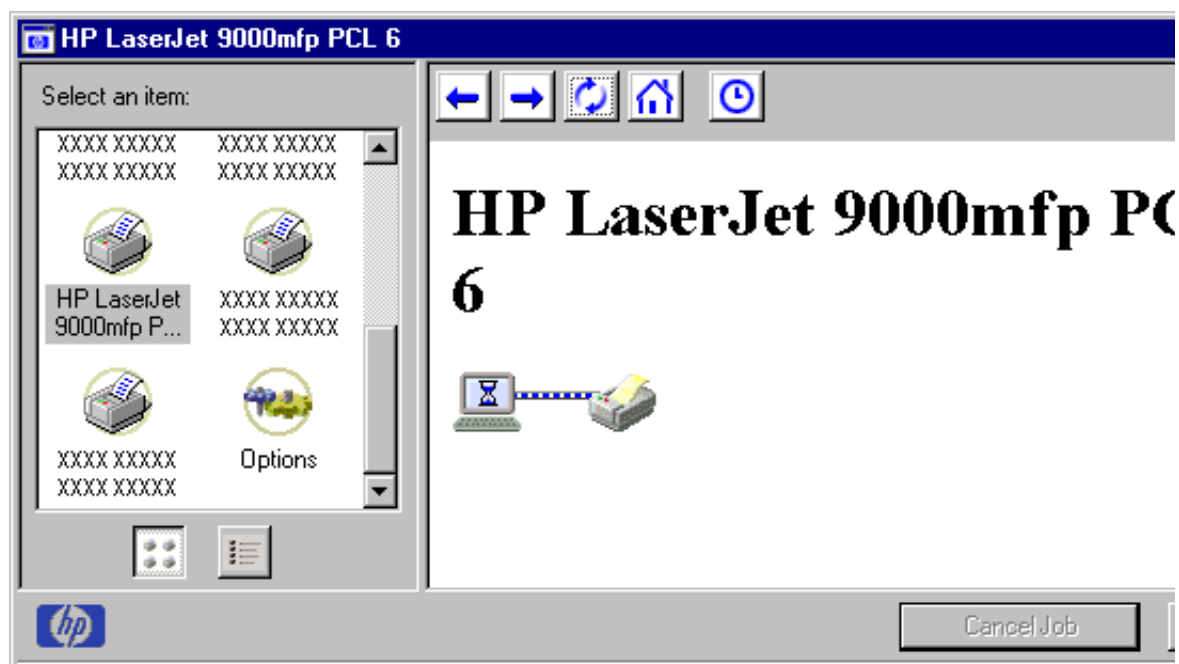
- For Microsoft shared products, the host system must have either **Printer Status and Alerts** or the **HP Driver Autoconfiguration** option from the HP installer on the computer. Load Printer Status and Alerts on the computer sharing the printer before loading Printer Status and Alerts on the client computer.
- For Windows 95, Windows 98, and Windows Me client computers that have Printer Status and Alerts installed, installing a printer using the Point and Print method will not activate Printer Status and Alerts.

When the Printer Status and Alerts feature is installed, a status icon in the form of a printer is included in the Windows system tray in the lower-right corner of the screen. The printer icon remains unchanged until you send a print job to the HP LaserJet product. When you send a print job, the icon changes to alert you to the status of the print job. Eight icons exist in this feature. The eight icons in the following illustration show current job status. Neither the **Receiving** nor the **Waiting** icon ever shows up in the Systray. When the print job is in a receiving or waiting state, the **Printing** icon appears in the Systray.



**Figure 1.** Printer Status and Alert icons

Double-click the status icon to open the Printer Status and Alerts window, shown in the following illustration.



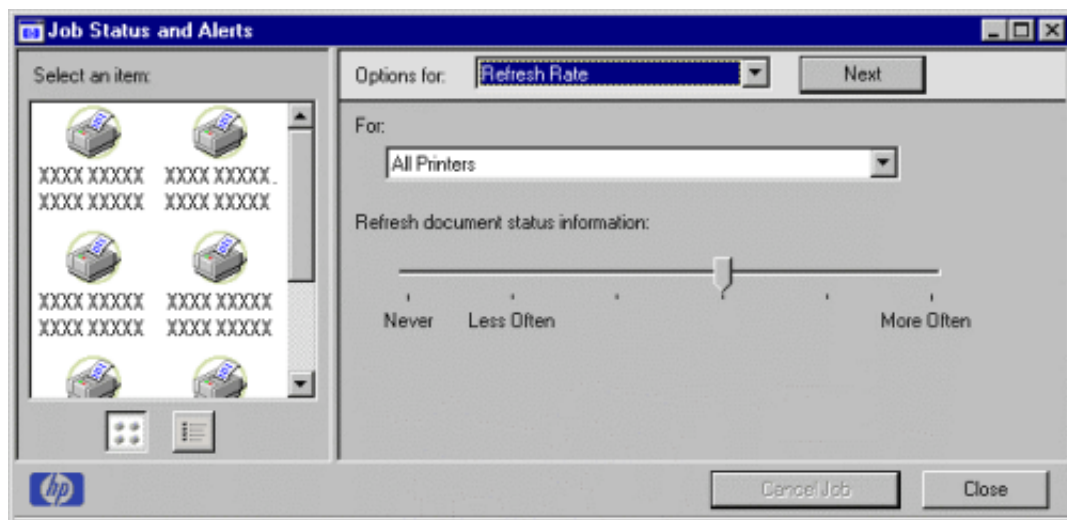
**Figure 2.** Printer Status and Alert window

**Note** The appearance on the screen varies according to the HP LaserJet product and its configuration.

The Printer Status and Alerts window consists of two panes. The left pane shows icons for the available products, an icon for each current print job in progress, and an **Options** icon. The right pane provides information based on what is selected in the left pane.

Click a product icon in the left pane to view information about the product and supplies or to view a history of recent print jobs. The following product information is available:

- **Printer Status** shows a replica of the product control panel that indicates the current status of the HP LaserJet product.
- **Supplies** shows information about the percentage of print-cartridge life remaining.
- **Media** provides information about paper-handling devices and the status of each device. For example, this section of the window shows the level of media present in each input device, as well as the status of output devices. This section also provides information about the type and size of media loaded in each input device.
- **Capabilities** provides information about such things as installed trays, paper-handling devices, and disk storage. Click a print job icon to see information about the progress and status of the print job. Click the **Options** icon to select options for configuring pop-up status windows that contain document alerts and to set the refresh rate for showing printer status information.



**Figure 3.** Refresh Rate option

#### Note

The appearance of the screen varies according to the HP LaserJet product and its configuration.

There are six settings for the refresh rate. The default setting is in the center, halfway between **Less Often** and **More Often**.

The **Less Often** setting specifies the least frequent update intervals, which have minimal impact on network traffic. The **More Often** setting updates the status more frequently, but also has the most impact on traffic. The **Never** setting disables the job-status monitoring mechanism for the selected printer. If the refresh rate for a given printer is set to **Never**, then subsequent jobs sent to that printer will not appear in the Printer Status and Alerts window. If the **Never** setting is selected when the scope control is set to **All Printers**, then all job-status monitoring will be disabled. However, even when job-status monitoring is disabled, you can still open the status window and view the product status panels.

Changes to the refresh rate settings affect any subsequent jobs submitted to the affected printer. Existing jobs that are already being processed have a fixed refresh rate which was determined (according to the setting in the Refresh Rate panel) when the job was submitted.

The Alerts options panel has controls to determine when the Printer Status and Alerts window automatically appears for each printer that has an icon in the Left pane. The drop down menu provides a list of available printers for which to make the selection. An option for all printers is included as the default selection. Each of the three, four, or five available selections, depending on the printer connection type, causes the Printer Status and Alerts window to automatically appear when that alert condition arises.

The availability of each alert option and the default selection varies depending on connection type. The following table shows the default state of the alerts panel as it relates to connection type.

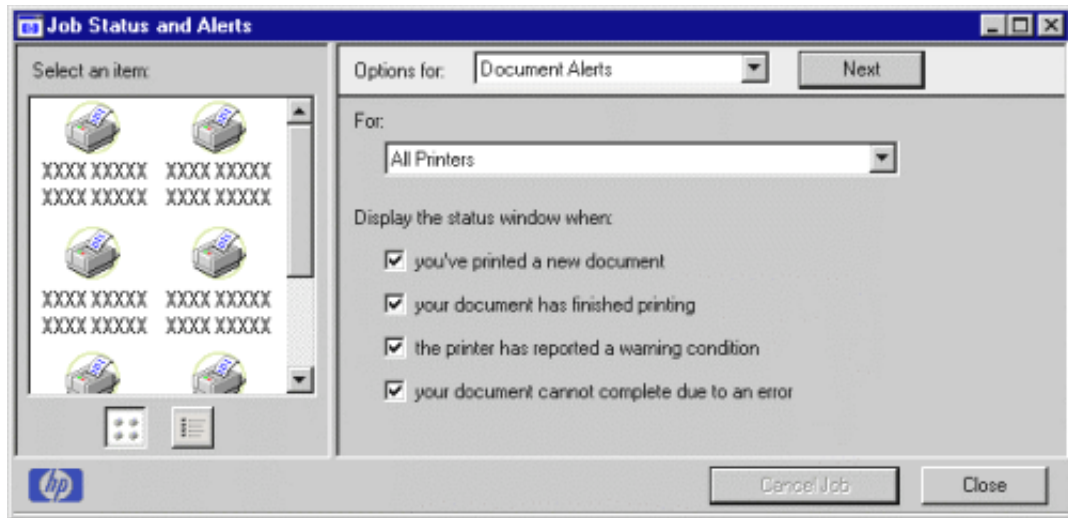
**Table 2. Default alerts selection state for connection type**

Connection type	Alerts (first two options)	Printer warning condition	Toner low	Printer error condition
All printers	Selected and activated	Selected and activated	Selected and activated	Selected and activated
Direct connect	Selected and activated	Selected and activated	Selected and activated	Selected and activated
Network	Selected and activated	Selected and activated	Unselected and grayed out	Selected and activated

Printers that are involved with at least one active print job are queried for job status periodically according to the **Status Check Rate** setting. If an error or a warning condition is detected, the Printer Status and Alerts window will automatically appear according to the **Alerts** options.

#### Note

Depending upon the options you select, information in the status window changes for each job printed, each job completed, and each warning condition detected.



**Figure 4. Documents Alert option**

#### Note

The appearance of the screen varies according to the HP LaserJet product and its configuration.



## Remote firmware update

The HP LaserJet product and optional paper-handling devices feature a remote firmware update capability. The method for downloading remote firmware updates from the [http://www.hp.com/go/lj9000\\_firmware](http://www.hp.com/go/lj9000_firmware) Web site is similar to that used to download the latest printing-system software and printer drivers.

The Web site features an “E-mail me when new software is available” link, an option that sends e-mail when a new version of printer firmware is available. Also, if you used HP WebReg to register your HP LaserJet product, HP will send you notification of firmware releases.

The process for remotely upgrading printer firmware involves three steps:

- Step 1 Determine the current level of firmware installed on the HP LaserJet 9000mfp.
- Step 2 Go to the [http://www.hp.com/go/lj9000\\_firmware](http://www.hp.com/go/lj9000_firmware) Web site and download the latest firmware.
- Step 3 Download the new firmware to the product.

### Determining the current level of firmware

Use the touch-screen graphical display on the control panel to determine the current level of firmware installed on the product:

- Step 1 Go to the product control panel and touch the **Menu** tab.
- Step 2 Touch INFORMATION on the control-panel display.
- Step 3 Touch PRINT CONFIGURATION on the control-panel display.
- Step 4 Look in the configuration page section marked “Device Information” for the Firmware Datecode. The firmware date code will look something like this:  
03/14/2002 03.002.0

### Downloading the new firmware from the HP Web site

The .RFU (remote firmware update) file and an associated readme file are packaged together as a self-extracting .EXE file. For detailed instructions about how to download the .EXE file, see the [http://www.hp.com/go/lj9000\\_firmware](http://www.hp.com/go/lj9000_firmware) Web site.

### Downloading the new firmware to the product

You can send an .RFU update to a printer as long as the printer is in “ready” state; the printer will wait for all input/output (I/O) channels to become idle before cycling power.

---

#### Note

If the firmware update involves a change in the format of nonvolatile random-access memory (NVRAM), any menu settings changed from the default settings will return to default settings, and must be changed again if the user wants settings different from the defaults.

The elapsed time for an update depends on the I/O transfer time, as well as the time that it takes for the printer to reinitialize. The I/O transfer time depends on a number of things, including the speed of the host computer sending the update, the I/O method (Fast InfraRed Connect [FIR], parallel, or network). The reinitialization time will depend on the specific hardware configuration of the printer, such as the number of enhanced input/output (EIO) devices installed, the presence of external paper-handling devices, and the amount of memory installed.



If the remote firmware update process is interrupted before the firmware update is complete, the HP LaserJet 9000mfp is equipped with fully functional backup copy of firmware. The message RESEND UPGRADE appears on the product control panel.

Finally, any print jobs ahead of the .RFU job in the queue will be printed before the update is processed.

---

**Note**

The printer automatically power cycles after processing the update.

### Remote firmware update for Windows systems

If the printer is shared on the network, then the following command can be issued from a command prompt or MS-DOS window:

```
copy /b FILENAME \\<SHARENAME>\<PRINTERNAME>
```

where FILENAME is the name of the .RFU file, <SHARENAME> is the name of the computer from which the printer is being shared, and <PRINTERNAME> is the printer share name (do not type the angle brackets).

The message ONE FILE COPIED SUCCESSFULLY appears on the computer screen.

The MFP control panel will alternately display RECEIVING UPGRADE and PERFORMING UPGRADE. The download takes several minutes. Please be patient. At the end of the download, the message PROCESSING JOB appears on the control panel.

The printer will automatically power cycle after processing the update. The message READY will appear on the control panel.

The download is now complete.

Print a configuration page and compare the Firmware Datecode line with the value previously shown. The value on that line should have increased.

If the printer is connected through a local port, then the .RFU file can be sent directly to the printer with a COPY command from a command prompt or MS-DOS (R) window. At the command prompt, follow the steps below for your operating system.

### Windows 95, Windows 98, and Windows Me

From a command prompt or MS-DOS (R) window type the following command:

```
Mode lpt1:,,p
```

---

**Note**

If the printer is attached to a parallel port other than LPT1, then substitute the proper LPT port number in the **Mode** command.

The response you receive should be similar to these examples:

```
> LPT1 Not Rerouted
> Infinite retry on parallel printer time-out
```

The .RFU file can now be sent directly to the printer with a COPY command from a command prompt or MS-DOS (R) window:

```
copy /b FILENAME PORTNAME
```

where FILENAME is the name of the .RFU file and PORTNAME is the name of the appropriate printer port (such as LPT 1).

## Remote firmware update for UNIX systems:

Any method that delivers the .RFU file to the printer will work, including:

```
$cp /home/yourmachine/FILENAME/dev/parallel
```

where /home/yourmachine/FILENAME contains the .RFU file.

## Remote firmware update using FTP on a direct network connection

If your HP LaserJet product uses a direct network connection, you can use file transfer protocol (FTP) to update your HP LaserJet firmware. Complete the following steps.

- Step 1 Take note of the TCP/IP address on the EIO X JetDirect page (this is the second page of the Configuration Page printout. To print a configuration page, see “Determining the current level of firmware”).

### Note

Before connecting to the printer, make sure that the printer is not in Power Save Mode. Also make sure that any error messages are cleared from the control panel display.

- Step 2 Open a DOS command window on your computer.
- Step 3 Type `FTP <TCP/IP PRINTER ADDRESS>` (for example, if the TCP/IP address is 192.168.0.90, type `FTP 192.168.0.90`).
- Step 4 Press ENTER on the keyboard.
- Step 5 When prompted for user name and password, press ENTER for each.
- Step 6 Type BIN at the > prompt.
- Step 7 Press ENTER.
- Step 8 Type:
- ```
put <path>
```
- where <path> is the location where the .RFU file was downloaded from the Web. For example, type:
- ```
PUT C:\LJ9000\lj9000FW.RFU
```
- and then press ENTER.

The download process begins and the firmware is updated on the printer. The printer automatically power cycles off and on again to activate the update. This can take about five minutes. Let the process finish without further interaction with the printer or computer.

- Step 9 When the printer power-cycles on and READY appears on the control panel display, close the MS-DOS command window (type `BYE`, and then press ENTER. Type `EXIT`, and then press ENTER). The firmware update is complete.

## Using HP Web JetAdmin to download the firmware to the product

This procedure requires that Web JetAdmin version 6.5 or later be installed. Complete the following steps to update a single printer through HP Web JetAdmin after downloading the .RFU file from the HP Web site.

- Step 1 Start HP Web JetAdmin.
- Step 2 Type the TCP/IP address or IP hostname of the printer in the **Quick Device Find** field, and then click **Go**. The printer Status window appears.
- Step 3 Locate the **Update** button. You might need to click the right arrow on the toolbar to locate this button.

- Step 4 Click **Update**.
- Step 5 When prompted for the type of update to perform, click **Update Printers**, and then click **Continue**.
- Step 6 Under **Upload new firmware image:**, click **Browse** to locate the .RFU file you downloaded from the [http://www.hp.com/go/lj9000\\_firmware](http://www.hp.com/go/lj9000_firmware) Web site, depending on the product.
- Step 7 Click **Upload** to move the .RFU file from your hard drive to the HP Web JetAdmin server.
- Step 8 Refresh the browser.
- Step 9 Select the .RFU file from the **Select new firmware version:** drop-down menu.
- Step 10 Click **Update Firmware**. HP Web JetAdmin sends the selected .RFU file to the printer.

Also, HP Web JetAdmin 6.5 can be used to perform multiple or unattended installations.

- Step 1 Start HP Web JetAdmin.
- Step 2 Create a device group. A simple way to do this is:
  - a. Click **Devices** on the **1. Choose:** drop-down menu.
  - b. Click **Device Model** from the **2. Filter:** drop-down menu.
  - c. In the **3. Criteria (Optional):** field, type your model number (for example, "9000" [without quotation marks]).
  - d. Click **Go**.
- Step 3 In the **Device List**, select the printers you want to include in the group and click **Create Group**.
- Step 4 When prompted, type a name for the new device group, and then click **OK**.
- Step 5 Click **Update**.
- Step 6 When prompted for the type of update to perform, click **Update Printers**, and then click **Continue**.
- Step 7 From the list of HP Devices, select the printers to be updated, or click **Select All**.
- Step 8 Click **Update** to install the new firmware.

### Printer messages during firmware upgrade

The printer shows three messages during a normal update process:

**Table 3. Update messages**

Printer message	Explanation
RECEIVING UPGRADE	This message appears from the time the printer recognizes the beginning of an .RFU update until the time the printer has verified the validity and integrity of the .RFU update.

**Table 3. Update messages (continued)**

Printer message	Explanation
PERFORMING UPGRADE	This message appears while the printer is actually reprogramming the firmware.
WAIT FOR PRINTER TO REINITIALIZE	This message appears from the time the printer has finished reprogramming until the printer reinitializes.

**Note**

To verify that the firmware update succeeded, print a new configuration page from the product control panel and verify that the firmware datecode shown on the configuration page is the same as the datecode of the .RFU file you downloaded to the printer.

**Troubleshooting a firmware update**

The following table lists causes and results of possible interruptions to the firmware update.

**Table 4. Troubleshooting a firmware update**

Cause	Result
Job was cancelled from product control panel	No update has occurred
Break in I/O stream during send (for example, parallel cable removed)	No update has occurred
Power cycle occurred during RECEIVING UPGRADE	No update has occurred
Power cycle occurred during UPGRADING PRINTER	Resend update
Power cycle occurred during WAIT FOR PRINTER TO REINITIALIZE	Update has been completed

Print jobs sent to the product while an update is in process do not interrupt the update.

The following table lists possible reasons for the failure of a remote firmware update and the corrective action to take for each situation.

**Table 5. Troubleshooting a firmware update failure**

Reason for firmware update failure	Corrective action
.RFU file is corrupted	The printer recognizes that the file is corrupted and rejects the update. Download the image from the <a href="http://www.hp.com/go/lj9000_firmware">http://www.hp.com/go/lj9000_firmware</a> Web site again and send the new file to the printer.

**Table 5. Troubleshooting a firmware update failure (continued)**

Reason for firmware update failure	Corrective action
Wrong printer model contained in .RFU file	The printer recognizes the model mismatch and rejects the update. Download the correct image from the <a href="http://www.hp.com/go/lj9000_firmware">http://www.hp.com/go/lj9000_firmware</a> Web site and send it to the printer.
Upgrade was interrupted	See the previous table in this section.
Flash hardware failure occurred	Although it is extremely unlikely, the device might have a hardware failure. Call technical support to address the problem.

---

**Note**

All HP LaserJet products ship from the factory with the latest available firmware version installed in a backup partition on the EIO hard disk. If a remote firmware update fails, the printer can use the backup firmware to restart the printer. You can then attempt the remote firmware update again.

---

## HP Web Access

The HP Web Access feature, also known as the embedded Web server (EWS), contains the following components:

- Embedded virtual machine for Java (TM) applications
- Web pages
- storage space

HP Web Access provides a simple, easy-to-use solution for one-to-one printer management. In offices with a limited number of printers, remote management of printing devices can be accomplished without installing any management software, such as HP Web JetAdmin. The only requirement is that the management console have a supported Web browser.

In environments with a larger number of printers, where one-to-one management is impractical, HP Web Access and HP Web JetAdmin work together to provide scalable remote printer management. HP Web JetAdmin is used for consolidated management tasks, where operations are performed on a selected set of printers instead of on individual printers. For such environments, HP has provided hooks between HP Web Access and HP Web JetAdmin so that Web Access features can be configured on multiple printers in one operation. For example, the security password for HP Web Access can be set on a population of printers simultaneously.

For additional information and a copy of the *HP Embedded Web Server for HP LaserJet Printers* guide, go to the <http://www.hp.com/support/lj9000> Web site.

To view information about the printer using HP Web Access, open a supported Web browser and type in the printer IP address or host name. The IP address and host name for the printer are listed under “Protocol Information” on the EIO Jetdirect page. To print a copy of this page from the printer control-panel display, see the instructions for printing a configuration page in the “Determining the current level of firmware” section. You also can view information about an installed HP Jetdirect print server by clicking the **Networking** tab in the HP Web Access window.

## Information tab

HP Web Access offers the following additional features. To view the information, click on the items in menu on the left of the HP Web Access **Information** tab:

- **Device Status.** This page provides current status information about your product.
- **Configuration Page.** Configuration settings for your product are available on this page.
- **Supplies Status.** This page provides information about the print cartridge and the total pages printed, and the serial number of the product.
- **Event Log.** This page provides information about reported printer errors.
- **Usage Page.** This page provides information about product usage.
- **Device Information.** This page shows device information, such as the product TCP/IP address and serial number.
- **Control Panel.** This page shows the layout of the control panel.

## Device status

If a printer problem exists, status information (such as whether the printer is online or the toner is low) is available through your Web browser linked directly to the printer. You can view this information without physically going to the printer to identify the status. The following illustration shows how this information is presented on the printer's Web page.

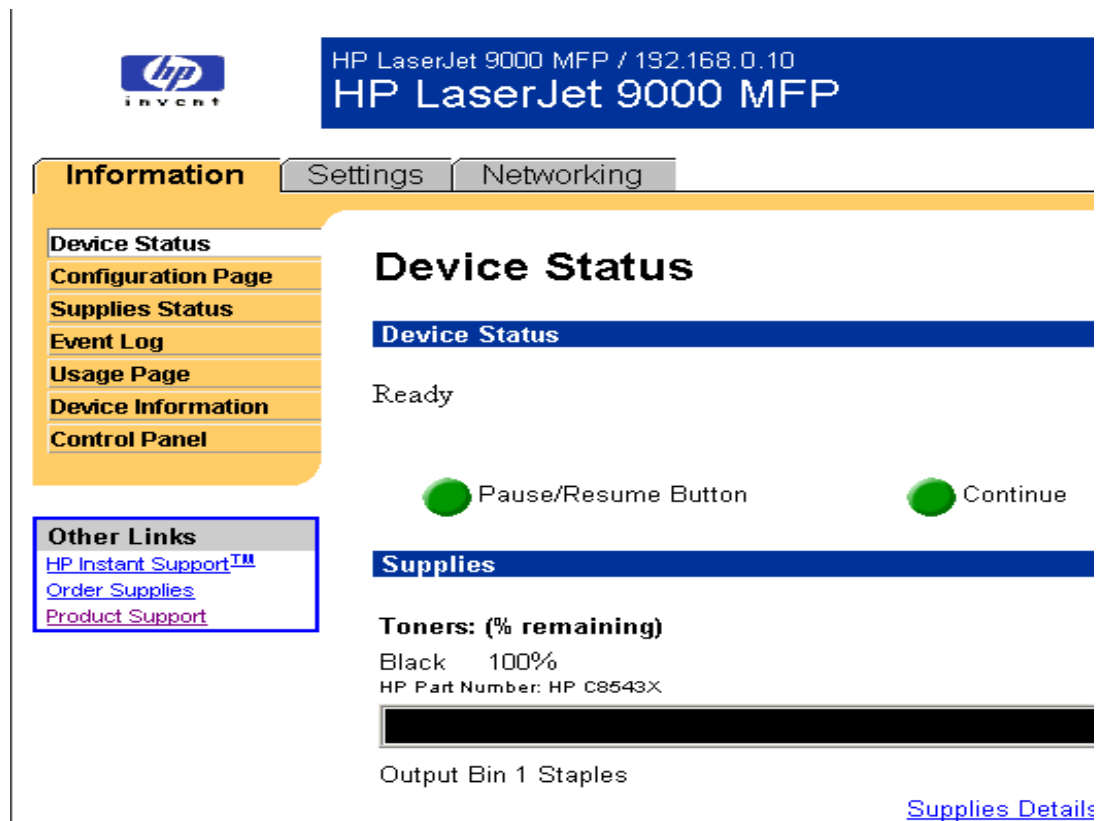


Figure 5. Device Status

## Configuration information

The HP LaserJet printer configuration page is available remotely through HP Web Access. The HP Web Access configuration page provides configuration information about the product in the same way as the configuration page printed from the printer. The following illustration shows an example of a configuration page viewed remotely through HP Web Access.

The screenshot displays the HP LaserJet 9000 MFP Configuration Page. At the top, the HP logo and 'INVERT' text are visible. The page title is 'HP LaserJet 9000 MFP / 192.168.0.10 HP LaserJet 9000 MFP'. The navigation bar includes 'Information', 'Settings', and 'Networking'. The left sidebar lists 'Device Status', 'Configuration Page', 'Supplies Status', 'Event Log', 'Usage Page', 'Device Information', and 'Control Panel'. The 'Other Links' section includes 'HP Instant Support™', 'Order Supplies', and 'Product Support'. The main content area is titled 'Configuration Page' and contains two sections: 'Device Information' and 'Installed Personalities and Options'.

Device Information	
Firmware Datecode:	03/05/2002 03:002.0 CAYENNE_
Jam Recovery:	AUTO
Print PS Errors:	ON
Page Count	1388
Product Name:	HP LaserJet 9000 MFP
Printer Name:	HP LaserJet 9000 MFP
Printer Model:	CXXXXA
Printer Serial Number:	XXXXXXXXXX
Pages Since Last Maintenance:	1314
Preventive Maintenance Interval:	350000
CPB:	01.95 (2.1)
SCB:	MFP300 17

Installed Personalities and Options	
PCL	(20010402)
PCLXL	(20010402)
POSTSCRIPT	(20010402)
DIMM Slot 1:	Side 1: 8 MB Flash
DIMM Slot 1:	Side 2: 8 MB Flash
DIMM Slot 2:	Side 1: 32 MB SDRAM
DIMM Slot 2:	Side 2: 32 MB SDRAM
DIMM Slot 3:	Side 1: 32 MB SDRAM
DIMM Slot 3:	Side 2: 32 MB SDRAM
EIO1:	HP J3286A
EIO2:	HP J6054A
EIO3:	HP JetDirect J4169A
DISK Storage:	4641 MB Capacity

Figure 6. Configuration page

## Links to off-printer solutions

Links within the home page of HP Web Access provide an easy way to locate information or complete tasks.

- **HP Instant Support (TM).** This link connects you to a set of dynamic web resources that will help you solve specific problems and determine additional services that may be available for your device. Specific status and configuration information about the product is retained and directed to the “Solve a Problem” Web site. This site offers targeted support content and messages to help resolve problems as quickly as possible.
- **Order Supplies link.** Information about the printer cartridge is linked to an ordering page where you can order print cartridges quickly and easily from the chosen reseller.
- **Product Support.** This link connects you with an HP product support page from which you can search for information, contact the HP customer care home page, or find additional resources for your product.

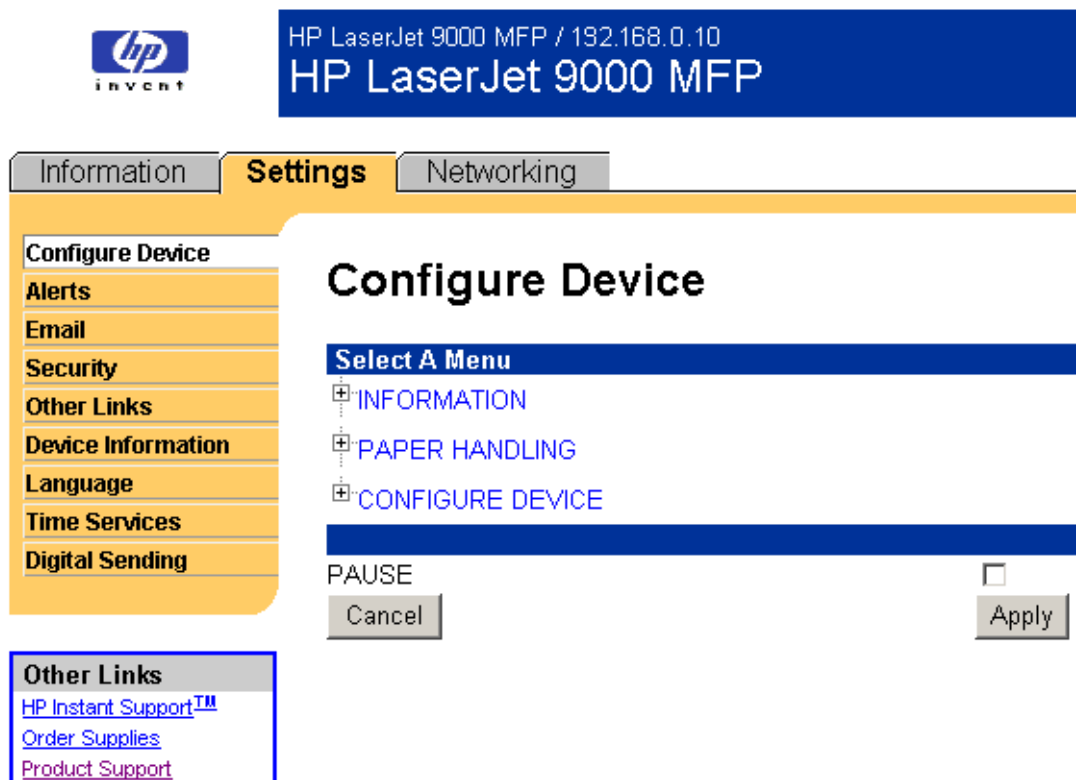
## Settings tab

The options on the left of the **Settings** tab are as follows:

- Configure Device
- Alerts
- Email
- Security
- Other Links
- Device Information
- Language
- Time Services
- Digital Sending

## Remote printer configuration

Printer configuration information can be obtained through a Web browser by opening the printer HP Web Access page and changing any of the basic configuration information on the **Settings** tab. Security and password controls provide management information system managers with the level of control required within their environments. The following illustration shows an example of printer options that can be configured remotely.



**Figure 7.** Configure Device

Some configuration tasks cannot be performed remotely because printed pages must be examined.



## Networking tab

The menu on the left of the screen contains other networking options under three categories: configuration, security, and diagnostics.

### Configuration

- Network Settings
- Other Settings
- Support Info
- Select Language

### Security

- Admin Password
- SSL/TLS
- SNMPv3
- Telnet
- Access Control

### Diagnostics


- Network Statistics
- Protocol Info
- Configuration Page
- Refresh Rate

### Network settings

The following illustration shows the Network Settings option on the HP Web Access **Networking** tab. From this screen, you can enable and configure the following network services:

- TCP/IP
- IPX/SPX
- AppleTalk
- DLC/LLC

- SNMP



npi2763fa / 192.168.0.10  
HP LaserJet 9000 MFP

**Information** **Settings** **Networking**

**Configuration**  
 Network Settings  
 Other Settings  
 Support Info  
 Select Language

**Security**  
 Admin Password  
 SSL/TLS  
 SNMPv3  
 Telnet  
 Access Control

**Diagnostics**  
 Network Statistics  
 Protocol Info  
 Configuration Page  
 Refresh Rate

**Other Links**  
[Help](#)  
[Support](#)  
[HP Home](#)

**TCP/IP** **IPX/SPX** **AppleTalk** **DLC/LLC** **SNMP**

IP Configuration Method **BOOTP**

**Manual** Note: A change in IP Address will result in loss of connectivity to the browser.

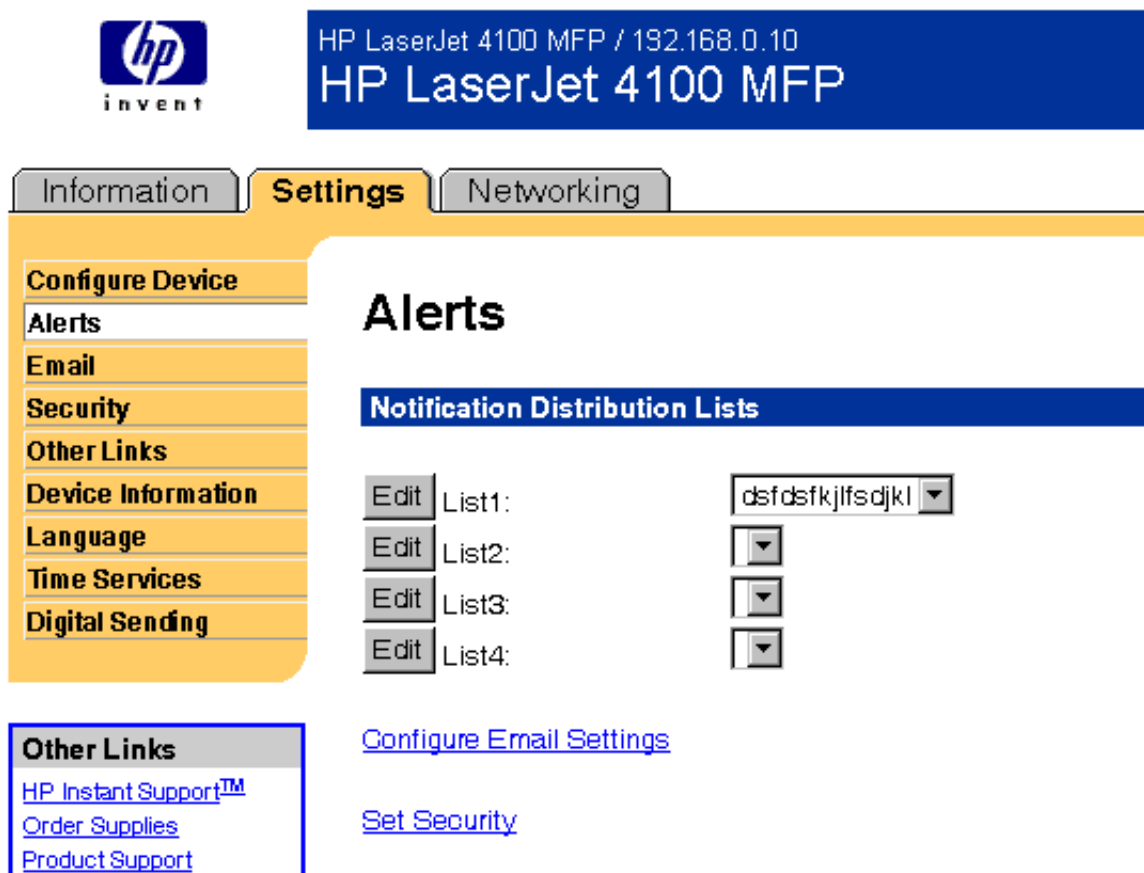
Host Name	NPI5E2513
IP Address	192.168.0.10
Subnet Mask	255.255.255.0
Default Gateway	192.168.0.1
Domain Name	boi.hp.com
Primary WINS Server	192.68.0.200
Secondary WINS Server	192.68.0.201
Syslog Server	
Syslog Maximum Messages	10
Syslog Priority	7
Idle Timeout	270 Seconds
TTL/SLP	4
System Contact	
System Location	
LPD Banner Page	Enable

**Apply** **Cancel**

**Figure 8.** Networking tab

## Configurable e-mail alerts

The printer can automatically send e-mail alerts about printer problems or job status to specified e-mail addresses. For example, if toner is low, the printer can notify the person responsible for ordering or changing the cartridge. If there is a printer failure, an e-mail alert can be sent directly to the person responsible for fixing the problem. These e-mail alerts can be configured to be sent to any device that can accept e-mail, such as digital phones, pagers, and personal digital assistants. In large environments, administrators can route e-mail addresses to list-servers or URLs for expanded notification.



**Figure 9.** Configurable Alerts

## Digital sending

hpwa\_settings\_01\_alerts\_9000mfp\_020311

Use the HP MFP Digital Sender embedded solution that is included with the HP LaserJet MFP to send scanned color or black and white documents to e-mail as a .PDF, .JPEG, .TIF, or .MTIF file. The HP LaserJet MFP scans, compresses, and sends the page scans to the configured mail server.

The digital sending solution is a standard offering for the HP LaserJet MFPs.

Settings can be configured either at the control panel or by using the Digital Sending Config Applet with a Web browser.

Use the control panel to configure basic settings, and use the configuration applet for access to all available settings.

## Configuring HP Digital Send from the control panel

Go to the product control panel and press **CONFIGURE DEVICE**, press **SENDING**, and then press **E-MAIL**.

The following options are available (press the down arrow to see any options that are not visible on the screen):

**Scan Preference.** You can choose either **BLACK AND WHITE** or **COLOR**.

**File Type.** Files can be transmitted to an e-mail address in any of these file formats:

Portable Document Format (PDF)

Tagged image file format (TIFF)

Multipage TIFF file format (M-TIFF)

Joint Photographic Experts Group (JPEG)

**Find Send Gateways.** This option uses the same algorithm as the **Find Settings** button in the **Addressing** tab of the Digital Sending Config Applet.

**Simple Mail Transfer Protocol (SMTP) Gateway.** Type the IP address of the e-mail gateway, using the right and left arrows to move between the fields. Domain Name Service names (for example, company.com) are not supported.

**Lightweight Directory Access Protocol (LDAP) Gateway.** Type the IP address of the e-mail gateway, using the right and left arrows to move between the fields. Domain Name Service names (for example, company.com) are not supported.

**Test Send Gateways.** This option uses same algorithm as the **Find Server** button on the **Send to E-mail** tab in the Digital Sending Config Applet.

## Sending to e-mail

To scan and send a document to e-mail, follow these steps:

- Step 1 Place your original document face-down on the scanner glass.
- Step 2 If your original matches the default settings (mixed text and graphics, default media size, standard resolution, single-sided), proceed to the next step. Otherwise, navigate to the **Settings** field on the touch screen of the control panel. Here you can select document parameters for color (the options are **Black and White** or **Color**) and for file type (the options are **PDF**, **TIFF**, **M-TIFF**, or **JPEG**).
- Step 3 Touch **Send Options** on the touch screen of the product control panel. The **Send Options** box replaces the **Copy Settings** box.
- Step 4 Touch **E-mail**.
- Step 5 Touch **From:** and, using the pop-up keyboard, type your e-mail address. The **From:** field must be filled to proceed.
- Step 6 Using the same method, type the names of any **CC:** (copy) and **BCC:** (blind copy) recipients, and type the subject of your e-mail in the **Subject:** field.
- Step 7 Touch **OK**.
- Step 8 Press the **Start** button.

- Step 9 When sending is complete, remove the original document from the scanner glass.

Additional digital sending services are available with the HP MFP Digital Sending Software, version 3. These additional services are send-to-fax, send-to-folder, send-to-application, and Windows NT authentication.

## Foreign Interface Harness

The Foreign Interface Harness (FIH) provides a portal on the HP LaserJet product for third-party job accounting vendors to gain access to copy data for the HP LaserJet 9000mfp product

## E-mail command and response

The HP LaserJet product can send e-mail messages directly. However, you must configure e-mail information to initiate this capability. One use for this feature is to send diagnostic information to solve a printer problem. An e-mail sent to the printer requests configuration information. The printer automatically sends that information back to the service provider. In many cases, the problem can be identified quickly and solved remotely. For more information about e-mail command and response, see the *HP Embedded Web Server for HP LaserJet Printers* guide.

To configure your product to send e-mails, follow these steps:

- Step 1 Take note of your product's TCP/IP address on the EIO X JetDirect page (this is the second page of the Configuration Page printout. To print a configuration page, see "Determining the current level of firmware".)
- Step 2 Launch your web browser.
- Step 3 In the **Address:** or **Go to:** field, type the TCP/IP address assigned to the product (for example, 192.168.0.20) or the host name (for example: http://myprinter). The HP Web Access home page appears.
- Step 4 From the top of the HP Web Access screen, click Device.
- Step 5 On the navigational bar on the left, click Alerts.
- Step 6 Under **Notification Recipients**, click Edit List1.
- Step 7 Under **Add Recipient Address**, type your e-mail address (for example, "name@company.com").
- Step 8 Click **Apply**.
- Step 9 Click **Back** to return to the **Alerts** page.
- Step 10 Under **Select Events**, click **Media Path**.
- Step 11 Select the **List1** check box next to CLOSE DRAWERS/DOORS/COVERS.
- Step 12 Click **Apply**. A screen stating that your selections have been accepted should appear. Click **OK**.
- Step 13 In the **SMTP Server:** field under Outgoing Mail, type the TCP/IP address (for example, 192.168.0.201).
- Step 14 In the **Domain Name:** field under **Outgoing Mail**, type the domain name.
- Step 15 Click **Apply**.
- Step 16 Click **Security**.

Step 17 Under **Security**, select the **Outgoing Mail** check box.

Step 18 Click **Apply**.

Step 19 To test the configuration, open the top cover of the product, then go to your computer and verify that you have received an e-mail message from the product.

## Euro character

The euro is the name for the currency of the European Union (EU). Use of this unit was launched on January 1, 1999. The euro has changed the way business is conducted in Europe and has affected every company and industry in the world. It is vital that companies understand and prepare for the changes the euro brings.

This HP LaserJet product includes euro characters for each of the internal fonts. The printer can print the euro character in the Windows 95, Windows 98, Windows Me, Windows NT 4.0, Windows 2000, and Windows XP operating systems. Hewlett-Packard is committed to maximizing document portability through supporting and promoting euro-symbol standards.

## Printing-system components

### Printing system and installer

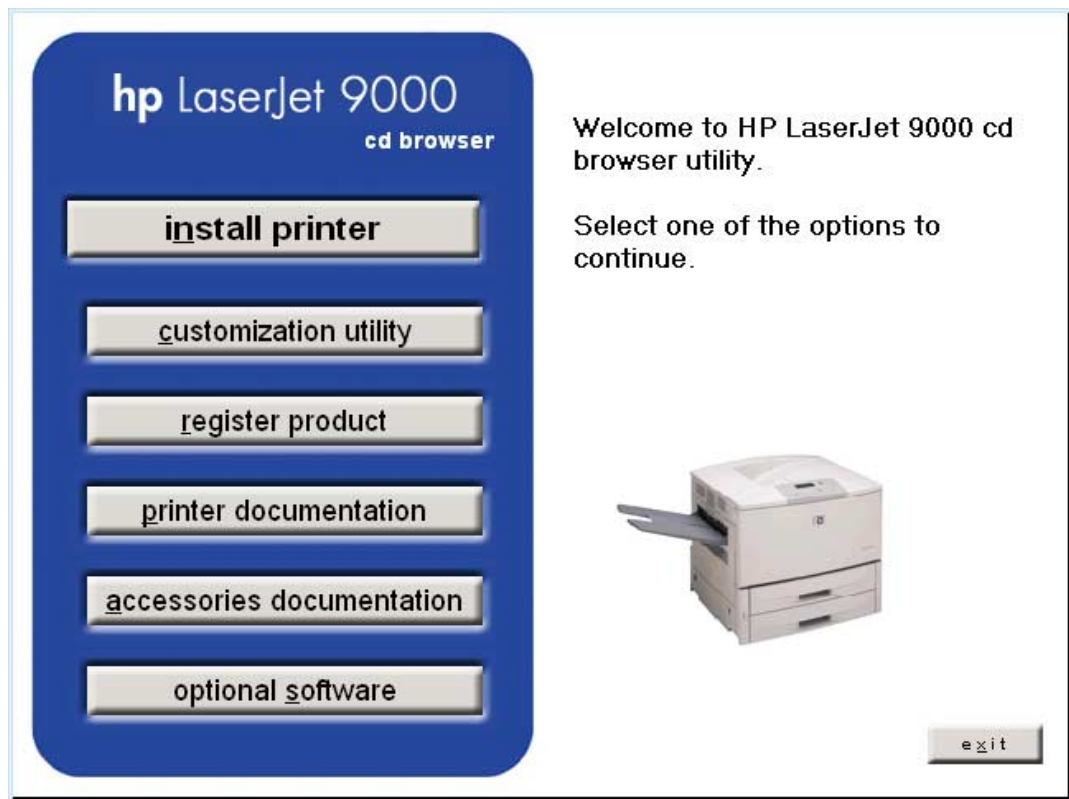
#### CD browser for Windows systems

In previous versions of the printing-system software, the installer was started by locating and running the SETUP.EXE file. For the Microsoft Windows environment (Windows 95, Windows 98, Windows Me, Windows NT 4.0, Windows 2000, and Windows XP), the HP LaserJet software CD-ROM provides an interactive CD browser that you can not only use to install the printer drivers and related components, but also to gain access to online product registration, user documentation, a customization utility, Adobe Acrobat Reader software, and optional HP software.

The HP LaserJet software CD browser or printing-system installer does not support Windows 3.1x. To install the PCL 6, PCL 5e, or PS printer drivers for Windows 3.1x, use the Printer Manager function on the Windows 3.1x control panel.

A readme file for the Windows 3.1x printing system is available in the root directory of the HP LaserJet software CD-ROM. The path is: [root]/[languages]/DRIVERS/WIN3X

The following illustration shows the main screen of the printing system software CD browser, which appears when you insert the printing software CD-ROM in your CD-ROM drive.



**Figure 10.** Installation CD browser main screen

The product software CD browser contains the following options for the HP LaserJet product. The text that follows each option listed below is approximately the same text that appears when you put the cursor on the option button.

---

**Note**

The options on your product may vary.

**install printer** - This wizard guides you through the installation of your HP LaserJet printing system. Only the necessary software will be installed.

**register product** - This option can be used to register your HP LaserJet product now and to receive the following information at no cost:

- notification of driver updates
- technical support updates
- news about emerging technologies

**printer documentation** - This option can be used to view the HP LaserJet 9000mfp documentation. The documents are:

- start guide
- introduce guide
- MFP introduce guide
- MFP poster
- release notes

**accessories documentation** - View the HP LaserJet 9000mfp documentation for the following accessories:

- 2000-sheet feeder guide
- duplexer guide
- multipurpose tray guide
- hp jetidirect guide
- stacker/stapler guide
- multifunction finisher guide

---

**Note**

For systems that do not have Adobe Acrobat Reader 4.0 (or later) installed, you will be given the option to download that software. Clicking any of the links to documentation that is provided in the Adobe Acrobat PDF file format opens a dialog box from which you can install Adobe Acrobat Reader software from the HP LaserJet software CD browser.

**customization utility** — This utility can be used to create a custom software installer for the HP LaserJet product that can then be copied to other media, such as a local hard drive or a network drive.

**optional software** — To increase productivity and get the most out of your HP LaserJet product, view a list of optional software available for installation. The **hp web jetadmin** option is available for the HP LaserJet 9000mfp.

## Installer features

The common installer is designed to provide a simple and consistent installation method for the product line. The common installer is available for the Windows 95, Windows 98, Windows Me, Windows NT 4.0, Windows 2000, and Windows XP operating systems.

This HP LaserJet product features a new common installer. This new installer offers the following features:

- The HP LaserJet software CD-ROM features a CD browser. See "CD browser for Windows systems."
- Acrobat Reader 5.0 is automatically installed.
- The installer is Web-enabled, providing access to the HP Web site for the latest software components and drivers.
- Network connection is integrated so that you can install drivers and connect to a network printer in a single process.
- The selection dialog box sets the operating-system language as the default language (for Windows 95, Windows 98, Windows Me, Windows NT 4.0, Windows 2000, and Windows XP only). Although system language is sensed automatically, you can use the installer to select any of the languages on the HP LaserJet software CD.
- The installer includes the HP LaserJet Uninstaller Utility.
- Product registration is available using the Web and e-mail.
- The Customization Utility is available on the CD browser.

All of the Windows system components are installed by using the HP LaserJet printing-system installer. The installer automatically senses your language of choice and your operating system. It offers selections for each printer model. You can select the type of installation you prefer: Typical Installation or Custom Installation.



If you have an Internet connection, the installer will sense the connection and provide you with the ability to connect to the HP Web site to download the latest printing-system software.

The installer compares the versions of the software components on the HP LaserJet software CD-ROM to those on the HP Web site. If newer versions are on the HP Web site, the installer downloads them.

## **Installable components**

This section provides information about the various installable components available either with the HP LaserJet software CD-ROM or from the HP Web site.

### **Printer drivers**

The printing system for the HP LaserJet product includes the following printer drivers.

#### **PCL 5e, PCL 6, and PS drivers**

The PCL 5e, PCL 6, and PS drivers are included with the HP LaserJet software CD-ROM. The PCL 5e and PCL 6 drivers feature a graphical user interface that has a shared look and feel.

All three drivers provide access to the printer paper-handling and print-quality features, such as Edge-to-Edge Printing, and Printing All Text as Black. The PS driver, however, supports Edge-to-Edge Printing, but not Printing All Text as Black.

#### **Windows 3.1x driver versions**

PCL 5e and PCL 6 support for Windows 3.1x is provided by using the HP LaserJet 8100 printer drivers for the HP LaserJet 9000mfp product. These drivers are available on the HP LaserJet software CD-ROM in the WIN3X directory. An HP LaserJet 8100 PS printer description (PPD) provides PS support for the HP LaserJet 9000mfp product.

For printer driver version numbers, go to the following URL:

[http://www.hp.com/go/lj9000\\_software](http://www.hp.com/go/lj9000_software)

#### **Windows 95, 98, Me, NT 4.0, 2000, and XP driver versions**

PCL 5e and PCL 6 support for Windows 95, Windows 98, Windows Me, Windows NT 4.0, Windows 2000, and Windows XP operating systems is provided by using the HP LaserJet 9000 printer drivers for the HP LaserJet 9000mfp product. The HP LaserJet 9000 PS printer description (PPD) provides PS support for the HP LaserJet 9000mfp.

For printer driver version numbers, go to the following URL:

[http://www.hp.com/go/lj9000\\_software](http://www.hp.com/go/lj9000_software)

#### **Macintosh and Macintosh-compatible system driver versions**

The HP LaserJet printing solution for Macintosh is composed of the Apple LaserWriter driver, which is provided with the operating system, and HP-created PPD files. The driver uses these files to determine the features and PS commands that the printer supports. Bidirectional support in AppleTalk and USB connections allows autoconfiguration of the software. The installable components are:

- the HP LaserJet Installer for Mac OS 8 and Mac OS 9.
- the HP LaserJet Installer for Mac OS X.
- the HP LaserJet Screen Fonts Installer.
- SYSTEM/EXTENSIONS/PRINTER DESCRIPTIONS (for Mac OS 8 and Mac OS 9).
- LIBRARY/PRINTERS/PPDS/CONTENTS/RESOURCES/LANGUAGE.LPROJ (for Mac OS X).
- the HP LaserJet Utility, an HP printer utility installed in the HP LaserJet folder of Macintosh operating systems 8 and 9. It provides configuration and management support for PS and PCL printers.
- online Help, an HTML-based printer and utility help that can be viewed through a browser or the Macintosh OS Help Center.
- the HP Auto Setup Utility, installed in the Startup Items folder of Mac OS 8 and later versions. It provides assistance to set up the new printer, then moves itself to Trash.
- installation notes.

### **AutoCAD driver versions**

Printer drivers to support AutoCAD (TM) in MS-DOS, 16-bit Windows, and 32-bit Windows operating environments are available on the Web at the following URL:

<http://www.hp.com/support/lj9000>

These AutoCAD drivers are supported:

- AutoCAD 10, 11, and 12 for MS-DOS version 4.1b
- AutoCAD 13 and 14 for Windows version 4.1b
- AutoCAD 2000 and 2000LT - HP Windows driver

### **Additional driver availability**

Additional drivers are available from your Hewlett-Packard distributor or from the [http://www.hp.com/go/lj9000\\_software](http://www.hp.com/go/lj9000_software) Web site. These drivers are:

- IBM OS/2 drivers.
- UNIX/HP-UX/Linux driver sample scripts.

Go to <http://www.hp.com/go/linux> for further information about Linux drivers.

### **Macintosh components**

- HP LaserJet PPDs for past projects
- ColorSync profiles
- Screen fonts

## Additional productivity tools

### HP Web Registration

You can use this component to register your HP LaserJet product on the HP Web site or through e-mail. After you have successfully installed the software, the installer prompts you to register your HP LaserJet product. Also, you can gain access to HP Web Registration from the HP LaserJet software CD browser by clicking **Register Product**. You can choose to complete the online registration at that time or later. If you want to register your product later, click **WebReg** from the HP LaserJet 9000 program group when you decide to complete your registration.

### Optional software

The HP LaserJet software CD browser provides links to download and install HP Web JetAdmin as optional software.

#### HP Web JetAdmin

HP Web JetAdmin allows you to manage HP Jetdirect connected printers within your intranet using a browser. HP Web JetAdmin is a browser-based management tool and should be installed only on the network administrator's computer. It can be installed and run on a variety of systems:

When installed on a host server, any client can use HP Web JetAdmin through a supported Web browser (such as Microsoft Internet Explorer 4.x or Netscape Navigator 4.x or later) by browsing to the HP Web JetAdmin host. HP Web JetAdmin 6.2 and later have the following features:

- task-oriented user interface, providing configurable views for network managers
- customizable user profiles that can be customized to let network administrators include only the function viewed or used
- routing of instant e-mail notification of hardware failure, low supplies, and other printer problems to different people
- remote installation and management from anywhere by using only a standard Web browser
- advanced automatic discovery of peripherals on the network without manually entering each printer into a database
- simple integration into enterprise-management packages
- capacity to find peripherals based on parameters such as IP address, color capability, and model name
- capacity to organize peripherals into logical groups, with an option that provides virtual office maps for easy navigation

The HP LaserJet software CD browser provides a link to the HP Web site (<http://www.hp.com/go/webjetadmin>) to download the latest version of the HP Web JetAdmin software. Click **Optional Software** from the CD-ROM browser, and then click **hp web jetadmin**. HP Web JetAdmin is available for the following network operating environments:

- Microsoft Windows 2000
- Microsoft Windows NT 4.0
- HP-UX 10.20 and 11.x
- Sun Solaris 2.5, 2.6, and 7

- Red Hat Linux 7.1
- SuSE Linux 7.1

# 3 Driver features

## PCL 6 and PCL 5e driver features

This section describes the options available on each tab of the PCL 6 and PCL 5e driver interfaces.

### Note

The Windows 3.1x **Print** dialog box does not contain a **Properties** button to open the HP LaserJet printer driver settings dialog boxes. Use the **Print Setup** command in the **File** menu to gain access to the settings dialog boxes, and then click **Print**.

## Help system

The HP LaserJet PCL 6 and PCL 5e drivers include a full-featured Help system to provide assistance with printing and configuration options.

### What's this? Help

In Windows 95, Windows 98, Windows Me, Windows NT 4.0, Windows 2000, and Windows XP, "What's this?" Help is supported. To use "What's this?" Help:

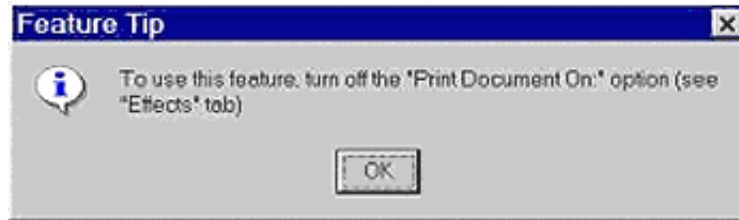
- Right-click a control and click What's this?, and a pop-up Help window appears.
- Click the ? button at the upper-right corner of the frame, next to the X, to change the cursor to an arrow with a question mark. Use this special cursor to select a control, and the pop-up Help window for that feature appears.
- Press the **F1** key, and the Help window for the currently selected control appears.

### Context-sensitive Help

Press the **Help** button on a driver tab or in a dialog box, and context-sensitive Help appears.

## Constraint messages

Constraint messages are unsolicited messages that appear in response to specific actions you take. These messages alert you to selections that are illogical or impossible given the capabilities of the product or the current settings of other controls. For example, if you click **Print on Both Sides** and then change the paper type to transparencies, a message appears asking you to resolve this conflict.



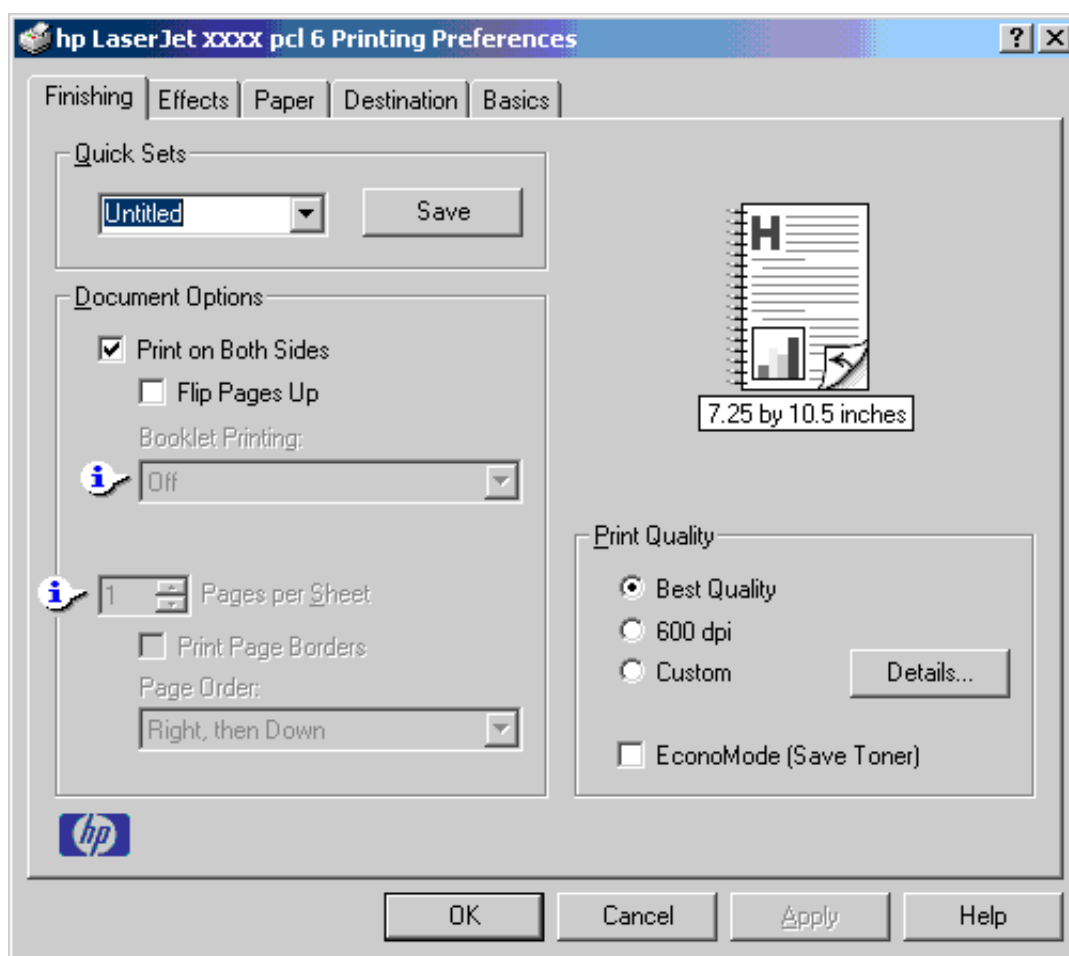
**Figure 11.** A typical constraint message with an OK button

Whenever a constraint message appears with **OK** and **Cancel** buttons, the interpretation of the buttons is as follows:

- Clicking OK accepts the change that was just made, and the driver then resets the conflicting control to a setting that is compatible with the new value.
- Clicking Cancel rejects the change that was just made, setting the control back to its previous value.

## Bubble Help

Bubble Help features a graphical icon resembling a cartoon speech bubble with a small **i** in it, representing the international symbol for information. The following illustration shows Bubble Help icons on a driver tab.

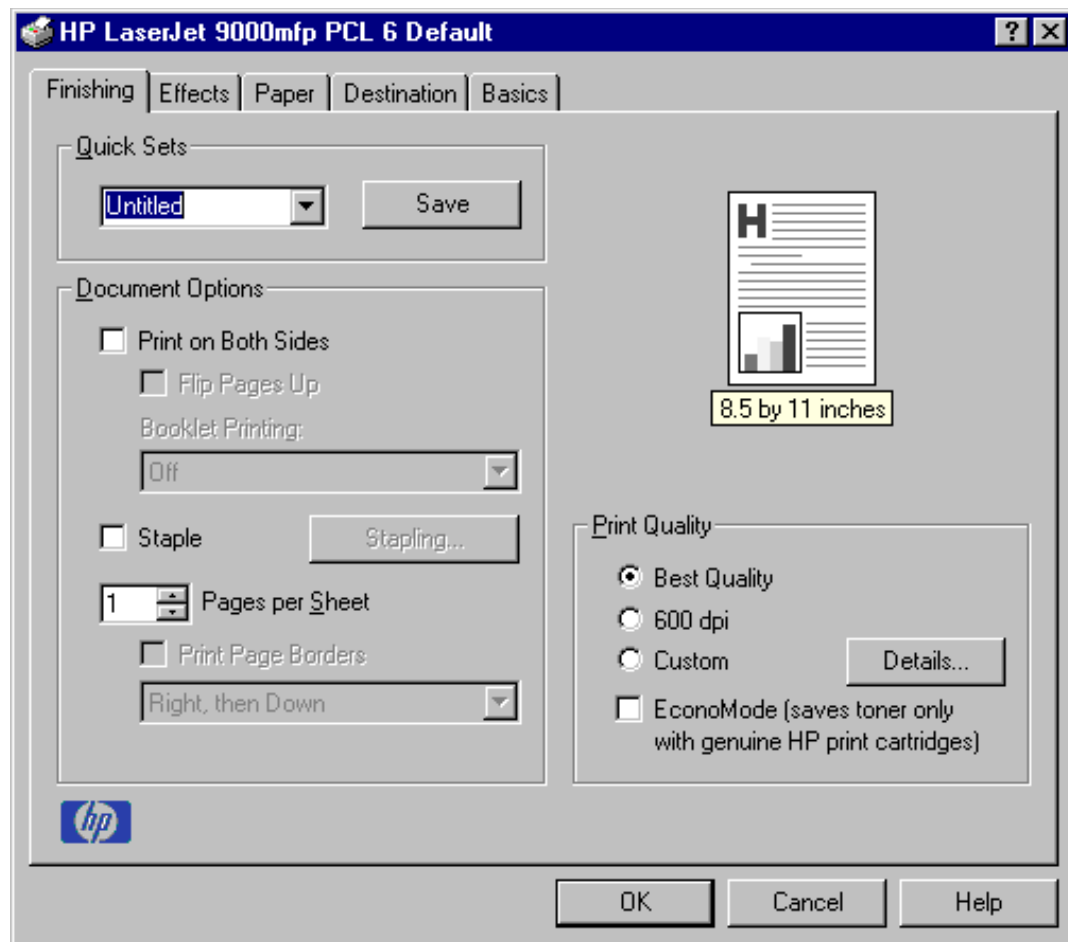


**Figure 12.** A property page with Bubble Help icons

The bubble typically appears next to a disabled control, although it can also accompany an enabled control if there is an important note concerning its use. Moving the pointer over the bubble changes the arrow to a gloved hand, which indicates that the area underneath the pointer is selectable. When the bubble is selected by using either the mouse or the keyboard, a message box appears with a brief explanation about why the control is disabled and what can be done to enable it. If the control is not disabled, the message is a tip or a precaution to be aware of when using that particular feature.

## Finishing tab features

The **Finishing** tab is the default tab shown when you click **Document Defaults...** for the driver or a software application.



**Figure 13.** The default appearance of the Finishing tab

The options in the **Print Quality** group box might vary, depending on your HP LaserJet product. For the HP LaserJet 9000mfp, the second option is **600 dpi**, and the **EconoMode** selection indicates that you can save toner only with genuine HP print cartridges.

The **Finishing** tab contains three group boxes:

- **Quick Sets**
- **Document Options**
- **Print Quality**

### Quick Sets

This group box is present on each tab for the driver. Quick sets are either preset or user-defined printing specifications (such as paper size, pages per sheet, and so on).



## Factory Defaults

The default setting is **Factory Defaults**. The driver also provides a quick set for printing the *use* guide (User's Guide).

## Custom Quick Sets

When you change any of the default settings on the **Finishing** tab or any of the other tabs, the name in the **Quick Set** drop-down menu dynamically changes to **Untitled**. If you want to save this configuration as a quick set, highlight the word **Untitled**, type the name you want for your new quick set, and click **Save**. Quick sets are saved in the system registry. To delete a quick set, select it from the drop-down menu and click **Delete**.

## HP LaserJet Multifunction Finisher Quick Sets

The HP LaserJet Multifunction Finisher is an optional accessory for the HP LaserJet 9000mfp. It provides stacking capacity for up to 1000 sheets of printmedia, stapling of as many as 50 sheets of paper per document, and folding and saddle stitching of booklets that contain up to 10 sheets of paper.

If the driver is configured to support the HP LaserJet Multifunction Finisher, four additional booklet Quick Sets will appear. Unlike **Factory Defaults**, **User's Manual** and the booklet Quick Sets can be deleted. These drivers can store a maximum of ten user-defined Quick Sets on a particular system. If you attempt to save too many, a message box appears that reads, "There are too many Quick Sets defined. Please delete some before adding new ones."

### Note

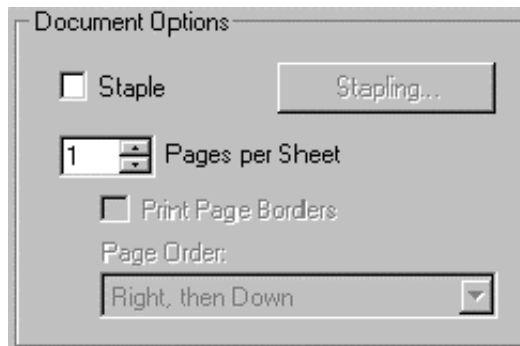
The preset Quick Sets, User's Manual, and booklet count as five towards the Quick Set limit of ten.

The preset booklet quick sets are:

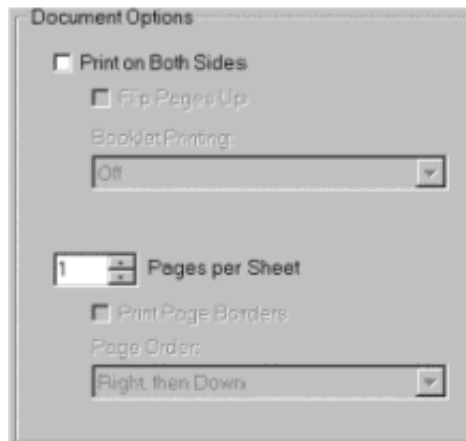
- Booklet on Letter. Settings: Print on Both Sides ON, left binding, image size half letter, Paper size letter, destination Booklet Bin, finishing option Fold/Saddle Stitch.
- Booklet on 11x17. Settings: Print on Both Sides ON, left binding, image size letter, Paper size 11x17, destination Booklet Bin, finishing option Fold/Saddle Stitch.
- Booklet on A4. Settings: Print on Both Sides ON, left binding, image size half A4, Paper size A4, destination Booklet Bin, finishing option Fold/Saddle Stitch.
- Booklet on A3. Settings: Print on Both Sides ON, left binding, image size A4, Paper size A3, destination Booklet Bin, finishing option Fold/Saddle Stitch.

## Document Options

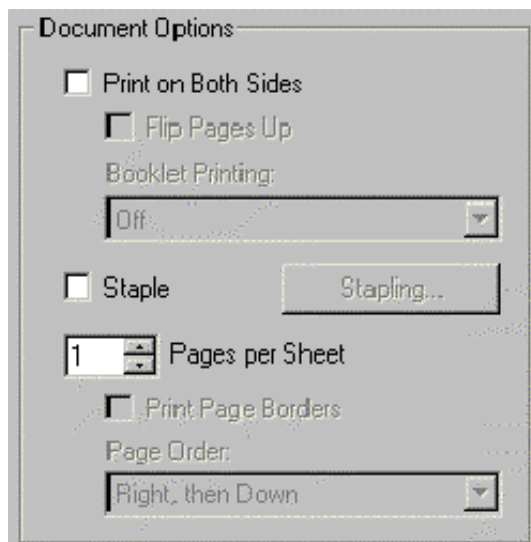
The **Document Options** group box dynamically sizes itself and positions controls to reflect HP LaserJet product configuration options that affect the **Document Options** controls. Three configurations are possible, depending on whether a duplexing unit or stapler, or both, are installed.



**Figure 14.** Document Options group box - stapler only installed



**Figure 15.** Document Options group box - duplexing unit only installed



**Figure 16.** The Document Options group box - stapler and duplexing unit

### Print on Both Sides option

The default setting for the **Print on Both Sides** option is OFF (not selected). **Print on Both Sides** is not available when:

- **Type is:** on the **Paper** tab is set to transparency, cardstock, or labels.
- **Paper Size** is anything except Letter, Legal, A3, A4, A5, B4, B5 (Japanese Industry Standard, or JIS), Executive, 11 x 17, or custom sizes greater than or equal to 148 mm by 210 mm (5.8 inches by 8.3 inches) and less than or equal to 312 mm by 470 mm (12.3 inches by 18.5 inches).

When **Paper Size** is set to Letter, Legal, or A4, clicking **Print on Both Sides** makes the **Flip Pages Up** and **Booklet Printing** options available. The default for both of these options is OFF.

### Flip Pages Up

The **Flip Pages Up** check box, enabled only when **Print on Both Sides** is selected, is used to specify the duplex-binding option. The following table demonstrates the results of selecting this box, depending upon the paper orientation.

**Table 6.** Page orientation

Orientation	Flip Pages Up selected	Flip Pages Up not selected
Portrait	Short-edge binding	Long-edge binding
Landscape	Long-edge binding	Short-edge binding

The preview document image shows a spiral binding along either the left or the top edge of the page to indicate how the pages will be flipped when **Print on Both Sides** is selected. Also, a folded-over corner appears in the lower-right portion of the preview image with an arrow that points in the direction that the page is flipped.

## Booklet Printing

The **Booklet Printing** drop-down menu, visible when **Print on Both Sides** is selected, offers eight choices, two of which are based on the current paper size. The list contains the items with the following structure:

- Off
- [paper size] (Left Binding)
- [paper size] (Right Binding)

where [paper size] depends on the paper size set on the **Paper** tab. The following table shows the appropriate entries in the **Booklet Printing** drop-down menu for each selected paper size.

**Table 7. Selected paper size**

Paper size selected	Entries in Booklet Printing Drop-down menu
Letter	Off Letter (Left Binding) Letter (Right Binding) Legal (Left Binding) Legal (Right Binding) 11 x 17 (Left Binding) 11 x 17 (Right Binding) B4 (JIS) (Left Binding) B4 (JIS) (Right Binding)
Legal	Off Legal (Left Binding) Legal (Right Binding)
A4	Off A4 (Left Binding) A4 (Right Binding) A3 (Left Binding) A3 (Right Binding)
B4 (JIS)	B4 (JIS) (Left Binding) B4 (JIS) (Right Binding)

Booklet printing is disabled when the following paper sizes are selected: Executive, A3, A5, B4, B5, 11 by 17, and envelopes and postcards of any size.

The **Booklet Printing** drop-down menu appears only when:

- **Print on Both Sides** is selected.
- **Percent of Normal Size** (on the **Effects** tab) is 100.
- **Pages per Sheet** is 1.
- **Paper Size** is Letter, Legal, A4, or B4 (JIS).
- **Print Document On:** (on the **Effects** tab) is not selected.

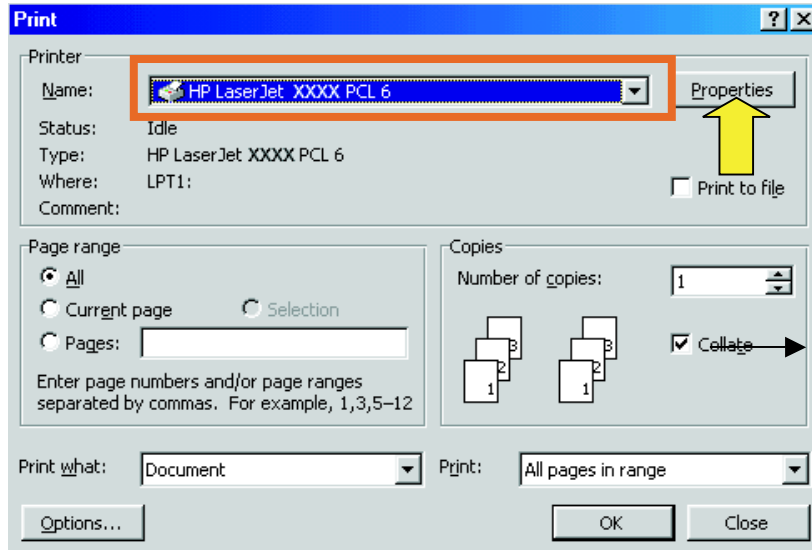
If any except the first of these conditions is not met, a Bubble Help appears next to **Booklet Printing** to tell you why it is disabled.

## Activating booklet printing

### Note

The following instructions apply only to PCL drivers. Booklet Printing is supported by HP PS (PostScript) driver for Windows 95, Windows 98, Windows Me, Window NT 4.0, Windows 2000, or Windows XP through applications that provide booklet printing configuration settings.

Step 1 Click **File**, click **Print**, and then click **Properties**.



**Figure 17.** Activating booklet printing

- Step 2 Click the **Finishing** tab. On the drop-down menu, select **Print on Both Sides** and **Booklet Printing Type**.

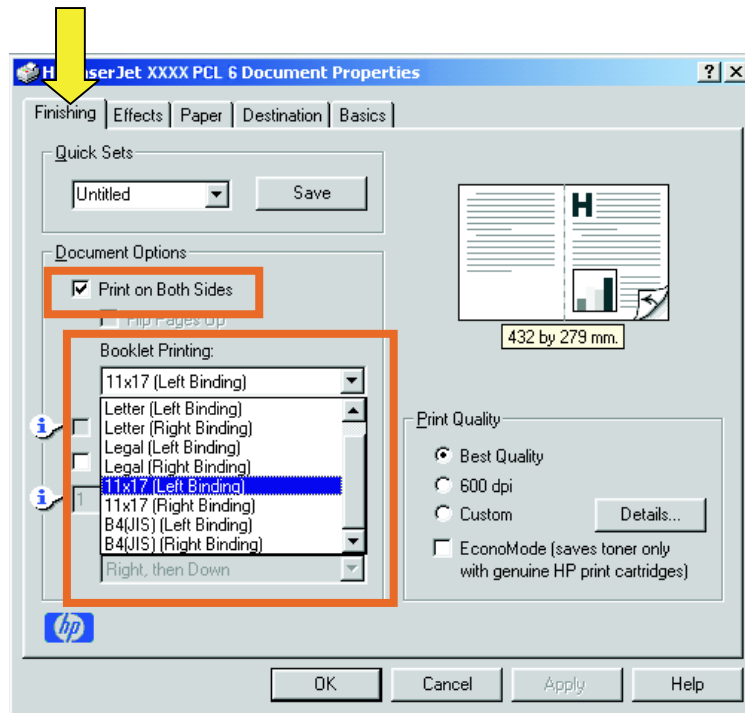


Figure 18. Selecting booklet printing type

### Selecting a booklet cover

The booklet cover must be the same size as the inside sheets.

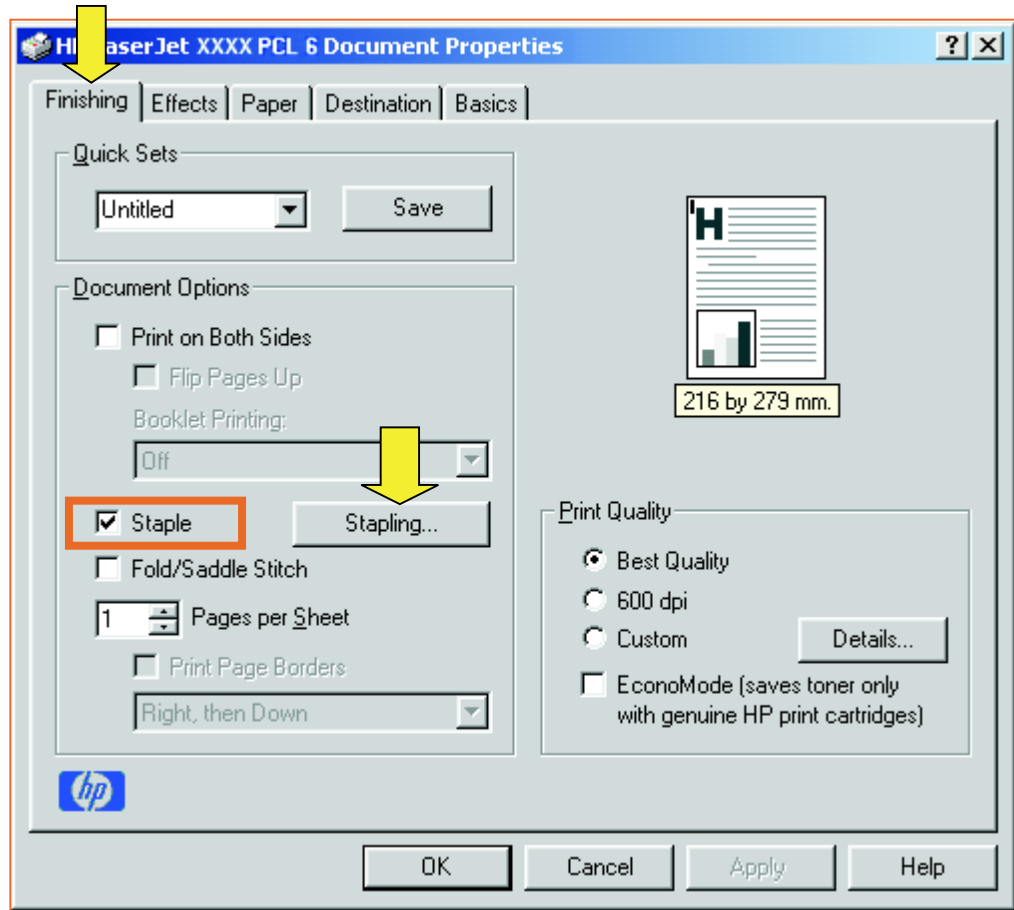
- Step 1 Click **File**, click **Print**, and then click **Properties**.
- Step 2 Click the **Paper** tab, then select the **Use different paper for first page** check box.
- Step 3 Click the **First Page** tab. On the **Size is:**, **Source is:**, and **Type is:** menus, select the size, source, and type settings for your cover.
- Step 4 Click the **Other Pages** tab. On the **Size is:**, **Source is:**, and **Type is:** menus, select the size, source, and type settings for the inside sheets of your print job.
- Step 5 Click the **Back Cover** tab. The back cover, if there is one, must be the same size as the booklet cover and the inside sheets. The **No back cover** is the default setting. If your print job has a back cover that uses the same source and type settings you selected in the **First Page** tab, select **Use the first page source**. If not, select **Use an alternate source**, and then select the back-cover settings in the **Source is:**, and **Type is:** menus.

### Staple option

The **Staple** option is available on the HP LaserJet 9000mfp for all media sizes when the HP Multifunction Finisher or 3000-Sheet Stapler/Stacker is installed. Use the **Size is:** option on the **Paper** tab to select the media size.

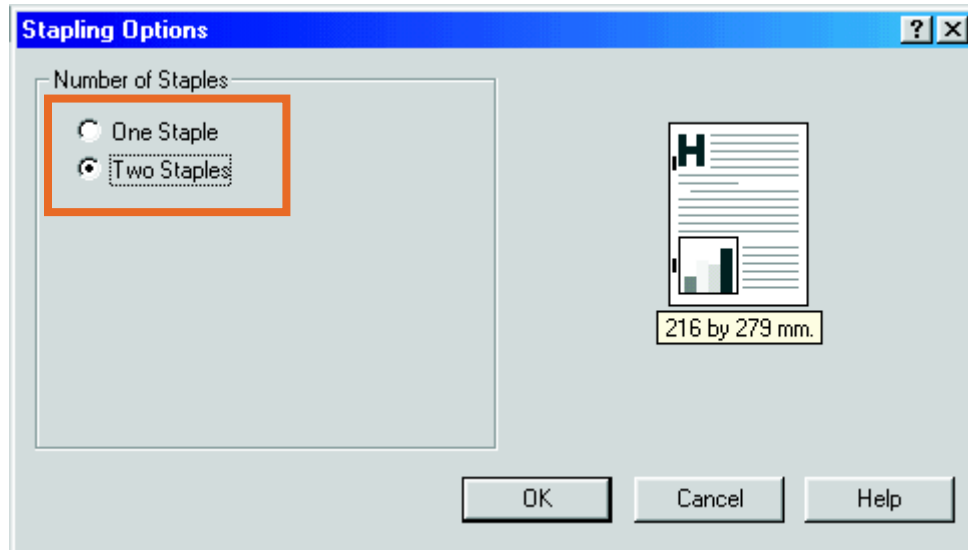
## Stapling a document

- Step 1 Click **File**, click **Print**, and then click **Properties**.
- Step 2 Click the **Finishing** tab.
- Step 3 Select the **Staple** check box.



**Figure 19.** Stapling a document

Click **One Staple** or **Two Staples** to modify the staple quantity.



**Figure 20.** Stapling options

### Fold/Saddle Stitch

The **Fold/Saddle Stitch** option is available on the **Finishing** tab when **HP Multifunction Finisher** is selected in the **Optional Paper Destination** drop-down menu of the **Configuration** tab.



## Saddle-stitching a booklet or folding a single sheet

The procedure is the same for saddle-stitching a booklet or folding a single sheet:

Step 1 Click **File**, click **Print**, and then click **Properties**.

Step 2 Click the **Finishing** tab.

Step 3 Select the **Fold/Saddle Stitch** check box. This will ensure that the document is folded.

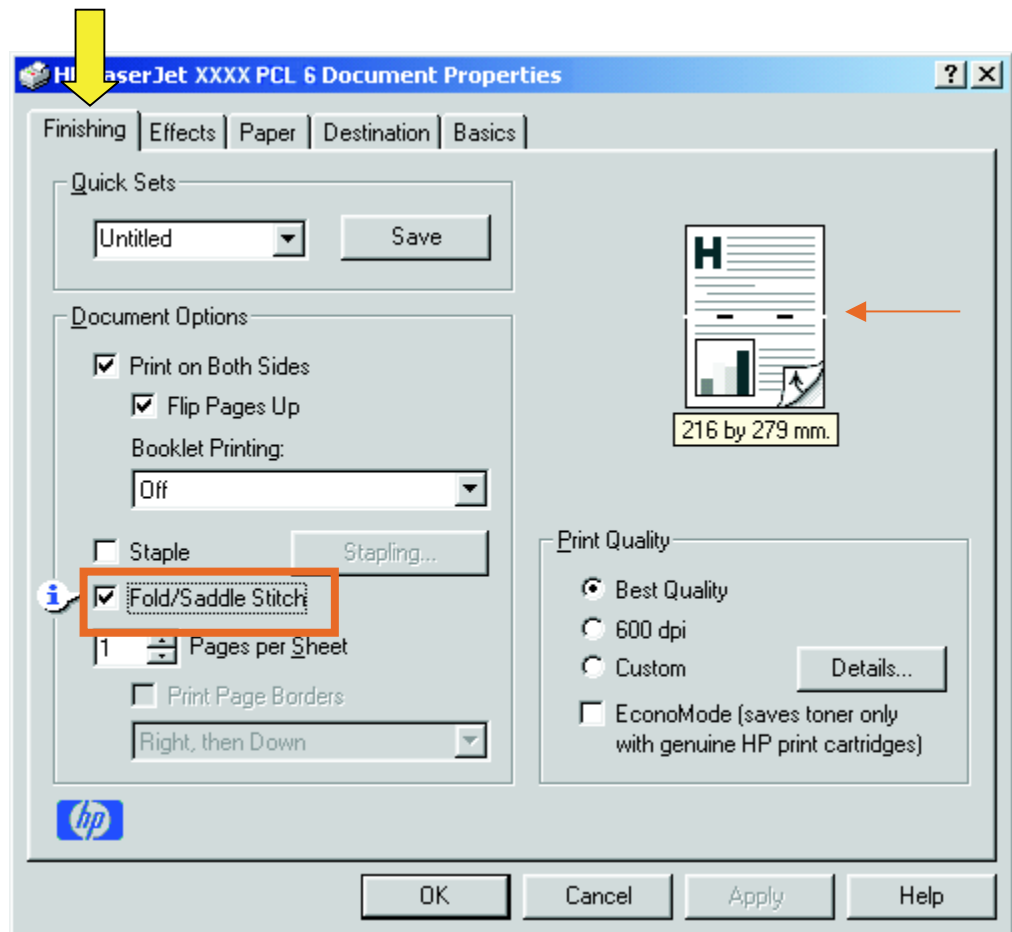


Figure 21. Saddle-stitching a booklet

## Pages per Sheet

The **Pages per Sheet** drop-down menu provides six settings: 1 (default), 2, 4, 6, 9, and 16. If you type another value into the box (for example, 3), the control will round the value entered to the nearest valid value (in this example, 4).

Related controls that are indented beneath the **Pages per Sheet** edit box are **Print Page Borders** and a drop-down menu for selecting the page order.

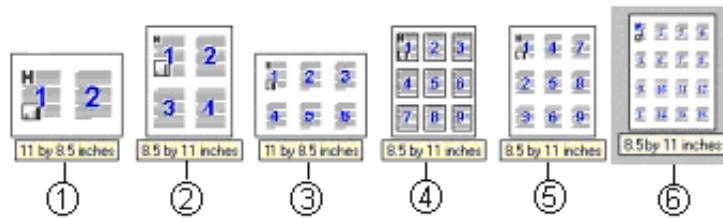
**Print Page Borders** sets a line around each page image on a printed sheet to help visually define the borders of each logical page.

There are four options for page order:

- **Right, then Down**
- **Down, then Right**

- **Left, then Down**
- **Down, then Left**

The preview document image changes to reflect alterations in these settings, as shown by the examples in the following illustration.



**Figure 22.** Page-order preview images

- 1 2 pages per sheet
- 2 4 pages per sheet
- 3 6 pages per sheet
- 4 9 pages per sheet, with **Print Page Borders** selected
- 5 9 pages per sheet, with **Down, then Right** page order selected
- 6 16 pages per sheet

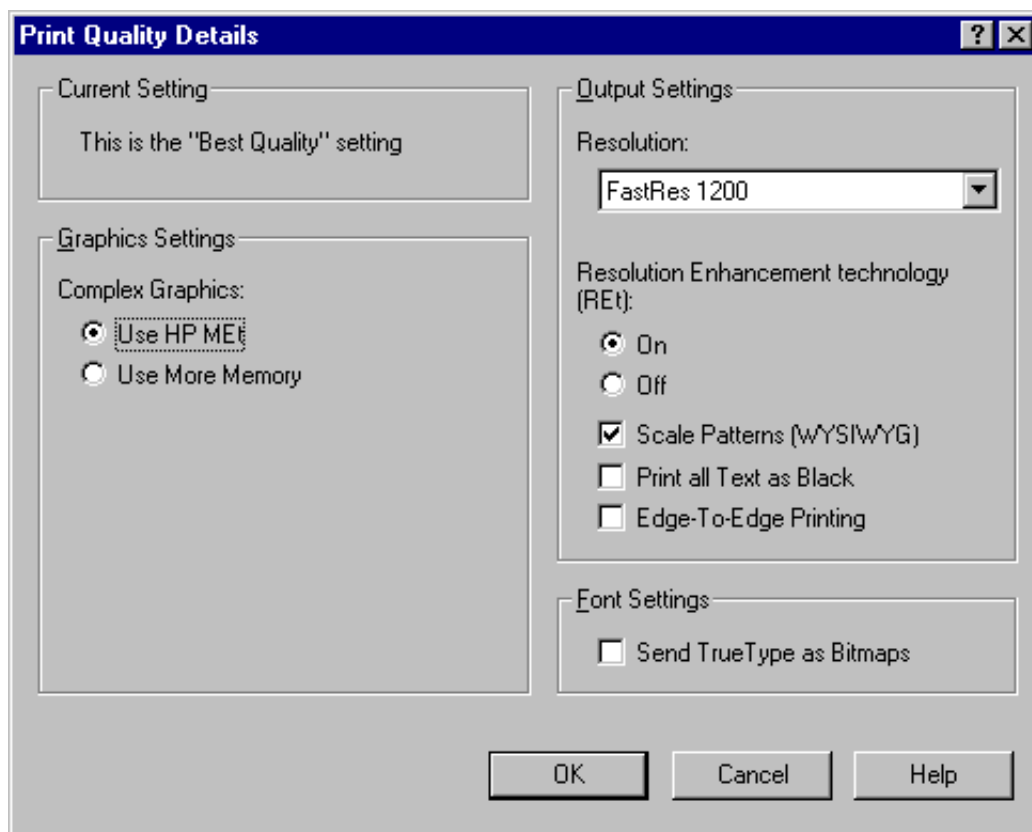
## Print Quality

The HP LaserJet printer driver **Print Quality** group box provides options that control resolution, graphics settings, and font settings. The group box includes the following options:

- **Best Quality** (settings predefined)
- **600 dpi** (settings predefined)
- **Custom** (automatically selected when any changes are made to Best Quality or 600 dpi )
- **EconoMode** (the default setting is OFF).

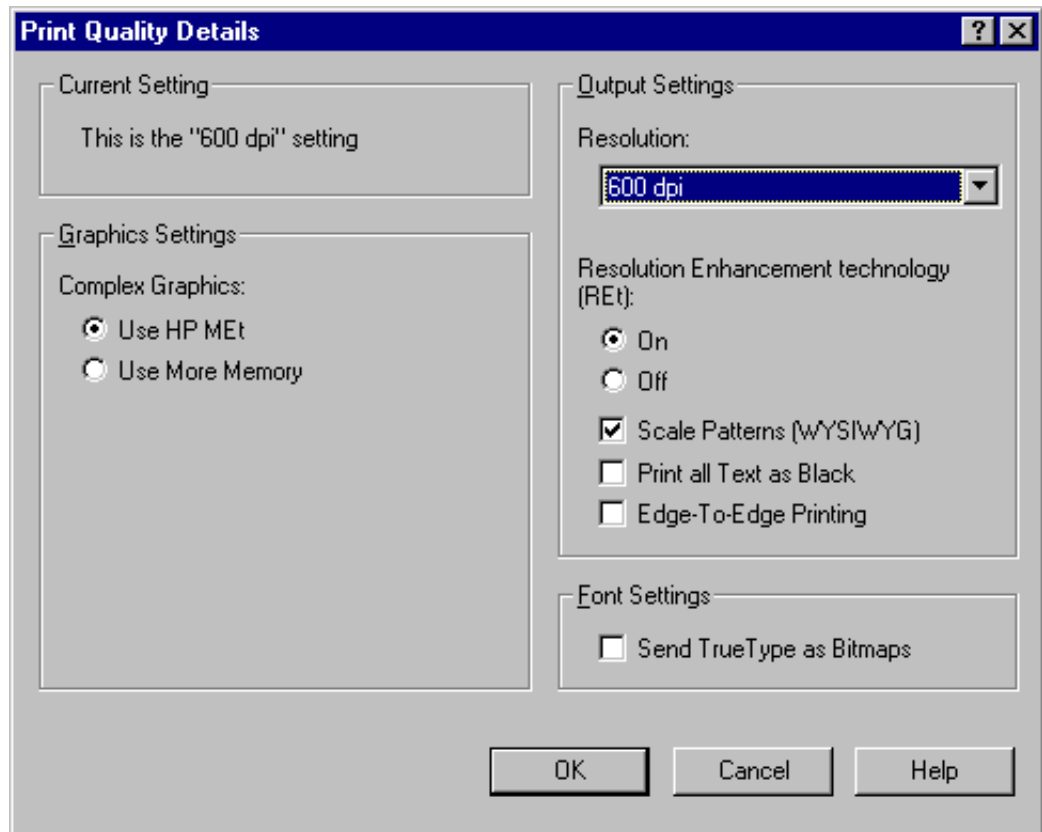
The **Print Quality** group box also includes a **Details** button. Clicking this button opens the dialog box. The **Print Quality Details** dialog box provides options for various print-quality settings. If you select either **Best Quality** or **600 dpi** and then change the default settings in the **Print Quality Details** dialog box, the selected option in the **Print Quality** group box of the **Finishing** tab automatically changes to **Custom**.

The following illustration shows sample default settings for **Best Quality**. The menu on your HP LaserJet product might vary.



**Figure 23.** Print Quality Details dialog box showing Best Quality settings

The following illustration shows the default settings on the **Print Quality Details** tab for **600 dpi**.



**Figure 24.** Print Quality Details dialog box showing 600 dpi settings

### Graphics Settings group box

The **Graphics Settings** group box includes two options for **Complex Graphics**. Use these options to determine which method to use for managing memory for print jobs. **Use HP MEt** (Memory Enhancement technology) is the default selection. This is the best choice unless you are receiving printer memory-error messages. If you receive such error messages, change this setting to **Use More Memory** to complete the current print job. Then, change the setting back to the default: **Use HP MEt**.

### Output Settings group box

The **Output Settings** group box contains controls for selecting **Resolution** and **Resolution Enhancement technology (REt)**.

#### Resolution

The resolution settings for the HP LaserJet 9000mfp are:

- 600 dpi
- FastRes 1200

#### Resolution Enhancement technology

The HP LaserJet product supports Resolution Enhancement technology (REt). The REt feature is a default setting, but you can choose to turn it off.

## Scale Patterns (WYSIWYG)

The Scale Patterns (WYSIWYG) feature is implemented to address the moiré effect created when certain applications encounter certain patterns. Use this feature to turn off the pattern scaling. What you lose is WYSIWYG with patterns, but the printed result might look better. The feature works only with programs that use vector hatch patterns. This option is on by default.

## Print all Text as Black

**Print all Text as Black** is off by default. When selected, this option causes the driver to print all text as black regardless of the original document text color. By design, however, white text remains white, as a fail-safe method of printing reverse typeface against a dark background. This setting does not affect graphic images on the page. **Print all Text as Black** remains selected only for the current print job. When the current print job is completed, **Print all Text as Black** is automatically turned off.

## Edge-to-Edge Printing

**Edge-to-Edge Printing** is off by default. When it is selected, you can use this option to increase the default printable area to within 2 mm (0.08 inch) of the edge of the selected media. This setting remains selected only for the current print job. When the current print job is completed, the **Edge-to-Edge Printing** default is automatically turned off.

## Font Settings group box

In the **Font Settings** group box, the only available option is **Send TrueType as Bitmaps**, which provides a safety net for applications that cannot easily use TrueType fonts for special graphic purposes, such as shading, rotation, or slanting.

## EconoMode

The **EconoMode** check box turns this toner-saving feature on and off independently of the other **Print Quality** tab settings. When this check box is selected, the preview image lightens to reflect the expected effect of this feature. The **EconoMode** option, when selected, works only with genuine HP print cartridges. Even if the option is selected, it does not work with third-party print cartridges. The option is off by default.

The EconoMode option can also be activated from the product control panel. If the **Economode** setting on the product control panel is on, the display panel setting overrides the setting on the printer driver **Print Quality** tab. If the **Economode** setting on the product control panel is off, then the setting on the printer driver **Print Quality** tab overrides the control-panel display setting, except as noted in the following table.

**Table 8. HP LaserJet 9000mfp EconoMode settings**

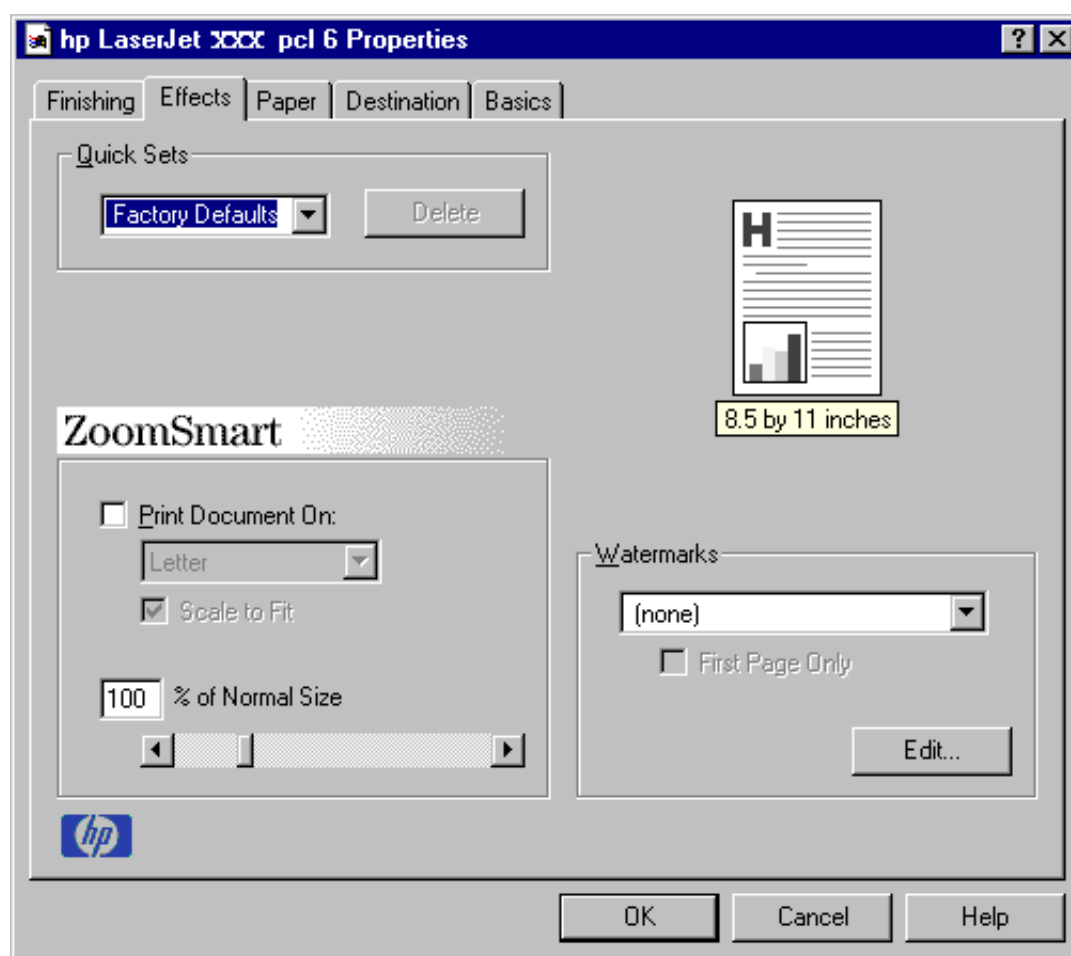
Driver setting for print job	HP cartridge	Front panel settings	Actual result for print job
ON	Yes	ON	ON
ON	No	OFF	OFF
OFF	Yes	ON	ON

**Table 8. HP LaserJet 9000mfp EconoMode settings (continued) (continued)**

Driver setting for print job	HP cartridge	Front panel settings	Actual result for print job
OFF	No	OFF	OFF
ON	Yes	OFF	ON
OFF	Yes	OFF	OFF

## Effects tab features

The **Effects** tab is used to create unique paper effects such as scaling and watermarks.



**Figure 25.** Effects tab

### ZoomSmart

The **ZoomSmart** group box includes features that scale the image on the page, either by specifying a numeric percentage or by specifying a scale change to a different paper size. **ZoomSmart** handles scale transformations.

## Print Document On: setting

Use **Print Document On:** to format the document for one paper size and then print the document on a different paper size, with or without scaling the page image to fit the new paper size.

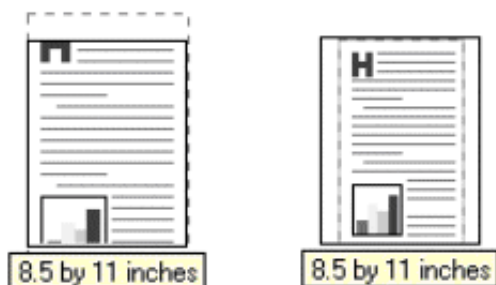
The **Print Document On:** control is disabled by any of the following conditions:

- **Percent of Normal Size** is not 100.
- **Pages per Sheet** (on the **Finishing** tab) is not 1.
- **Booklet Printing** (on the **Finishing** tab) is ON.

When **Print Document On:** is selected, the drop-down menu shows the media sizes on which you can print. The list contains all standard media sizes supported by the selected media source and any custom sizes that you have created (if the currently selected media source is manual, auto, or any tray). When **Print Document On:** is selected, **Scale to Fit** is automatically selected.

## Scale to Fit option

The **Scale to Fit** option specifies whether each formatted document page image is scaled to fit the target paper size. By default, **Scale to Fit** is selected when **Print Document On:** is selected. If the setting is turned off, then the document page images will not be scaled, and are instead centered at full size on the target paper. If the document size is larger than the target paper size, then the document image is clipped. If it is smaller, then it is centered within the target paper. The following illustration shows preview images for a document formatted for Legal paper with the **Print Document On:** option selected, and the target size specified as **Letter**.



**Figure 26.** Preview images - Legal on Letter; Scale to Fit off (left) and on (right)

When the size for which the document is formatted (that is, the logical size) differs from the target size, the preview image uses a dashed gray line to show the boundaries of the logical page in relation to the target page size.

## % of Normal Size option

The **% of Normal Size** option provides a slider bar for scaling the percentage setting. The default setting in the entry box is 100 percent of normal size. Normal size is defined as the paper size selected within the driver or what the driver receives from the application (if the application does not negotiate paper size with the driver). The driver will scale the page by the appropriate factor and send it to the printer.

The limits of the range are from 25 percent to 400 percent, and any values outside the range are clipped to those limits as soon as the focus is removed from the control (that is, when the TAB key is pressed or another control is selected).

Any change to the scale also changes the page preview, which increases or decreases from the top-left corner of the preview.

The slider bar controls the scale directly. The value in the edit box changes as the scroll bar indicator is dragged, and the preview image is updated to the new image scale. Each click on the scroll bar arrows increases or decreases the scale by one percent. Each click on the slider bar affects the scale by 10 percent.

You cannot achieve an exact value by dragging the scroll bar indicator at the default Windows resolution; use the scroll bar indicator to approximate the desired value, and then use the scroll bar arrows to refine the value.

The following settings disable **% of Normal Size**:

- **Print Document On:** is selected.
- **Pages per Sheet** is not 1.
- **Booklet Printing** is ON.

## Watermarks

Use the Watermarks feature to choose a watermark, create your own custom watermarks (text only), or edit an existing watermark. The following watermarks are preset in the driver:

- (none)
- Confidential
- Draft
- SAMPLE

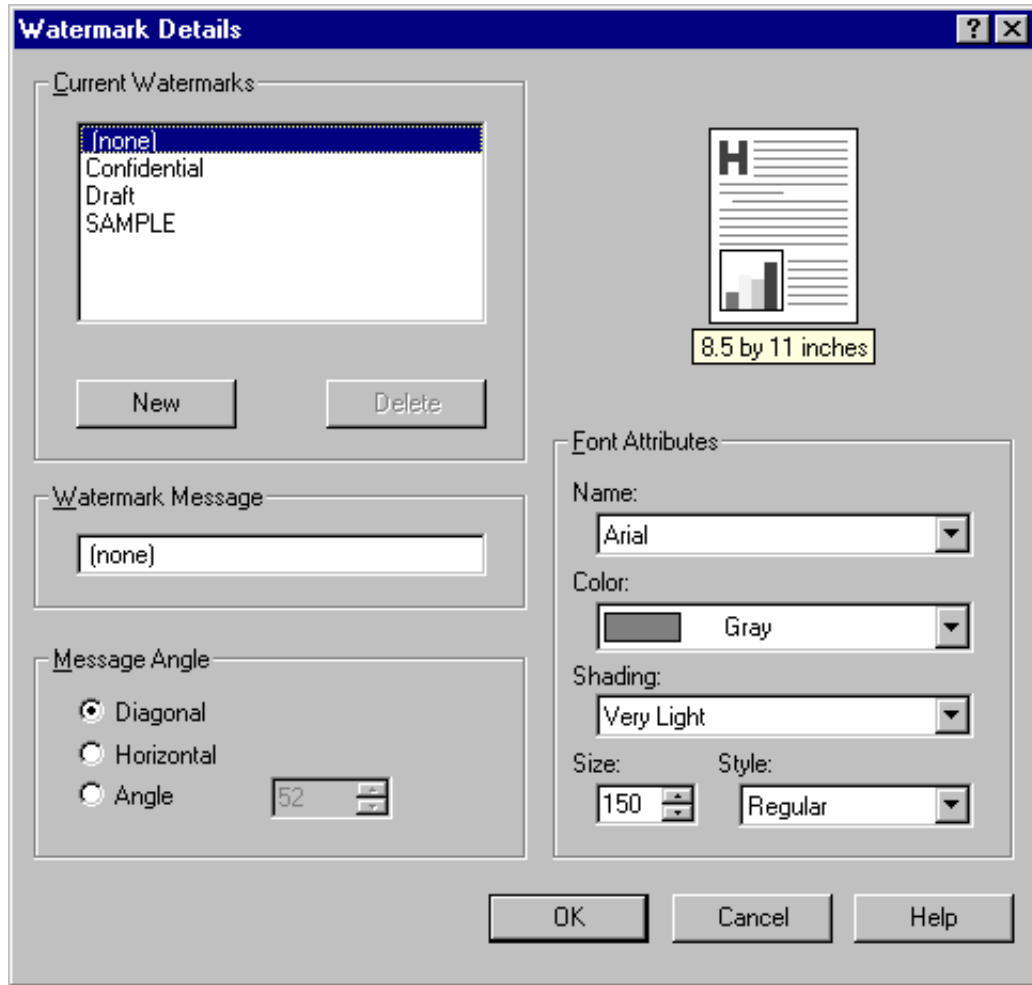
The drop-down menu shows alphabetically sorted watermarks that are currently available on the system, plus the string "(none)", which indicates that no watermark is selected. This is the default setting. Any watermark selected from this list appears in the preview image.

When **First Page Only** is selected, the watermark is printed only on the first page of the document. The **First Page Only** check box is disabled when the current watermark selection is "(none)".

Watermarks are applied to logical pages. For example, when **Pages per Sheet** is set to "4" and **First Page Only** is turned off, four watermarks appear on the physical page (one on each logical page).



Click **Edit**, and the **Watermark Details** dialog box appears.



**Figure 27.** Watermark Details dialog box

The dialog box shows a preview image and provides options for creating new watermark and controlling the message angle and font attributes.

Click **OK** to accept all changes made in the **Watermark Details** dialog box. However, clicking **Cancel** does not cancel all changes. If you make changes to a watermark, and then select a different watermark or click **New**, all changes made to the previous watermark are saved, and only the current, unsaved changes can be canceled.

### Current Watermarks

The **Current Watermarks** group box contains a list of available watermarks, both predefined watermarks made available in the driver and any new watermarks you have created. To create a new watermark, click **New**. The new watermark appears in the **Current Watermarks** list and in the **Watermark Message** edit box as “Untitled” until you name it. To name the new watermark, type the selected watermark text in the **Watermark Message** edit box. To delete a watermark, select the watermark in the **Current Watermarks** list and click **Delete**.

#### Note

You can have no more than 30 watermarks in the Current Watermarks list at one time. When the limit of 30 watermarks is reached, the **New** button is disabled, and a Bubble Help appears that explains why the button is disabled and how to enable it.

To edit an existing watermark, select the watermark in the **Current Watermarks** list. If you change the Watermark Message for that watermark, you are, in effect, creating a new watermark.

## Watermark Message

The Watermark Message is also the name that identifies the watermark in the Current Watermarks list, except when more than one watermark has the same message. For example, you might want several different watermarks with the message DRAFT, each with a different font or size. When this occurs, the string is appended with a space, a pound sign, and a number (for example, **Draft #2**). When a number is added, the number two is used first, but if the resulting name is also in the list, then the number increases until the name is unique.

## Message Angle

Use the controls in the **Message Angle** group box to print the watermark in a diagonal, horizontal, or angle (custom) orientation to the page's text. The default is **Diagonal**. All three settings automatically center the watermark string within the page; the selection of a particular setting affects only the angle of the string placement. **Diagonal** places the text along a line that spans the lower-left to upper-right corners of the page.

## Font Attributes

Use controls in the **Font Attributes** group box to change the font and the color, shading, size, and style of the font.

### Name

The **Name** drop-down menu lists TrueType (TM) fonts that are currently installed on the system.

### Color

For the HP LaserJet 9000mfp, the only **Color:** selection is **Gray**.

### Shading

The following range of shades is available from the **Shading** drop-down menu:

- **Lightest**
- **Very Light**
- **Light**
- **Medium Light**
- **Medium**
- **Medium Dark**
- **Dark**
- **Very Dark**
- **Darkest**

These values represent the intensity of the color selected in the Color attribute.

## Size

Font sizes from 1 to 999 points are available from the **Size** menu. The default point size is language-dependent. The choice of regular, bold, italic, and bold italic is available from the **Style** drop-down menu.

## Default settings

The default settings for new watermarks are **Arial** (R) font, **Gray** color, **Very Light** shading, **150 points**, and **Regular** style. The default settings for preset watermarks are **Arial** font, **Gray** color, **Very Light** shading, and **Bold** style. The default point size for preset watermarks is language-dependent, and varies.

## Paper tab features

Use the **Paper** tab to specify the size, type, and source of the media, as well as to define a custom paper size. If you want to, you can indicate different paper-selection choices for the first page and back cover of the document.

The first group box in the upper-left portion of the **Paper tab** view is **Quick Sets**. This feature is described in the “Finishing tab features” section. Any change to the **Quick Sets** group box that is made on the **Paper** tab affects the group box on the **Finishing** tab and on the **Destination** tab, and vice versa—they are all one and the same control.

## Printer image

The bitmap image in the lower-right portion of the **Paper** tab represents the current physical configuration of the printer and corresponds to its configuration data, either obtained automatically through bidirectional communication or configured manually. It should look the same as the image that appears in the same location on the **Destination** tab and the **Configure** tab.

On the **Paper** tab, the printer image contains hot spots where you can select a paper source. When the pointer moves over a hot spot, the arrow reverts to the gloved hand used in the Bubble Help, the preview image, and other areas. The current paper source, whether selected from the drop-down menu or from a printer-image hot spot, is highlighted in bright green on the printer bitmap. The following points are worth noting:

- Auto Select does not have a corresponding area to highlight in the printer image.
- Selecting **Manual Feed, Tray 1, Tray 2, Tray 3, or Tray 4 in the drop-down menu** highlights the corresponding part in the printer image.
- Selecting the area that represents tray 1, 2, 3, or 4 in the bitmap will always select the corresponding tray in the Source Is: option. Manual Feed, which is available from the Source is: option, cannot be selected by selecting the bitmap.
- On the **Paper** tab, only input trays have printer-image hot spots and can be highlighted. Output bins must be selected from the **Destination** tab.

## Note

The printer image shown in the following illustration might differ from your HP LaserJet product, depending on the model number and accessory devices.

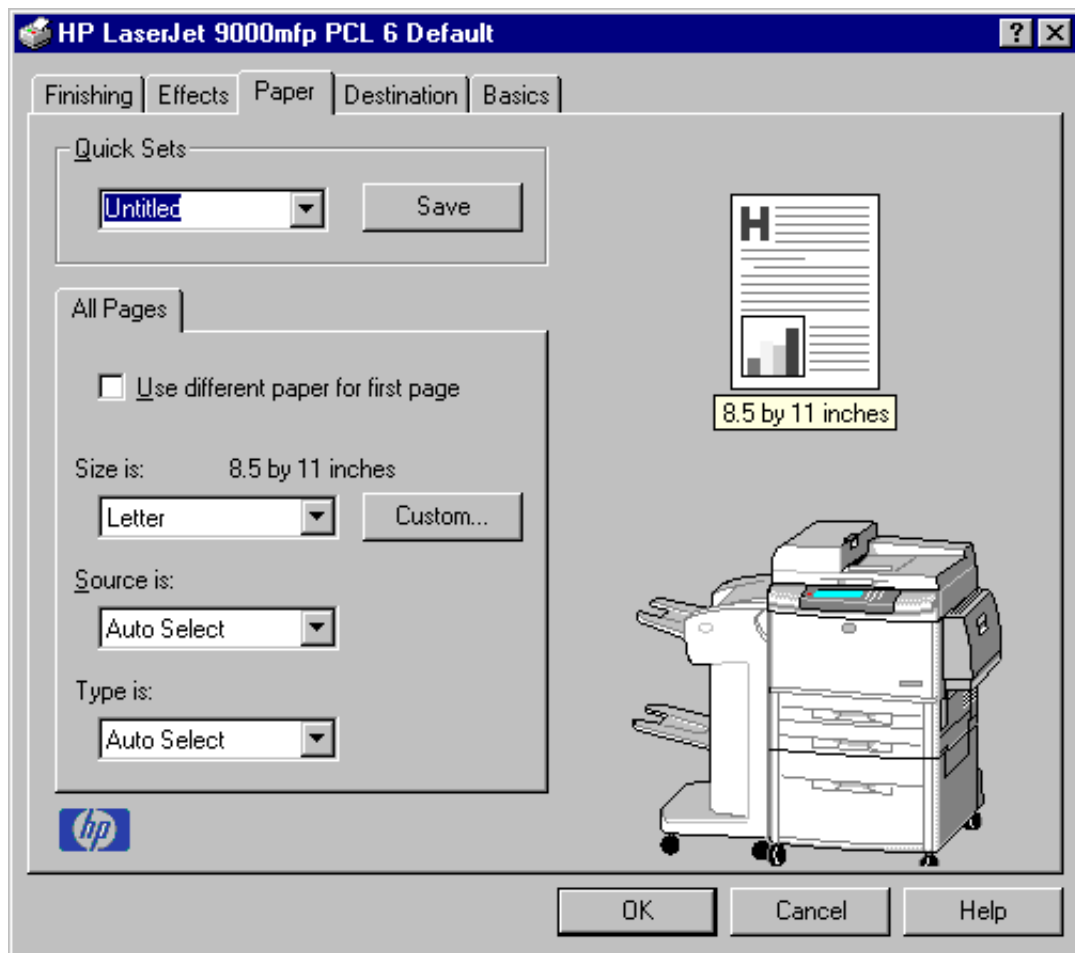


Figure 28. Paper tab

### All Pages

The controls on this mini-tab are contained in an **All Pages** mini-tab. As the name implies, this means that the settings specified on that mini-tab apply to all pages of the document. However, when you select the **Use different paper for first page** check box, the **All Pages** mini-tab is replaced by three mini-tabs. These three mini-tabs are:

- **First Page**, which contains the same controls as **All Pages**
- **Other Pages**, which contains different controls, as noted in the following sections
- **Back Cover**, which also contains different controls, as noted in the following sections

## Other Pages

Use the **Other Pages** mini-tab to select an alternative media type or source for the pages that follow the first page of a document. The choices and defaults for **Source is:** and **Type is:** are the same as for **First Page**.

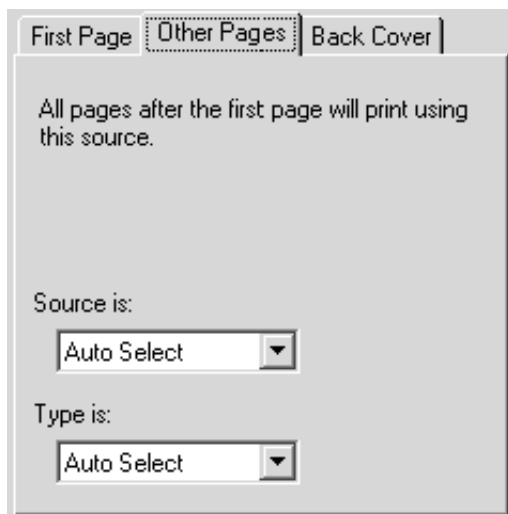


Figure 29. Other Pages mini-tab

## Back Cover

Use this feature to include a blank back cover on a document, or include a back cover from a paper source different from that used for the remainder of the document. Use the **Back Cover** mini-tab allows to select an alternative media source (or the same source as **First Page**) from which a blank page is drawn and placed after the final page of the body of the document. The mini-tab contains three option buttons and two drop-down menus. The three option buttons are:

- **No back cover**
- **Use the first page source**
- **Use an alternate source:**

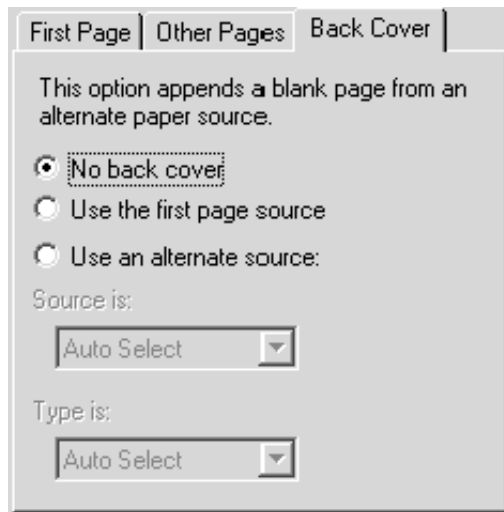
The two drop-down menus, which become available when **Use an alternate source:** is selected, are:

- **Source is:**
- **Type is:**

**No back cover** is selected as the default, with the drop-down **Source is:** and **Type is:** selection boxes disabled. Clicking **Use an alternate source** activates the drop-down menus. The drop-down menu value defaults to the same source as that chosen for the **First Page** mini-tab. Clicking **Use the first page source** changes the drop-down value to match the first page, if necessary, but the drop-down menus remain inactive.

Back Cover is available only when the **Print on Both Sides** check box is selected and the **Booklet Printing:** drop-down menu (both these options are on the **Finishing** tab) is set on **Off**.

When the **Back Cover** mini-tab is active, clicking **No back cover** deactivates the drop-down menus, but does not change their value. No Bubble Help is available for the inactive drop-down menus. The settings revert to defaults when **Use different paper for first page** is selected again.



**Figure 30.** Back Cover mini-tab

### Size is:

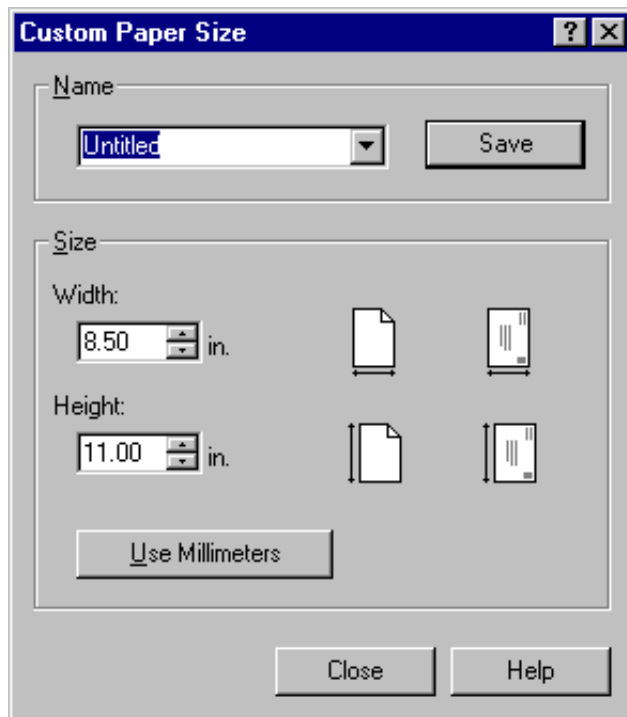
This feature actually functions as two controls: a drop-down menu that contains all the supported media sizes (including any user-defined custom sizes) and a text label that indicates the dimensions of the selected size.

Moving the pointer over the text label causes the arrow to change to a gloved hand, which indicates that the area beneath the pointer is selectable. Clicking here toggles the units of measure between inches and millimeters, offering the same options on the dimensions label in the preview image. Selecting a new size from the drop-down menu updates the media-dimensions text label as well as the preview image. Changing the orientation (on the **Basics** tab) also updates the dimensions text label.

Size can be specified only for the first page or for all pages. On the **Other Pages** and **Back Cover** mini-tabs, the **Size is:** drop-down menu does not appear because the media size must be consistent for all pages of the job. Certain applications can override this command and specify different media sizes within a single document. Any change in the media size selection causes the Booklet Printing feature to be turned off.

## Custom...

The **Custom Paper Size** dialog box appears when you click the **Custom...** button on the **Paper** tab. The following illustration shows the initial appearance of the **Custom Paper Size** dialog box.



**Figure 31.** Custom Paper Size dialog box

When the **Custom Paper Size** dialog box appears, the drop-down menu in the **Name** group contains one of two things, depending upon the current paper size selection in the **Paper** tab:

- If the paper size selection is a previously defined custom size, then the drop-down menu contains the name of that custom size.
- If the paper size selection is a standard paper size, then the drop-down menu shows the default name **Untitled** for a custom paper size.

### Note

In Windows 95, Windows 98, and Windows Me, the custom paper-size entry and storage are case-sensitive. For example, the names "Big" and "BIG" can coexist. However, in Windows NT 4.0, Windows 2000, and Windows XP, the custom paper-size entry is case-sensitive. Therefore, "Big" and "BIG" cannot coexist.

The new name is compared only against the list of user-defined custom paper-size names, and not against the standard paper-size names.

The complete set of titles for this button and the specific characteristics that determine its title and capabilities are discussed in the dynamic command button section.

## Name drop-down menu

The **Name** drop-down menu displays the name of the last selected custom paper size. Use the **Name** drop-down menu to type new names for custom paper sizes and to select from the list of currently defined custom paper sizes.

The name displayed in the **Name** drop-down menu is one of three things, depending upon the following conditions:

- If a saved custom paper size has been selected from the drop-down menu and the other controls in the dialog box have not been changed since then, the **Name** drop-down menu displays the name of the last selected custom paper size.
- If the width or height controls have been changed since a custom size was selected or saved, or if a saved paper size has just been deleted, then the **Name** drop-down menu displays the default name of **Untitled**.
- If a new name has been typed into the **Name** drop-down menu for the purpose of saving a new size or renaming an existing size, then that new name will remain in the drop-down menu display until a saved custom paper size has been selected from the drop-down menu.

If you type a new name into the **Name** drop-down menu, but then do not click the **Save** button, you should be able to change the width and height values without losing the name. However, if a saved paper-size name is selected from the drop-down menu, any unsaved name or size values are lost without warning, and replaced by the values of the selected custom paper size.

## Dynamic command button

The button located to the right of the **Name** drop-down menu has three possible labels: **Save**, **Delete**, and **Rename**.

- **Save** is the button title whenever the height and width values have been changed since the last save or since the selection of an existing custom paper size. Clicking the button causes the name in the **Name** drop-down menu to be compared against each of the saved names. If a duplicate is found, a dialog box appears, asking if it is okay to replace the existing item. If you click **Yes**, the old item is updated with the new values. If you click **No**, the driver returns to the **Custom Paper Size** dialog box, where you can type a different name. The new name is compared only against the list of user-defined custom paper names, and not against the standard paper-size names. Whenever the command button has the **Save** title, it is the default button.
- **Delete** is the button title whenever the name of an existing (previously saved) custom paper size appears in the **Name** drop-down menu, such as immediately after selecting an item from the drop-down menu or clicking the **Save** button. Clicking the **Delete** button causes the saved custom paper size to be deleted, after which the **Name** drop-down menu changes to **Untitled**, the height and width controls are unchanged, and the button title changes to **Save**.
- **Rename** is the button title when you type something into the **Name** drop-down menu after selecting an existing custom paper size from the drop-down menu. If no duplicate is found, the name of the stored custom paper size changes to match the contents of the **Name** drop-down menu. Whenever the command button has the **Rename** title, it is also the default button.

The following table illustrates the relationships between the **Name** drop-down menu, the command button, and the actions that take users from one state to another.



**Table 9. Name drop-down menu text strings**

State	Drop-down menu contents	Button label	Action	Next state
1	Untitled	Save	Click <b>Save</b>	3
			Type something into the <b>Name</b> drop-down menu	2
			Change the width or height values	1
			Select a saved item from the drop-down menu	3
2	<user-typed text>	Save	Click <b>Save</b>	3
			Type something into the <b>Name</b> drop-down menu	2
			Change the width or height values	2
			Select a saved item from the drop-down menu	3
3	<name of saved item>	Delete	Click <b>Delete</b>	1
			Type something into the <b>Name</b> drop-down menu	4
			Change the width or height values	1
			Select a saved item from the drop-down menu	3
4	<user-typed text>	Rename	Click <b>Rename</b> (when the name is unique)	3
			Click <b>Rename</b> (when the name is a duplicate)	4
			Type something into the <b>Name</b> drop-down menu	4
			Change the width or height values	2
			Select a saved item from the drop-down menu	3

## Width and height controls

The width and height values can be changed either by typing numeric strings into the edit boxes, or by selecting the up and down arrows.

Any entry that is greater than the maximum limits of the width and height control is rounded down to the maximum valid entry, while any entry that is smaller than the minimum limits of the width and height control is rounded up to the minimum valid entry. See “Custom width and height control limits.”

If units are in millimeters, the custom paper-size range minimum is the limit rounded up to the nearest whole millimeter. The custom paper-size range maximum is the limit rounded down to the nearest whole millimeter. Any non-numerical entry reverts to the last valid entry. Width and height entries are validated when the focus has changed.

The resolution of each control is one millimeter or one-tenth of an inch, depending upon the current measurement units. Clicking the up and down arrows increases or decreases the current value by the increment amount (within the allowed range of values). The computer determines the rate at which the values change.

Unit indicator labels change dynamically to indicate inches or millimeters, depending upon the measurement units the driver is currently using. To change measurement units, click the **Measurement Units** button.

## Custom width and height control limits

The minimum paper size for the HP LaserJet 9000mfp is 98 mm by 191 mm (3.87 inches by 7.5 inches) and the maximum is 297 mm by 450 mm (11.7 inches by 17.7 inches). The following table summarizes paper size limits for each paper-handling device.

**Table 10. Custom width and height limits for the HP LaserJet 9000mfp**

<b>Media source or paper handling accessory</b>	<b>Minimum size - width by height</b>	<b>Maximum size - width by height</b>
Tray 1 (multi-purpose)	98 mm by 191 mm (3.9 inches by 7.5 inches)	312 mm by 470 mm (12.28 inches by 18.46 inches)
Tray 2	148 mm by 210 mm (3.9 inches by 7.5 inches)	297 mm by 432 mm (11.7 inches by 17.0 inches)
Tray 3	148 mm by 210 mm (3.9 inches by 7.5 inches)	297 mm by 432 mm (11.7 inches by 17.0 inches)
2000-sheet HCI Tray 4	182 mm by 210 mm (7.17 inches by 8.27 inches)	297 mm by 432 mm (11.7 inches by 17.0 inches)
Duplex printing accessory	98 mm by 191mm (3.9 inches by 7.5 inches)	312 mm by 470 mm (12.28 inches by 18.46 inches)
3000-Sheet Stacker face-up bin	98 mm by 191mm (3.9 inches by 7.5 inches)	312 mm by 470 mm (12.28 inches by 18.46 inches)
3000-Sheet Stacker face-down bin	148 mm by 210 mm (3.9 inches by 7.5 inches)	312 mm by 470 mm (12.28 inches by 18.46 inches)
3000-Sheet Stapler/Stacker face-up bin	98 mm by 191 mm (3.9 inches by 7.5 inches)	312 mm by 470 mm (12.28 inches by 18.46 inches)
3000-Sheet Stapler/Stacker face-down bin	148 mm by 210 mm (3.9 inches by 7.5 inches)	312 mm by 470 mm (12.28 inches by 18.46 inches)
Multifunction Finisher	98 mm by 191 mm (3.9 inches by 7.5 inches)	191 mm by 470 mm (7.5 inches by 18.46 inches)

## Paper and envelope icons

The paper and envelope icons visually define width and height.

## Measurement Units button

Like the dynamic command button previously described, the **Measurement Units** button is also multi-titled, although its function is always to toggle the unit of measurement between standard (inches) and metric (millimeters) units of measurement.

## Close button

The **Close** button closes the **Custom Paper Size** dialog box according to the logic in the table below. In all cases, any custom paper sizes successfully saved (and not renamed or deleted) while the dialog box is open will remain in the paper size list in the **Paper** tab. The following table lists options that appear when you click the **Close** button.

**Table 11. Close dialog box text strings**

If the drop-down menu contains ...	And the button says ...	Then it will do this when the <b>Close</b> button is clicked
Untitled	Save	The dialog box closes, but you lose the changes that were not saved.  The current paper size remains the same as it was when the <b>Custom</b> button was selected.
<user-typed text>	Save	The dialog box closes, but you lose the changes that were not saved.  The current paper size remains the same as it was when the <b>Custom</b> button was selected.
<name of saved item>	Delete	The dialog box closes, and the current paper size is set to that which was last displayed in the drop-down menu.
<user-typed text>	Rename	The dialog box closes, but you lose the changes that were not saved.  The current paper size remains the same as it was when the <b>Custom</b> button was selected.

## Source Is:

The **Source Is:** drop-down menu shows the input trays available according to **Configure** tab settings. The list contains:

- Auto Select
- Manual Feed
- Tray 1 (if installed)
- Tray 2
- Tray 3
- Tray 4 (if installed)

The default setting is **Auto Select**, which allows the printer firmware to select the media source. Any optional paper trays that are installed through the **Configure** tab are also shown here.

If a conflict exists among paper source, size, or type, and you choose to keep the conflicting settings, the settings are processed in the following order: paper size, paper type, and paper source.

For information about media types and sizes, see "Media attributes".

## Type Is:

The **Type Is:** drop-down menu shows all the paper types supported by the HP LaserJet product, as well as any user-defined types created by a printer administrator. The default setting is **Auto Select**, which allows the application to select the paper type.

No mechanism exists for manually adding custom paper types from the driver. Custom sizes can be added only by using the bidirectional communication mechanism, so they must already exist in the printer when the bidirectional query occurs. If bidirectional communication is enabled, then the information returned is an updated list of paper types. If bidirectional communication is not enabled, then the driver looks for custom paper types saved from a previous bidirectional communication query, and uses those. Otherwise, no custom paper types are available through the driver.

The standard types that appear in the lists are:

- Auto select
- Bond
- Cardstock
- Color
- Labels
- Letterhead
- Plain
- Preprinted
- Prepunched
- Recycled
- Rough
- Transparency

For more information about media types and sizes, see "Media attributes".

## Printer image

The bitmap image in the lower-right portion of the **Paper** tab screen represents the current physical configuration of the printer according to the driver configuration data (obtained automatically through bidirectional communication, or configured manually through the driver). It should have the same appearance as the image in the same location on the **Destination** tab and the **Configure** tab.

On the **Paper** tab, the printer image contains hot spots for selecting a media source (tray 2, tray 3, or tray 4). When the pointer moves over a hot spot, the arrow reverts to the gloved hand used in the Bubble Help, the preview image, and other areas. The current media source is highlighted in a bright green color on the printer bitmap.

## Destination tab features

The **Destination** tab provides options for job retention and output bins.

The printer image in the lower-right portion of the **Destination** tab represents the current physical configuration of the printer and corresponds to its configuration data, either obtained automatically through bidirectional communication or configured manually. It should look the same as the image that appears in the same location on the **Paper** tab and the **Configure** tab.

### Note

The printer image shown in the illustration might differ from your HP LaserJet product, depending on the model number and accessory devices.

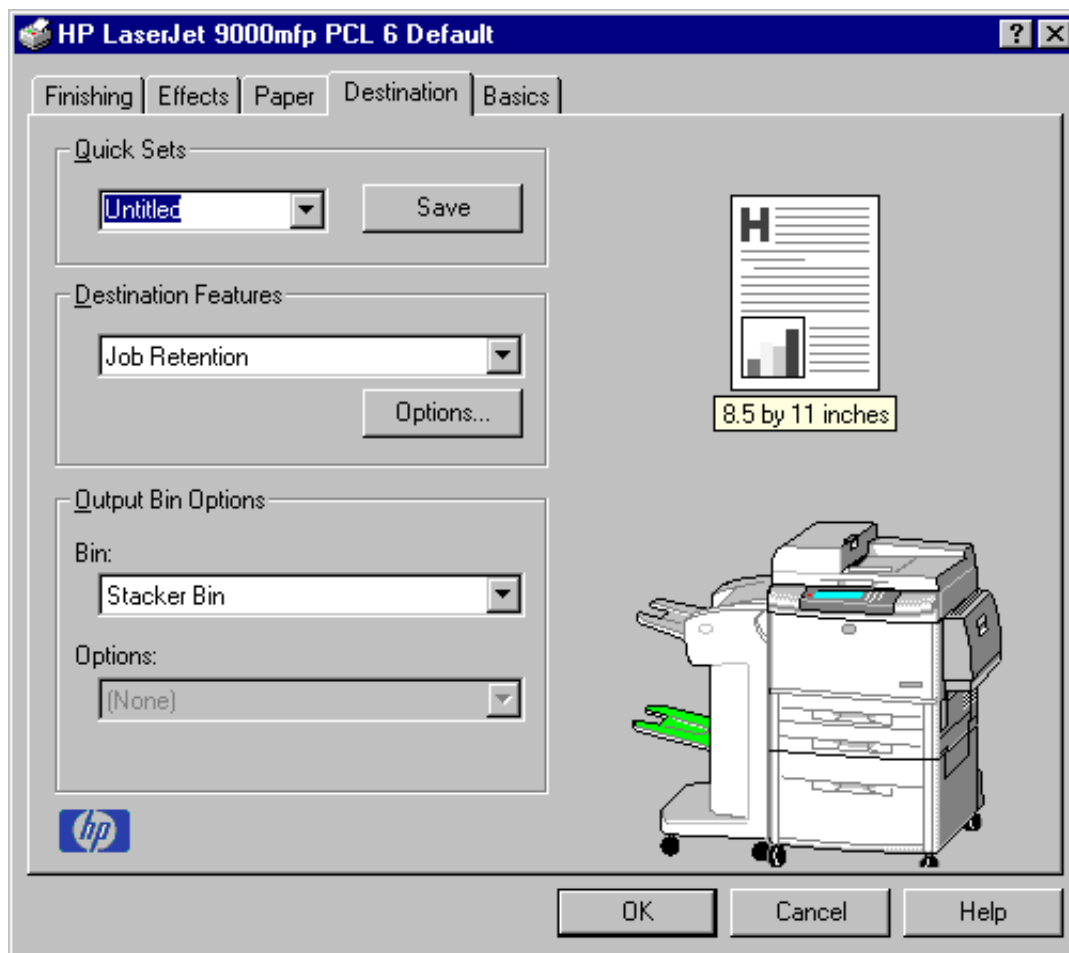


Figure 32. Destination tab

### Destination Features

The **Destination Features** group box provides controls for Job Retention. This group box is only visible if **Printer Hard Disk** or **Job Retention Enabled** is selected in the **More Configuration Options** dialog box available on the **Configure** tab.

## Hardware configuration and availability of Job Retention options

The HP LaserJet 9000mfpis equipped with a hard disk to accommodate the following Job Retention options:

- Proof and Hold
- Private Job
- Quick Copy
- Stored Job

## Configuring the printer driver for a printer hard disk

If the print driver on your computer is not yet configured to use the hard disk, follow these steps:

### Note

These steps must be completed for each driver.

- Step 1 Double-click the **My Computer** icon. This opens the My Computer window.
- Step 2 Open the Printers window.
- Step 3 Right-click the printer icon. This opens a drop-down menu. Click **Properties**. The **Properties** dialog box appears.
- Step 4 Click the **Configure** tab.
- Step 5 Click **Other Options**.
- Step 6 Under **Storage**, click the **Printer Hard Disk** check box.
- Step 7 Close all dialog boxes by clicking **OK**.

Your PCL printer driver is now configured to use the hard disk and Job Retention features of your HP LaserJet product.

## Job retention modes

### Note

The Job Retention feature is not supported under Windows 3.1x.

Using the HP LaserJet product's Job Retention feature, you can store documents at the printer and then control the printing of these documents using the printer control panel. This feature is intended to provide greater flexibility, convenience, security, and cost savings.

Once the Job Retention feature has been enabled, you can access its features in the **Destination** tab of the printer driver.

The HP LaserJet product offers the following **Job Retention** options:

### Off

This option turns the Job Retention feature off (it is disabled), which means the print job will not be stored in the printer.

## Quick Copy

This option is available only when a printer hard disk is installed. Quick Copy stores a copy of a printed job on the hard disk, and allows you to print additional copies of a print job using the control panel. The number of quick-copy print jobs that can be stored in the printer is set from the printer control panel.

---

### Note

The printer configuration can be set to hold a maximum of 50 quick-copy or proof-and-hold jobs. The number is set on the printer control panel in the **Configuration** menu, and the default is 32. When this preset limit is reached, a newer document will overwrite the oldest. Also, a document that has the same user and job name as one already stored on the hard disk will overwrite the existing document. Quick-copy jobs are deleted if the printer's power is removed.

---

## Proof and Hold

This option stores the print job on the printer hard disk, and prints only the first copy of the job, allowing you to check the first copy. If the document prints correctly, you can print the remaining copies of the print job from the printer control panel. The number of proof-and-hold print jobs that can be stored in the printer is set from the printer control panel.

## Using a PIN for Private Job and Stored Job

The Private Job and Stored Job options can be secured by a four-digit personal identification number (PIN). This number must be entered in the printer control panel before it prints the job.

The box labeled **PIN** is usually inactive. Selecting **Private Job** or **Stored Job** along with **Require PIN to Print** activates the **PIN** box. The Stored Job/PIN coupling has a PIN restriction of four ASCII numeric characters (ASCII 0-30 through 0-39). If you enter non-numeric characters, they are removed immediately. If you enter more than four characters, the characters past the fourth are truncated. The field temporarily allows fewer than four digits in the string, but when the edit field loses focus, the zeroes pad the left end until there are exactly four digits. The default initialized value for the PIN is 0000 for **Private Job** and **Stored Job** with **Require PIN to Print** checked.

## Private Job

This option allows you to send a print job directly to the printer memory. Selection of **Private Job** activates the **PIN** field. The print job can be printed only after you enter a PIN in the printer control panel. After the job is printed, the printer removes the job from the printer memory. This feature is useful when you are printing sensitive or confidential documents you do not want to leave in an output bin after printing. **Private Job** stores the print job on the hard disk.

Once released for print, the private job is immediately deleted from the printer. If more copies are needed, it will be necessary to reprint the job from the application. If you send a second private job to the printer with the same user name and job name as an existing private job (and you have not released the original job for printing), the second job will overwrite the older job, regardless of the PIN. Private jobs are deleted if power to the printer is removed.

## Stored Job

This option is available only when a printer hard disk is installed. Stored Job allows you to send a print job directly to the printer hard disk. The print job will be stored in the printer as if it is an electronic file cabinet. After the print job is stored in the printer's hard disk, you can print the job from the printer control panel. Nothing will be printed until the job is requested from the printer control panel.

The job remains stored on the printer until it is deleted or overwritten by a document with the same user and job names. Stored jobs remain on the printer hard disk when power is interrupted. Use this feature for forms and other common or shared documents.

A stored job can be handled in two ways, as either a private or a public job. A private stored job allows you to send a print job directly to the printer memory and can be printed only after you enter a PIN in the printer control panel. (You can set the PIN in the **Print** dialog box.) After the job is printed, the job remains in the printer memory and can be printed again from the printer control panel. This feature is useful when you are printing sensitive or confidential documents you do not want to leave in an output bin after printing. Private mode is initiated by clicking the **Require PIN to Print** check box. In this mode, a PIN entry at the control panel is required to release the job.

The box labeled PIN is usually inactive. The **Require PIN to Print** option is activated if you click **Stored Job**. If selected, you must enter a PIN to make the stored job private.

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### Note

A private stored job is not the same as a private job (see above). Private jobs are deleted from the printer memory after they are printed. Private stored jobs are retained in the printer memory after printing, but require that a PIN be entered each time they are printed.

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## Document identifiers used in Job Retention

When you use a Job Retention feature, your document is identified in the printer control panel by user name and job name.

### User Name

The **User Name** edit box allows you to identify the job at the printer control panel. When the driver is first installed (or when **Factory Defaults Quick Set** is selected), this string initializes to the empty string (""), but the dialog box detects this condition and replaces the string with your login name in Windows 95, Windows 98, Windows Me, Windows NT 4.0, Windows 2000, and Windows XP. It replaces it with "Untitled" in Windows 3.1x. Restrictions for the **User Name** field are described below.



## Job Name

The **Job Name** is used for specifying a name to identify the job on the printer control panel. When the driver is installed, or when the **Factory Defaults Quick Set** is selected, this string is initialized to the empty string (" "), but the dialog box will detect this condition and replace the string with "Untitled". Restrictions for the **Job Name** field are described below.

The **Job Name** and the **User Name** fields can contain no more than 16 characters each, and are limited to A through Z and 0 through 9, because the name is displayed on the printer control panel. If you try to enter a lowercase character, it automatically shifts to uppercase. If you try to enter a character with an ASCII code of less than 32 or greater than 126 characters, the character is removed from the edit field, along with all characters that follow it. If you try to enter more than 16 characters, any character beyond 16 is truncated. When the dialog box is closed, or the edit box loses focus, an empty string is replaced with "Untitled". In those languages for which "Untitled" cannot be translated without the use of invalid characters, the driver uses a string of three dashes. The acceptable characters for job name and user name vary for each operating system. The string must be displayable on the printer control panel.

## Using Job Retention options when printing

You can use **Job Retention** options in the **Destination** tab of the printer driver.

---

### Note

The printer driver installed on your computer must be configured to use the Job Retention features. See the "Configuring the printer driver for a printer hard disk" section.

- 1 Click **Print** from the software application. The **Print** dialog box appears.
- 2 Click **Properties**. The **Properties** dialog box appears.
- 3 Click the **Destination** tab to display the destination options.
- 4 Click **Job Retention** on the drop-down menu under **Destination Features**.
- 5 Click **Options**. The **Job Retention Options** dialog box appears.

You can then select one of the Job Retention options described above by clicking the appropriate option button.

---

### Note

These instructions are specific to the Windows 95, Windows 98, Windows Me, Windows NT 4.0, Windows 2000, and Windows XP environments using the latest available PCL 6 and PCL 5e drivers. While the basic concepts of Job Retention are the same for PS print jobs, there are significant differences in the driver user interface. Also, there are some limitations in naming and PIN selection.

## Releasing stored jobs at the printer

Once you send a print job using **Job Retention**, you can release the job to print using the printer control panel.

- Step 1 Touch **Menu** to enter the menus.
- Step 2 Touch RETRIEVE JOB, and then press the Select button.
- Step 3 Touch your job name and press the Select button.
- Step 4 Touch PRINT (The PRINT selection might have an icon next to it indicating that the job is locked. If so, type the PIN number and then touch the job name.

## Deleting a print job

Sometimes it is necessary to delete a print job from the printer memory or hard disk. This can be done from the printer control panel.

- Step 1 Touch **Menu** to enter the menus.
- Step 2 Touch RETRIEVE JOB, and then press the select button.
- Step 3 Touch your job name and press the select button.
- Step 4 Touch DELETE (The DELETE selection might have an icon next to it indicating that the job is locked. If so, type the PIN number and then touch the job name.

## Output Bin Options

The **Output Bin Options** group box contains a drop-down menu that lets you select from a list of configured output bins. Only output bins configured on the **Configure** tab appear in this drop-down menu.

Depending upon the bundle and the driver configurations, the HP LaserJet 9000mfp offers the following optional output devices:

- Optional 3000-sheet stapler/stacker. This single 3000-sheet stacking device accommodates up to 3,000 sheets of Letter-sized and A4-sized paper, or up to 1,500 sheets of 11-inch by 17-inch and A3 paper. It provides multi-position stapling for up to 50 sheets of paper per document.
- Optional 3000-sheet stacker. This single 3000-sheet stacking device accommodates up to 3,000 sheets of Letter-sized and A4-sized paper, or up to 1,500 sheets of 11-inch by 17-inch and A3 paper.
- Optional Multifunction Finisher. This booklet printing device creates booklets and stapled documents in a variety of sizes.

## Options

The **Options** drop-down menu is inactive. This setting can be used to enable non-HP paper-handling devices.

## Printer image

The bitmap image in the lower-right portion of the **Destination** tab screen represents the current physical configuration of the printer according to the driver configuration data (obtained automatically through bidirectional communication, or configured manually through the driver). It should have the same appearance as the image in the same location on the **Paper** tab and the **Configure** tab.

On the **Destination** tab, the printer image contains hot spots for selecting an output bin. When the pointer moves over a hot spot, the arrow reverts to the gloved hand used in the Bubble Help, the preview image, and other areas. The current output bin is highlighted in a bright green color on the printer bitmap.

---

### Note

On the **Destination** tab, only output bins have hot spots and can be highlighted; source trays must be selected from the **Paper** tab.

## Basics tab features

The **Basics** tab provides options for setting the number of copies to be printed and for the orientation of the print job. It also lets you retrieve information about the driver.

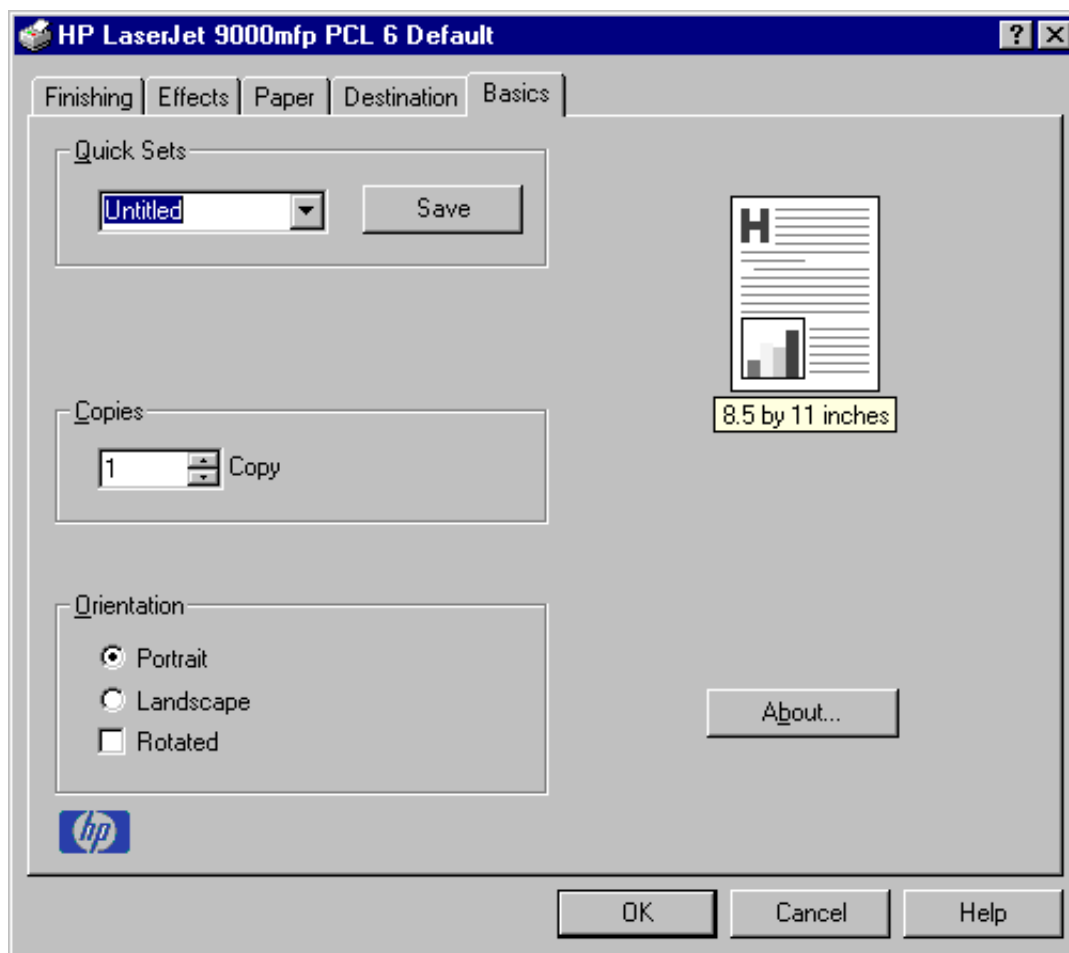


Figure 33. Basics tab

### Copies

The Copies feature allows you to specify the number of copies to print.

The number of copies you request appears in the **Copies** box. You can select the number by typing in the box or by using the up and down arrows to the right of the edit box. Valid entries are numbers from 1 to 32000 for the HP LaserJet 9000mfp. The copies value will not advance from the maximum number (32000) to 1 when the up arrow is used, or change from 1 to the maximum number (32000) when the down arrow is used. Invalid entries into the edit box (such as non-numerical input, numbers less than 1 or greater than the maximum allowed) are changed to the last valid value entered when you click on another group box or leave the **Basics** tab. The default number of copies is 1.

Because applications can also be used to set the desired number of copies, conflicts between the application and the driver can arise. In most cases, the application and the driver communicate, so that the number of copies set in one location (such as the application) will appear in the other (such as the driver). For some applications, this communication does not take place, and the copies values are treated independently. For these applications, setting 10 copies in the application and then setting 10 copies in the driver will result in 100 copies (10 x 10) being printed. It is recommended to set the number of copies in the application, wherever possible.

## Orientation

Orientation refers to the layout of the image on the page, and does not affect the manner in which media is fed into the printer. You can specify the orientation of the print job. The three available orientations are portrait, landscape, and rotated. The default orientation is portrait.

The three orientation options have these configurations:

- Portrait. The top edge of the document is the shorter edge of the paper.
- Landscape. The top edge of the document is the longer edge of the paper.
- Rotated. Rotated is a form of landscape or portrait in which the image is rotated 180 degrees. This setting is useful for printing envelopes and when using some third-party paper-handling devices.















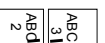







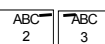
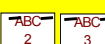
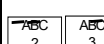
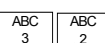
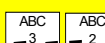
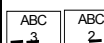






Orientation can toggle between portrait and landscape by left-clicking the preview image. If you check **Rotation**, there is no change in the preview image.

## Image rotation versus stapling

The following matrix shows two examples for long-edge feed (for example, Letter size) and short-edge feed (for example, Legal, 11 x 17 size). All options are shown in the table, even though the driver does not show them (for example, portrait and rotated PCL 5e). "Not available" means that the stapling option simply is not possible (for example, an angled staple in an opposite corner-in such a case, the device puts a straight staple in the opposite corner).

Table cells marked in yellow are defined as "hard to read," and the driver shows a warning. This table shows the "short edge" twice because papers that are narrower than Legal size cannot be stapled using the **Angled** option.

**Table 12. Long edge stapling**

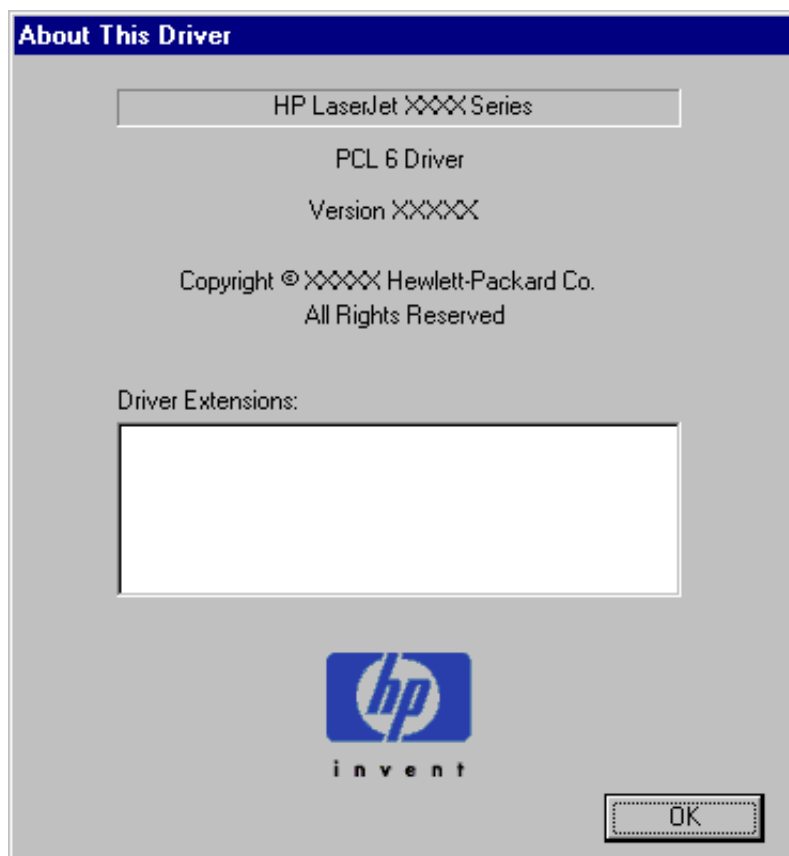
Feed direction	Orientation	Duplex	Paper Size	1 staple	2 staples	3 staples	6 staples	Angled	Custom
Long edge	Portrait	Simplex	Letter			Same side as two staples	Same side as two staples		
Long edge	Portrait Rotated	Simplex	Letter			Same side as two staples	Same side as two staples	<b>Not available</b>	
Long edge	Portrait	Print Both Side(booklet)	Letter			Same side as two staples	Same side as two staples		
Long edge	Portrait Rotated	Print Both Side (Booklet)	Letter	<b>Not available</b>					
Long edge	Portrait	Flip Pages Up (tablet)	Letter			Same side as two staples	Same side as two staples		
Long edge	Portrait Rotated	Flip Page Up (tablet)	Letter			Same side as two staples	Same side as two staples	<b>Not available</b>	
Long edge	Landscape	Simplex	Letter			Same side as two staples	Same side as two staples	<b>Not available</b>	
Long edge	Landscape Rotated	Simplex	Letter			Same side as two staples	Same side as two staples	<b>Not available</b>	
Long edge	Landscape	Print Both Side (booklet)	Letter			Same side as two staples	Same side as two staples	<b>Not available</b>	
Long edge	Landscape Rotated	Print Both Side (booklet)	Letter			Same side as two staples	Same side as two staples	<b>Not available</b>	
Long edge	Landscape	Flip Pages Up (tablet)	Letter			Same side as two staples	Same side as two staples	<b>Not available</b>	
Long edge	Landscape Rotated	Flip Pages Up (tablet)	Letter			Same side as two staples	Same side as two staples	<b>Not available</b>	

**Table 13. Short edge stapling**

Feed direction	Orientation	Duplex	Paper Size	1 staple	2 staples	3 staples	6 staples	Angled	Custom
Long edge	Portrait	Simplex	Letter			Same side as two staples	Same side as two staples		
Long edge	Portrait Rotated	Simplex	Letter			Same side as two staples	Same side as two staples	Not available	
Long edge	Portrait	Print Both Side(booklet)	Letter			Same side as two staples	Same side as two staples		
Long edge	Portrait Rotated	Print Both Side (Booklet)	Letter	Not available					
Long edge	Portrait	Flip Pages Up (tablet)	Letter			Same side as two staples	Same side as two staples		
Long edge	Portrait Rotated	Flip Page Up (tablet)	Letter			Same side as two staples	Same side as two staples	Not available	
Long edge	Landscape	Simplex	Letter			Same side as two staples	Same side as two staples	Not available	
Long edge	Landscape Rotated	Simplex	Letter			Same side as two staples	Same side as two staples	Not available	
Long edge	Landscape	Print Both Side (booklet)	Letter			Same side as two staples	Same side as two staples	Not available	
Long edge	Landscape Rotated	Print Both Side (booklet)	Letter			Same side as two staples	Same side as two staples	Not available	
Long edge	Landscape	Flip Pages Up (tablet)	Letter			Same side as two staples	Same side as two staples	Not available	
Long edge	Landscape Rotated	Flip Pages Up (tablet)	Letter			Same side as two staples	Same side as two staples	Not available	

## About

By clicking the **About** button on the **Basics** tab or selecting the HP logo on any of the driver property pages, the **About** box appears. To close the **About** box, click **OK**, press ESC, press ALT + F4, or press ENTER. The figure below shows the **About** box. The information varies according to HP LaserJet model number, driver, date, and versions.



**Figure 34.** About This Driver dialog box

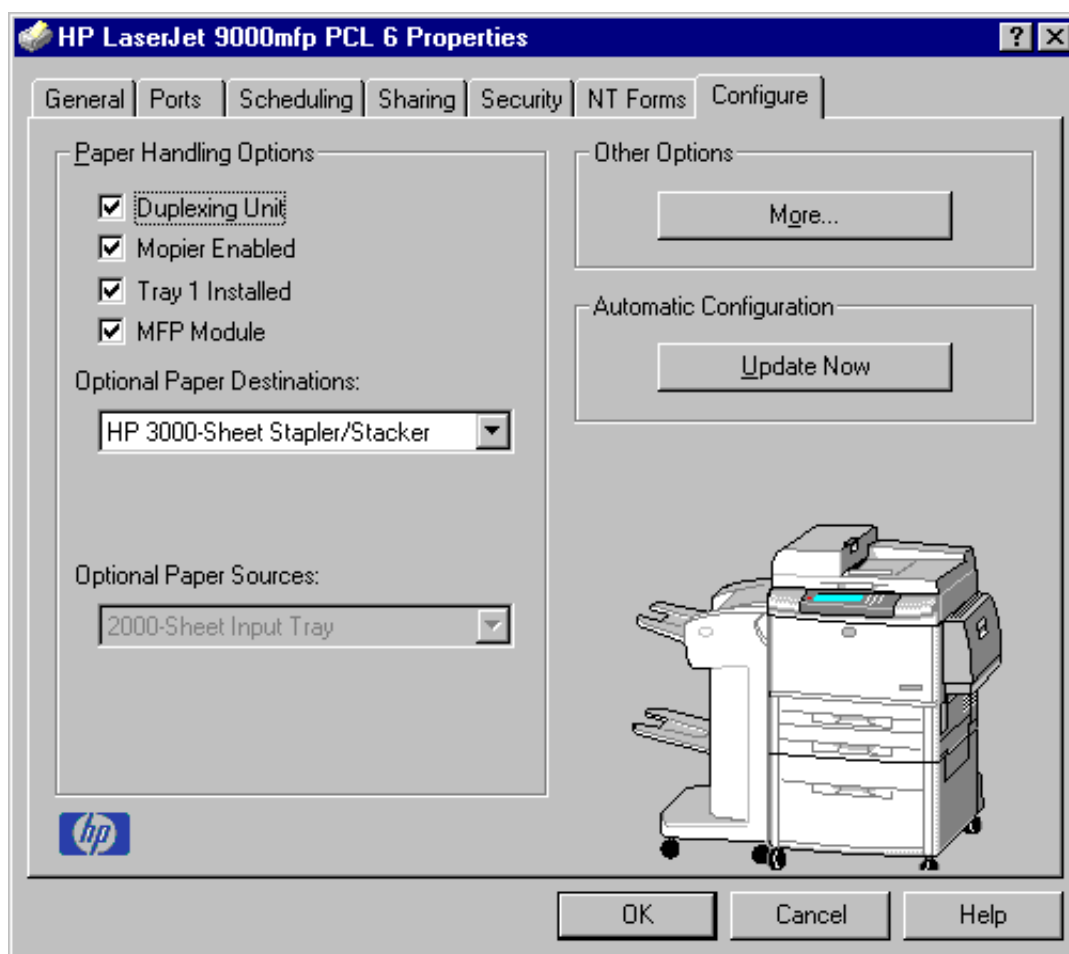
### Driver extensions

The Driver extensions text box provides you with some visibility of any extended driver functionality. It can contain a brief description of the driver extension and a version number.

## Configure tab features

The **Configure** tab lets you tell the driver about the hardware configuration of the printer. If bidirectional communication is enabled in a supported environment, set up this tab by clicking the **Update Now** button. If your environment does not support bidirectional communication, the **Update Now** button will be unavailable, so you must manually configure the options on this tab.

The **Configure** tab is available when the driver is opened from the Printers folder by clicking **Properties**. When you open the driver from within an application, the **Configure** tab will not be visible, with a few exceptions, such as when using Excel 5.0 or Corel Chart 4.0. When opened from the Printers folder, the **Configure** tab looks like the following illustration.



**Figure 35.** Configure tab

The printer image in the lower-right portion of the **Configure** tab represents the current physical configuration of the printer and corresponds to its configuration data, either obtained automatically through bidirectional communication or configured manually. It should look the same as the image that appears in the same location on the **Paper** tab and the **Destination** tab. For more information, see “Paper tab features.”

**Note** The printer image shown in the illustration might differ from your HP LaserJet product, depending on the model number and accessory devices.



## Paper handling options

The **Paper Handling Options** group box provides options for configuring the majority of paper-handling device features.

### Duplexing unit

Select this option if a duplexing unit is installed in the printer. When it is selected, additional controls appear in the **Document Options** group box in the **Finishing** tab. Unlike most options in this group box, the **Duplexing Unit** option does not affect the printer image because the duplexing unit is contained within the printer. To print on both sides, click **Print** from the application, click the **Properties** button, click the **Finishing** tab, and then click **Print on Both Sides**.

### Mopier enabled

A mopier is a printer designed by HP to produce multiple, collated copies from a single print job. Multiple original printing (mopying) increases printer performance and reduces network traffic by sending the job to the printer once, then storing it on the hard disk. The rest of the copies are printed at the printer's fastest speed. All documents can be created, controlled, managed, and finished from the desktop, eliminating the extra step of going to a photocopier.

The HP LaserJet 9000mfp supports the Transmit Once mopying feature, and the **Mopier Enabled** option is selected by default.

The HP Laserjet 9000mfp ships with 128 MB or more of memory installed.

### MFP Module

Select the **MFP Module** check box if the HP LaserJet product is a multifunction printer (mfp). The **MFP Module** option affects the printer image by applying the scanner bitmap to the top of the printer. Also, the Driver Work Space value is 19.08 MB; the total memory is 128 MB; the **Top Bin (Face Down)** option is removed from the **Output Bin Options** drop-down menu on the **Destination** tab; the HP 2000-sheet high-capacity input (HCI) tray 4 is automatically configured and rendered unconfigurable in the **Optional Paper Sources:** drop-down menu on the **Configure** tab, and **Tray 1 Installed** is checked, the **duplex unit** is checked, and **Printer Hard Disk** is checked under **Other Options (More...)** feature of the **Configure** tab, and **HP Multifunction Finisher** is available in the **Optional Paper Destinations:** drop-down menu on the **Configuration** tab. This option is checked by a successful bidirectional communication query or when the mfp bundle is selected during installation. Unselecting this box will cause the printer bitmap to show the HP LaserJet 9000 product with standard top bin and the top bin will be an available destination once again.

### Tray 1 installed

Tray 1 is available on the HP LaserJet 9000mfp. Tray 1 can be selected in the **Configure** tab. The printer image automatically changes to include tray 1.

## Optional Paper Destinations

The **Optional Paper Destinations** drop-down menu contains the following options:

- HP 3000-Sheet Stapler/Stacker
- HP 3000-Sheet Stacker
- HP Multifunction Finisher

If the 3000-Sheet Stapler/Stacker or Multifunction Finisher is configured on the **Configure** tab, the **Staple** option is included on the **Finishing** tab.

The **Optional Paper Destinations** control is a drop-down list containing the various multi-bin output devices that are supported by the HP LaserJet 9000mfp. This includes the HP LaserJet 3000-sheet Stapler/Stacker and the HP LaserJet 3000-sheet Stacker. In addition, the HP LaserJet Multifunction Finisher will be listed if **MFP Module** is checked. Configuring the HP Multifunction Finisher will cause four additional Quick Sets to appear, **Booklet on Letter**, **Booklet on 11x17**, **Booklet on A4**, and **Booklet on A3** (see the “Quick Sets” section). The first item in this list is “(none),” which is the default setting. The selection made from this list will be shown in the printer image and will affect the choices available on the **Destination** tab. Each of these devices has a different effect on the **Destination** tab. Note that these devices cannot be attached to the printer unless the 2000-sheet tray 4 is in place. So, when any of these devices is chosen, the HP LaserJet XY Input Tray (HCI) is automatically configured and grayed.

When the **Multifunction Finisher** is selected in the **Optional Paper Destinations:** drop-down menu on the **Configure** tab, **Booklet Bin** is added to the **Output Bin Options** drop-down menu on the **Destination** tab. In addition, the **Fold/Saddle Stitch** option is added to the **Document Options** group box on the **Finishing** tab.

Any change made to this setting will reset the output bin (specified in the **Destination** tab) to the default setting.

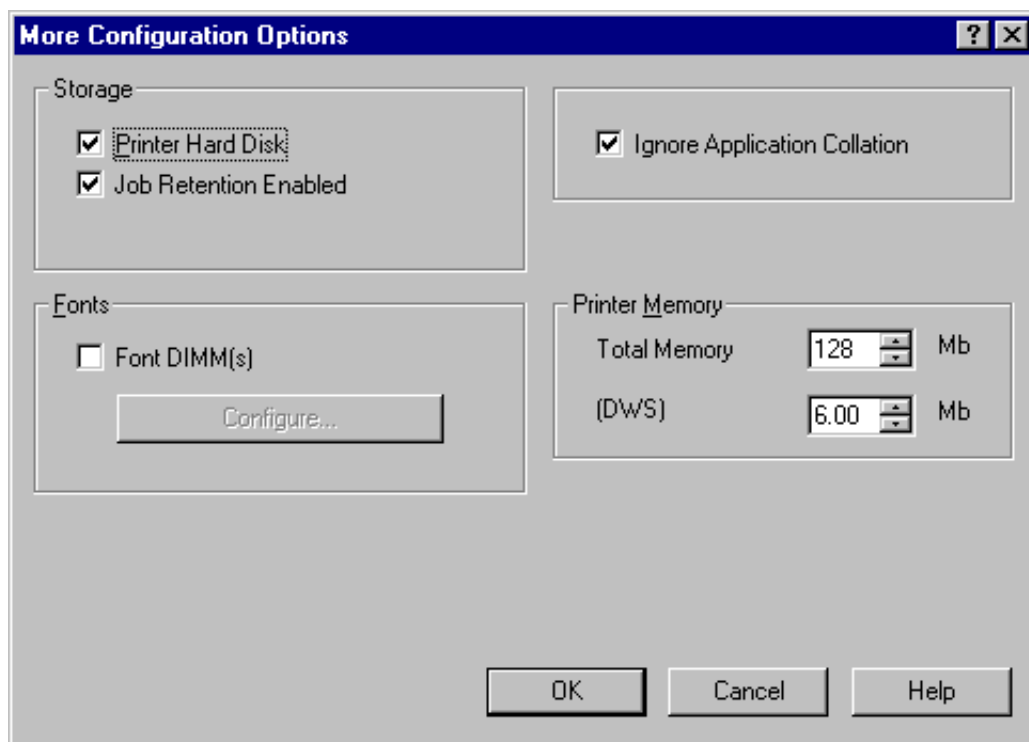
## Optional Paper Sources

The **Optional Paper Sources:** drop-down menu lists optional paper sources for the HP LaserJet 9000mfp. The list of available paper sources varies, depending on your product, its input accessories, and the product configuration settings on the **Configure** tab.

For the HP LaserJet 9000mfp, the Input Tray option (tray 4) is grayed out in the **Optional Paper Sources:** drop-down menu, since tray 4 is pre-installed and is therefore no longer an “optional” paper source. Tray 4 can be chosen using the **Paper** tab.

## Other Options

The **Other Options** group box contains a single **More...** command button. Clicking the **More...** button opens the **More Configuration Options** dialog box.



**Figure 36.** More Configuration Options dialog box

### Storage

In **Storage**, you can specify whether a printer hard disk is installed and whether **Job Retention** is enabled. **Job Retention** is enabled by default. The printer hard disk control can be set manually or updated by a successful bidirectional communication query using the **Update Now** button in environments supporting bidirectional communication. **Job Retention Enabled** determines whether **Job Retention** appears as a feature on the **Destination** tab. Because this is the only possible Destination Feature for the HP LaserJet product, this also determines if the **Destination Features** group box appears on the **Destination** tab. If **Job Retention Enabled** is not selected in this dialog box, the **Destination Features** drop-down menu does not appear on the **Destination** tab.

The **Job Retention Enabled** check box is disabled unless the **More...** dialog box of the **Configure** tab indicates the printer has a hard disk and at least 128 MB of RAM installed. When the **Printer Hard Disk** check box under **More Options** is selected, and 128 MB of RAM is installed, the **Job Retention Enabled** check box is selected by default.

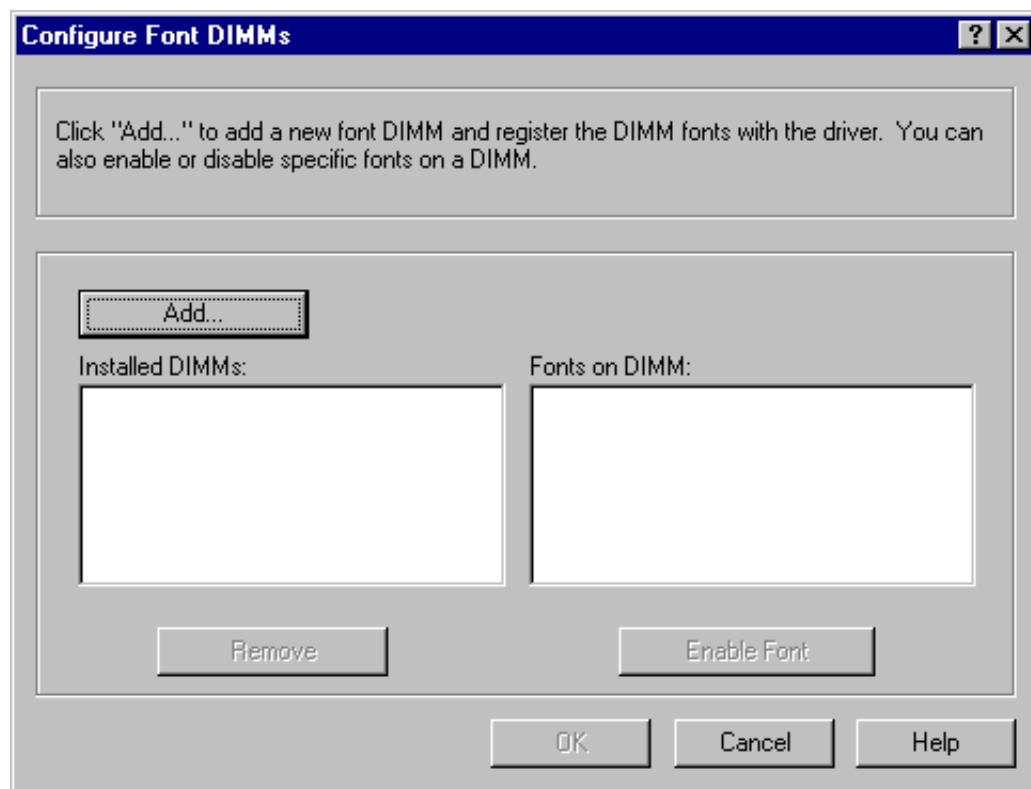
### Printer Memory

**Total Memory.** This shows the total amount of memory physically installed in the printer. Total Printer Memory updates from a successful bidirectional query.

**Driver Work Space.** The **Driver Work Space (DWS)** option lets you specify the amount of work-space memory available to the printer. In environments supporting bidirectional communication, this option is configured automatically. To manually set **DWS**, print a configuration page and find the **DWS** value in the Memory section of the configuration page. The **DWS** value might change if you switch printer model settings. Then, enter that value in the **DWS** box in the **More Configuration Options** dialog box. An accurate **DWS** value optimizes driver performance.

## Fonts

The **Fonts** group box contains a **Font DIMM** check box and a corresponding **Configure...** button. Clicking the **Font DIMM** check box tells the driver that a Font DIMM is installed, and that stored data regarding the fonts on the DIMM is available. When the check box is selected, the **Configure** button is enabled. Click the **Configure** button to open the **Configure Font DIMMs** dialog box. If the **Font DIMM** check box was not selected when you entered the **More Configuration Options** dialog box, selecting that check box automatically opens the **Configure Font DIMMs** dialog box.



**Figure 37.** Configure Font DIMMs dialog box

The **Configure Font DIMMs** dialog box lets you:

- Add up to two font DIMMs by clicking the **Add** button.
- Specify a unique font DIMM name.
- Select specific font DIMM data files that contain lists of fonts on specified DIMMs.
- Select one or more installed DIMMs in the Installed DIMM list, and based on the selected DIMM(s). The list to the right (Fonts on DIMM) will display all of the fonts available on the selected DIMM(s).
- Enable or disable one or more of the selected font(s).

Use the following procedure to configure a font DIMM.

- 1 Make sure that the font DIMM is properly installed.
- 2 Click **Add**. The **Add Font DIMM** dialog box appears.
- 3 Click **Browse**. The **Font DIMM Files** dialog box appears.
- 4 Find and select the appropriate Printer Cartridge Metrics (PCM) file that came with the font DIMM.
- 5 Click **Open**.
- 6 If you want, specify a Font DIMM Name in the **Add Font DIMM** dialog box.
- 7 Click **OK**. The selected .PCM file appears in the **Installed DIMMs:** list. Select the .PCM file to display a list of available fonts in the **Fonts on DIMM:** list.
- 8 Click **OK** to close the **Add Font DIMM** dialog box. The fonts on the DIMM should now be available on the system.

### Note

When using font DIMMs with the PCL 5e and PCL 6 drivers: To install screen fonts that match the font DIMM, use the .hpb file specifically designed to work with that DIMM. If there are no screen fonts for the DIMM, use the printer cartridge metrics (.PCM) file specifically designed to work with that DIMM.

## Ignore Application Collation

Clicking **Ignore Application Collation** overrides collation settings in software application print options. This option is set by default. The **Ignore Application Collation** check box is disabled and set to OFF when the **Mopier Enabled** check box is not selected.

The table below shows the expected behavior for a two-page print job when the number of copies is three.

**Table 14. Printer behavior with Ignore Application Collation settings**

Hard disk on printer	Mopier Enabled check box	Ignore Application Collation check box	Application Collation check box in Print Dialog	Commands sent by printer	Pages sent to printer	Pages output from printer
Yes	On	On	On Off None	QTY=3	1,2	1,2,1,2,1,2
Yes	On	On	On	QTY=3	1,2	1,2,1,2,1,2
Yes	On	Off	Off	Copies=3	1,2	1,1,1,2,2,2
Yes/No	Off	Off	On	Copies=1	1,2,1,2,1,2	1,2,1,2,1,2
Yes/No	Off	Off	Off	Copies=3	1,2	1,1,1,2,2,2
Yes/No	Off	Off	None	Copies=1	1,2,1,2,1,2	1,2,1,2,1,2
Yes/No	Off	Off	None	Copies=3	1,2	1,1,1,2,2,2
No	On	On	On Off None	QTY=3	1,2	1, 2

**Table 14. Printer behavior with Ignore Application Collation settings (continued)**

Hard disk on printer	Mopier Enabled check box	Ignore Application Collation check box	Application Collation check box in Print Dialog	Commands sent by printer	Pages sent to printer	Pages output from printer
No	On	Off	On Off None	QTY=3	1,2	1, 2

Placing the **Ignore Application Collation** setting in the printer properties means that, on a Windows NT network, clients connecting to the printer through a network share cannot change its value; only the print queue administrator has the power to decide how the printer driver is set up.

The **Ignore Application Collation** setting is not a means to print non-collated copies. If you want to print non-collated copies, disable mopying.

### Automatic Configuration

If you have modified the configuration of the HP LaserJet product since installation, click the **Update Now** button to automatically reflect the new configuration in the driver. For more information about the Driver Automatic Configuration feature, see "Driver Autoconfiguration."

### Printer image

The bitmap image in the lower-right portion of the **Configure** tab screen represents the current physical configuration of the printer according to the driver configuration data (obtained automatically through bidirectional communication, or configured manually in the **Paper-Handling Options** group box). It should have the same appearance as the image in the same location on the **Paper** tab and the **Destination** tab.

## NT Forms tab features

The **NT Forms** tab appears only in the Microsoft Windows NT 4.0, Windows 2000, and Windows XP operating environments. The **NT Forms** tab (like the **Configure** tab) can be viewed only from the Properties window.

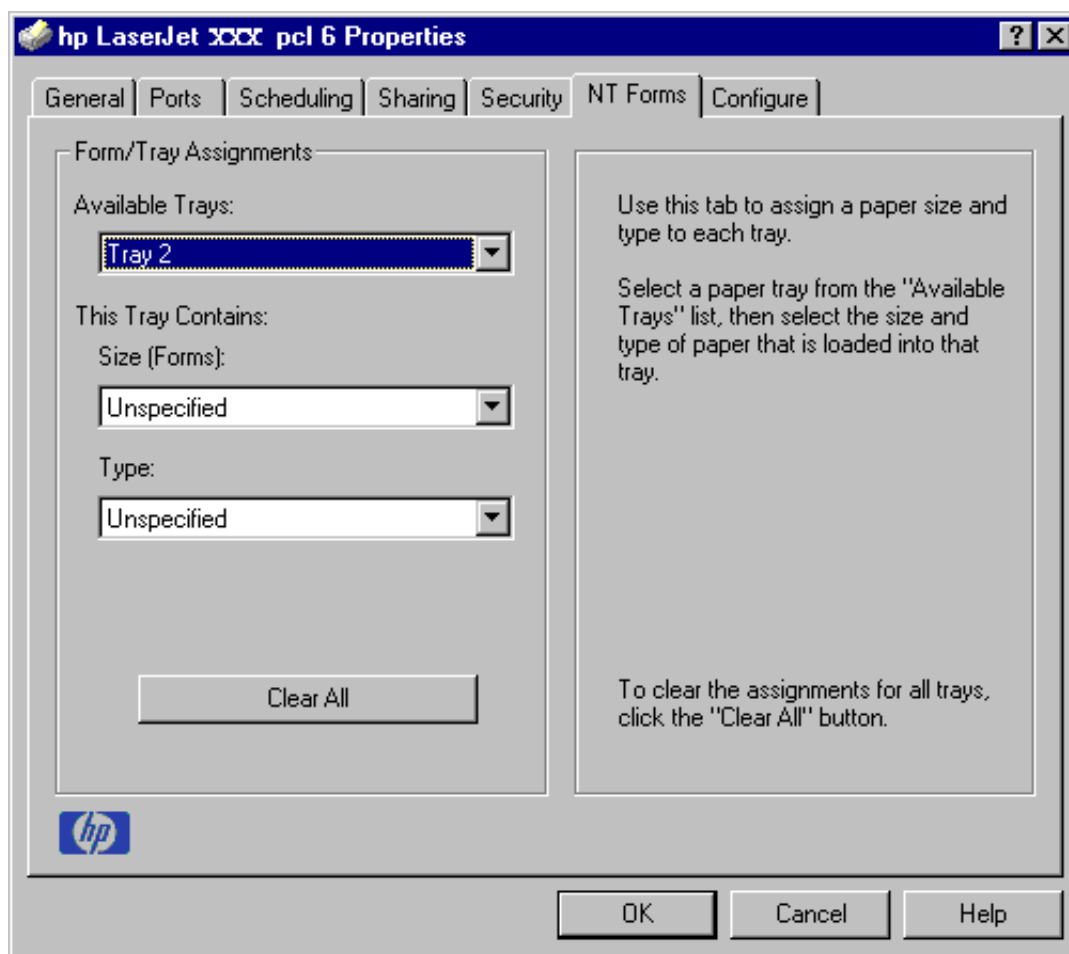


Figure 38. Driver NT Forms tab

The **NT Forms** tab lets you specify which media sizes and types are loaded in each of the available paper trays. The advantage is that it constrains the choices available in the **Size** and **Type** lists on the **Paper** tab. This constraint prevents information overload when you request unavailable sizes or types.

**Available Trays** is a drop-down menu containing all product trays specified on the **Configure** tab. The **This Tray Contains/Size (Forms)** drop-down menu contains a list of standard paper sizes supported by the HP LaserJet product, as well as any custom forms defined in the **Forms** tab. The **This Tray Contains/Type** drop-down menu lists all of the media types supported by the HP LaserJet product. The **Clear All** button removes all size and type constraints on the **Paper** tab.

## Configuring the trays

- 1 Select the appropriate tray from the **Available Trays** list.
- 2 Use the **This Tray Contains/Size (Forms)** drop-down menu to select the paper size (or form) loaded in that tray.
- 3 Use the **This Tray Contains/Type** drop-down menu to select the paper type that is configured for the tray.
- 4 Repeat steps 1 through 3 for the remaining trays.
- 5 If necessary, click the **Clear All** button to reconfigure all the trays, and remove the size and type constraints imposed on the **Paper** tab.



## Windows PS driver features

This section provides information about the features of the Windows PScript printer driver.

### PS 3 Emulation support for the HP LaserJet product

The PS Level 3 Emulation maintains full compatibility with Adobe PS Level 3 when PS Level 3 soft fonts are purchased from Adobe.

A set of 92 PS Level 3 soft fonts is included with the printing-system software. If you want to permanently install the fonts in the printer, PS Level 3 emulation fonts are also available from HP in an optional font DIMM.

Users of Adobe-licensed applications might also have the right to use the Adobe PS level 3 printer drivers from Adobe with the HP LaserJet printer PS Level 3 emulation PPD, available on the HP LaserJet printer software CD-ROM or from the HP Web site. When using the Adobe PS Level 3 printer driver, users must comply with all Adobe licensing agreements, as stated on the Adobe Web site at <http://www.adobe.com/support/downloads/license.html>. See “Font support” for a list of the additional fonts.

---

#### Note

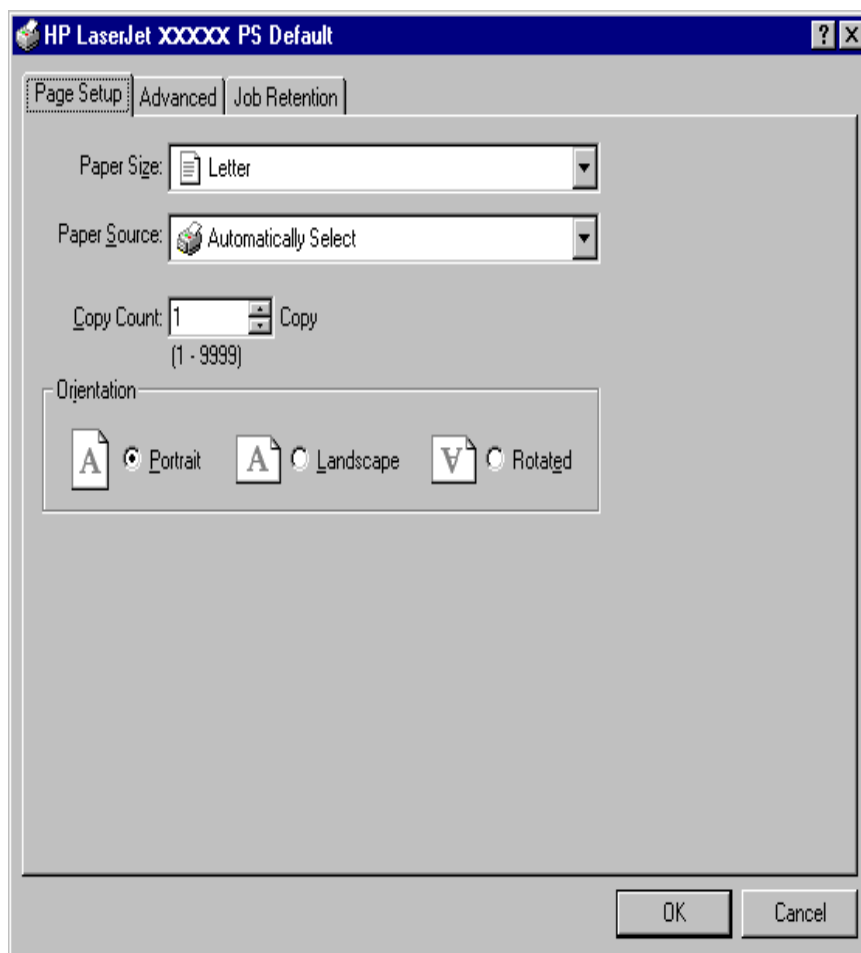
The driver interface shown in this section is for Windows NT 4.0. The order and appearance of tabs can vary among operating systems.

---

## Page Setup tab features

The **Page Setup** tab contains controls for the following options:

- **Paper size**
- **Paper source**
- **Copy count**
- **Orientation**

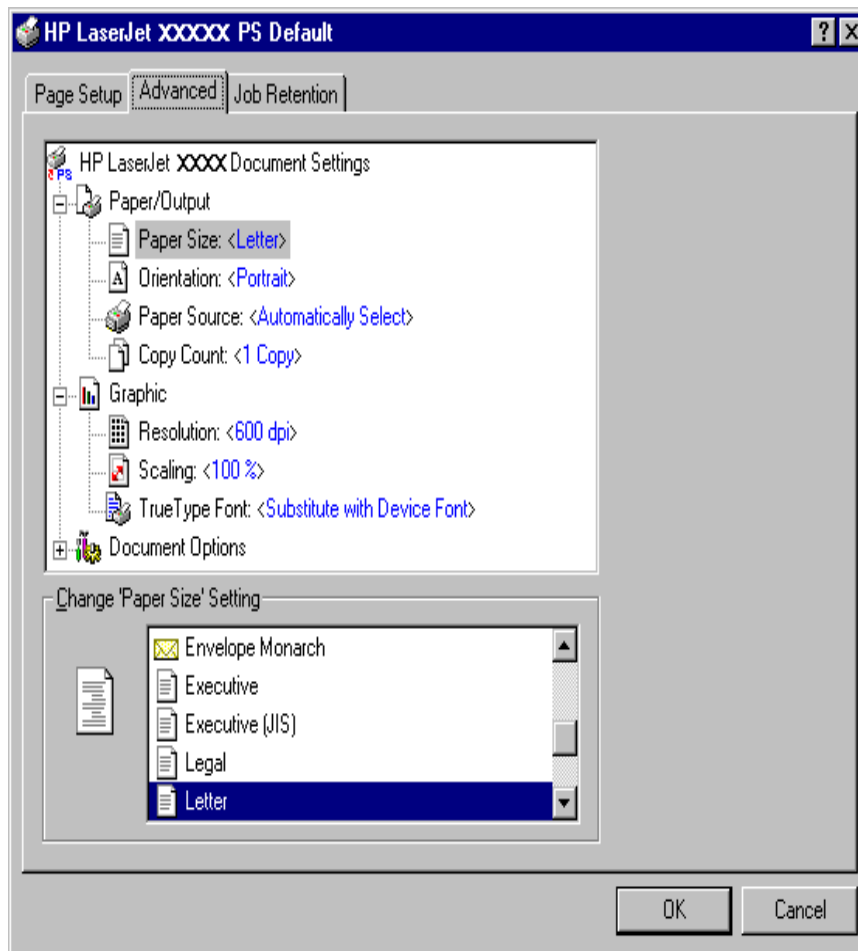


**Figure 39.** Page Setup tab

## Advanced tab features

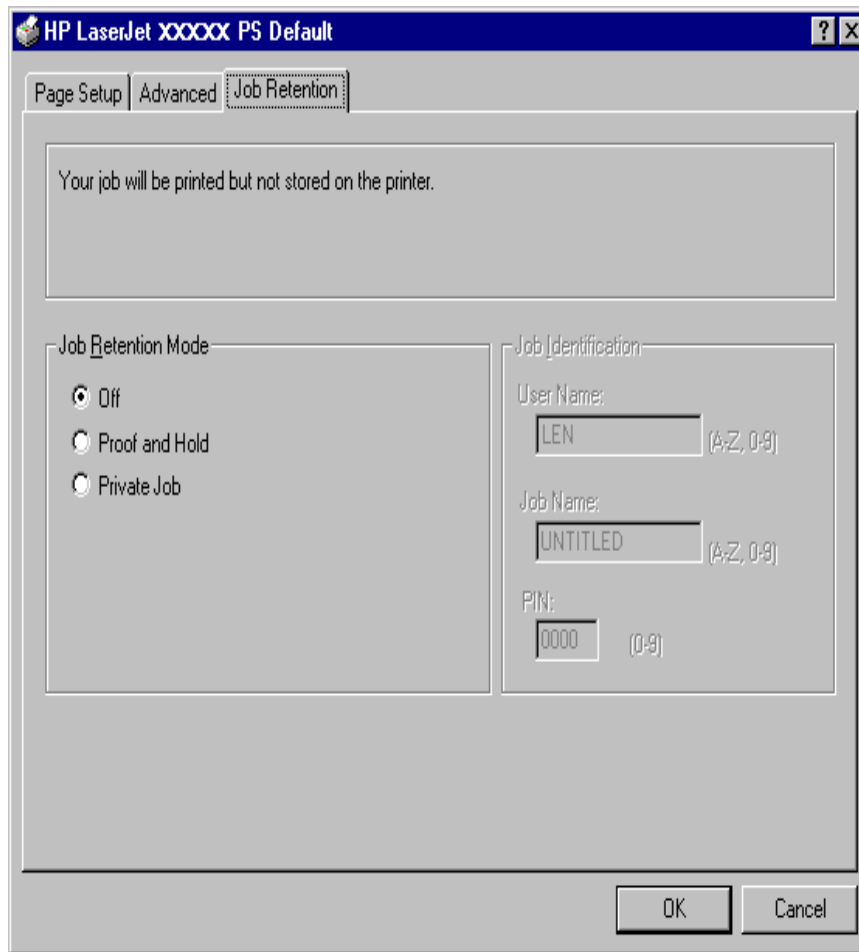
The **Advanced** tab contains controls for the following types of options:

- **Paper/Output** (advanced control over the options available on the **Page Setup** tab)
- **Graphic** (including resolution, scaling, and TrueType font controls)
- **Document Options** (including printer features)



**Figure 40.** Advanced tab

## Job Retention tab features



**Figure 41.** Job Retention tab

The HP LaserJet product offers the following PS 3 emulation **Job Retention** options:

### Off

This option turns the Job Retention feature off (it is disabled), which means the print job will not be stored in the printer.

### Quick Copy

Quick Copy stores a copy of a printed job on the hard disk, and allows you to print additional copies of a print job using the control panel. The number of quick-copy print jobs that can be stored in the printer is set from the printer control panel.

#### Note

The printer configuration can be set to hold a maximum of 50 quick-copy or proof-and-hold jobs. The number is set on the printer control panel in the **Configuration** menu, and the default is 32. When this preset limit is reached, a newer document will overwrite the oldest. Also, a document that has the same user and job name as one already stored on the hard disk will overwrite the existing document. Quick-copy jobs are deleted if the printer's power is removed.

## Proof and Hold

This option stores the print job on the printer hard disk, and prints only the first copy of the job, allowing you to check the first copy. If the document prints correctly, you can print the remaining copies of the print job from the printer control panel. The number of proof-and-hold print jobs that can be stored in the printer is set from the printer control panel.

## Private Job and Stored Job)

The Private Job and Stored Job options can be secured by a four-digit personal identification number (PIN).

### PIN

You can assign a four-digit PIN to a print job when you are using the Private Job or Stored Job feature. This number must be entered in the printer control panel before it prints the job.

The box labeled **PIN** is usually inactive. Selecting **Private Job** or **Stored Job** along with **Require PIN to Print** activates the **PIN** box. The Stored Job/PIN coupling has a PIN restriction of four ASCII numeric characters (ASCII 0-30 through 0-39). If you enter non-numeric characters, they are removed immediately. If you enter more than four characters, the characters past the fourth are truncated. The field temporarily allows fewer than four digits in the string, but when the edit field loses focus, the zeroes pad the left end until there are exactly four digits. The default initialized value for the PIN is 0000 for **Private Job** and **Stored Job** with **Require PIN to Print** checked.

### Private Job

This option allows you to send a print job directly to the printer memory. Selection of **Private Job** activates the **PIN** field. The print job can be printed only after you enter a PIN in the printer control panel. After the job is printed, the printer removes the job from the printer memory. This feature is useful when you are printing sensitive or confidential documents you do not want to leave in an output bin after printing. **Private Job** stores the print job on the hard disk.

Once released for print, the private job is immediately deleted from the printer. If more copies are needed, it will be necessary to reprint the job from the application. If you send a second private job to the printer with the same user name and job name as an existing private job (and you have not released the original job for printing), the second job will overwrite the older job, regardless of the PIN. Private jobs are deleted if power to the printer is removed.

### Stored Job

Stored Job allows you to send a print job directly to the printer hard disk. The print job will be stored in the printer as if it is an electronic file cabinet. After the print job is stored in the printer's hard disk, you can print the job from the printer control panel. Nothing will be printed until the job is requested from the printer control panel.

The job remains stored on the printer until it is deleted or overwritten by a document with the same user and job names. Stored jobs remain on the printer hard disk when power is interrupted. Use this feature for forms and other common or shared documents.

A stored job can be handled in two ways, as either a private or a public job. A private stored job allows you to send a print job directly to the printer memory and can be printed only after you enter a PIN in the printer control panel. (You can set the PIN in the **Print** dialog box.) After the job is printed, the job remains in the printer memory and can be printed again from the printer control panel. This feature is useful when you are printing sensitive or confidential documents you do not want to leave in an output bin after printing. Private mode is initiated by clicking the **Require PIN to Print** check box. In this mode, a PIN entry at the control panel is required to release the job.

The box labeled PIN is usually inactive. The **Require PIN to Print** option is activated if you click **Stored Job**. If selected, you must enter a PIN to make the stored job private.

#### Note

A private stored job is not the same as a private job (see above). Private jobs are deleted from the printer memory after they are printed. Private stored jobs are retained in the printer memory after printing, but require that a PIN be entered each time they are printed.

### Device Settings tab features

The **Device Settings** tab contains controls for paper-handling devices and controls for managing the HP LaserJet product. To gain access to the **Device Settings** tab, click **Start**, then click **Settings**, then click **Printers**. Right-click the product name and click **Properties**, then click the **Device Settings** tab.

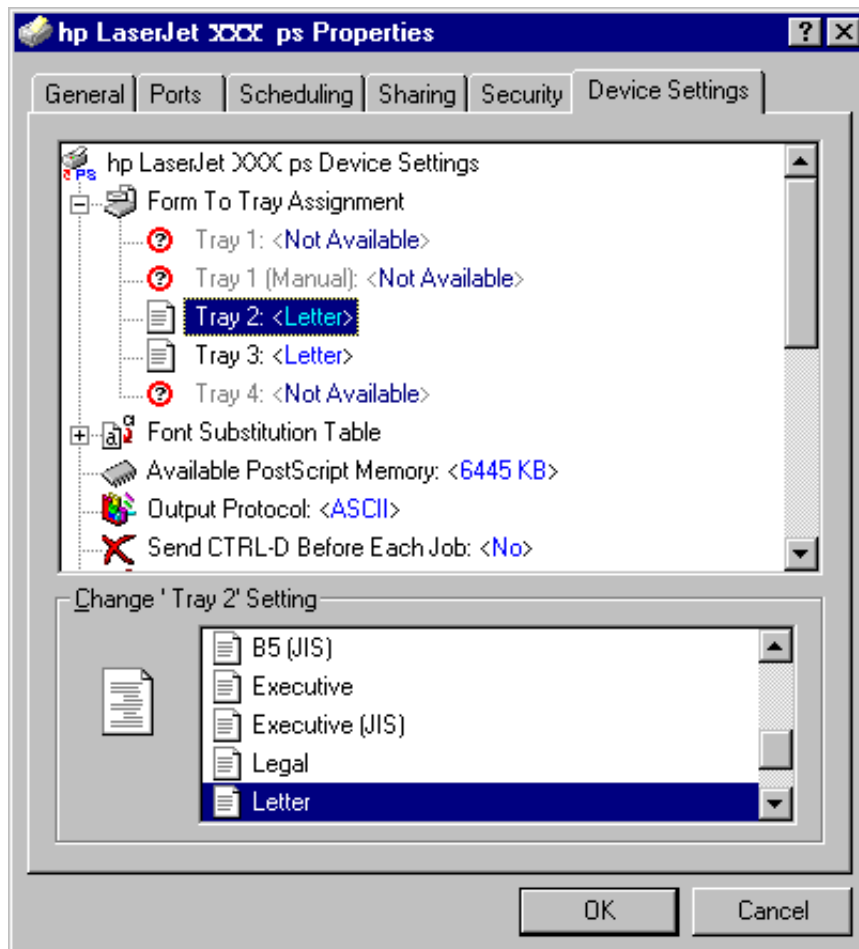


Figure 42. Device Settings tab

# HP LaserJet software CD-ROM

## In-box file layout

The HP LaserJet printer system consists of two partitions, one for installation using Windows operating systems, the other for Macintosh operating systems. The files include both documentation files and files required to install and uninstall the systems.

### HP LaserJet software CD-ROM, Windows partition

#### Directory structure

The files contained in the Windows partition of the HP LaserJet software CD-ROM, grouped by language, reside in the following directories:

- Root directory
- Drivers directory
- Fonts directory
- Manuals directory
- Reader directory
- Additional software
- Setup

File layouts differ according to language for the European and Asian versions of the software CD-ROM.

To view the files, insert the HP LaserJet printing system software CD-ROM, right-click **Start**, then click **Explore**, and then select the CD-ROM drive.

### HP LaserJet software CD-ROM, Macintosh Partition

The files contained in the Macintosh partition of the HP LaserJet software CD-ROM, grouped by language, reside in the following directories:

- Root directory
- HP LASERJET INSTALLERS (for Macintosh operating systems)
- PDF (for guides and manuals)

File layouts differ according to language for the European and Asian versions of the software CD-ROM.

## Availability and fulfillment

This section provides information about the availability of the HP LaserJet printing system software and related software and firmware. Software and firmware are available on CD-ROM from HP fulfillment centers or can be downloaded from the [http://www.hp.com/go/lj9000\\_software](http://www.hp.com/go/lj9000_software) Web site.

### In-box CD-ROMs

The HP LaserJet software CD-ROM is available in three regional versions. The following table lists the three versions of the software CD-ROM, along with the languages each version supports.

**Table 15. CD-ROM versions**

CD-ROM version	Languages supported
Americas	Dutch (Nederland) English French (Français) German (Deutsch) Hebrew Italian (Italiano) Portuguese (Português) - Brazilian Spanish (Español)
European	Arabic Czech (Cesky) Danish (Dansk) English Finnish (Suomi) Hungarian (Magyar) Norwegian (Norsk) Polish (Polski) Russian (Russ) Swedish (Svenska) Turkish (Türkçe)
Asian	English Chinese (Simplified) Chinese (Traditional) Korean Japanese

### 9000mfp **Web ordering**

The HP LaserJet 9000mfp software CD-ROM and related software CD-ROMs can be ordered from the [http://www.hp.com/go/lj9000\\_cdrom](http://www.hp.com/go/lj9000_cdrom) Web site. Search by product name and number to find the appropriate Web links.

### **Web deployment**

Software and firmware to support HP LaserJet products are available for download from the [http://www.hp.com/go/lj9000\\_software](http://www.hp.com/go/lj9000_software) and [http://www.hp.com/go/lj9000\\_firmware](http://www.hp.com/go/lj9000_firmware) Web sites

This is the preferred method for obtaining the latest software and firmware. The Web site offers a notification option for automatic e-mail notification about new software and firmware releases.



## Printing-system software

The HP LaserJet printing system software is available for download from the HP Web site at:

[http://www.hp.com/go/lj9000\\_software](http://www.hp.com/go/lj9000_software)

The software supports the following operating systems:

- Windows 95, Windows 98, and Windows Me
- Windows NT 4.0, Windows 2000, and Windows XP

## Printer firmware

Firmware to support the HP LaserJet products is available for download from the HP Web site at [http://www.hp.com/go/lj9000\\_firmware](http://www.hp.com/go/lj9000_firmware). Use the notification option to be notified of new firmware releases.

## Standalone drivers

The HP LaserJet PCL 6, PCL 5e, and PS drivers are available individually to support the following operating systems:

- Windows 3.1x (all three drivers, plus fonts)
- Windows 95, Windows 98, and Windows Me
- Windows NT 4.0
- Windows 2000
- Windows XP

### Note

PCL 5e is not supported in Asian languages.

## Operating system driver bundles

The HP LaserJet 9000PCL 6, PCL 5e, and PS drivers are available in bundled configurations to support the following operating systems:

- Windows 95, Windows 98, and Windows Me
- Windows NT 4.0, Windows 2000, and Windows XP

## Point-and-print bundles

The HP LaserJet 9000mfpPCL 6 driver is available in a point-and-print bundle to support the Windows operating environments.

## Other operating systems

Drivers and related software are available for these additional operating environments:

- Macintosh OS (PPDs and Universal Installer)
- AutoCAD (AutoCAD family drivers)
- OS/2 (PCL 6, PCL 5e, and PS)

## Software component availability

The following table lists the availability of HP LaserJet software components by operating system.

In the following table, “3.x” refers to Windows 3.1x. “9x/Me” refers to Windows 95, Windows 98, and Windows Me. “2K” refers to Windows 2000. “4.0” refers to Windows NT 4.0. “XP” refers to Windows XP.

**Table 16. Software component availability for HP LaserJet 9000 product**

Component	3.x	9x/ Me	4.0	2K/ XP	OS/2	Mac	UNIX	Linux
<b>Drivers</b>								
PCL 6		X	X	X				
PCL 5e		X	X	X				
PCL 6 8100	X							
PCL 5e 8100	X							
PCL5 Unidriver GPD				X				
PScript Driver & PPD	X	X	X	X				
Mac QuickDraw PPD						X		
OS/2 IBM Drivers					X			
AutoCAD	X	X	X					
<b>Installers</b>								
Common Windows Installer		X	X	X				
CD-ROM Browser		X	X	X				
Customization Utility		X	X	X				
Network Installer		X	X	X				
Fonts		X	X	X				
INF File (Add Printer)	X	X	X	X				
Plug & Play		X	X	X				
Point & Print		X	X	X				
Add Printer	X	X	X	X				
3.1x Font Installer <sup>1</sup>	X							
Macintosh Installer for OSs 8 and 9						X		
Macintosh Installer for OS X						X		
Web Registration		X	X	X				
<b>Bidirectional communication</b>								
Network Bidirectional Communications		X	X	X				
<b>Remote management and status</b>								
Web JetAdmin			X	X			X	
Applet for Web JetAdmin			X	X			X	
Macintosh LJ Utility						X		
Printer Status and Alerts		X	X	X				

**Table 16. Software component availability for HP LaserJet 9000 product (continued)**

Component	3.x	9x/ Me	4.0	2K/ XP	OS/2	Mac	UNIX	Linux
Autoconfiguration		X	X	X				
<b>Online Documentation</b>								
Adobe Acrobat Reader	X	X	X	X		X		
HP LaserJet 9000mfp start Guide	X	X	X	X		X		
HP LaserJet 9000mfp <i>use</i> guide	X	X	X	X		X		
HP LaserJet 9000mfp Installation	X	X	X	X		X		
HP LaserJet 9000mfp Release Notes	X	X	X	X		X		
2000-sheet Feeder Guide	X	X	X	X		X		
Duplexing unit Guide	X	X	X	X		X		
Multipurpose Tray Guide	X	X	X	X		X		
HP Jetdirect Guide	X	X	X	X		X		
Stacker/Stapler Guide	X	X	X	X		X		
Multifunction Finisher Guide		X	X	X		X		
Online Manual Printer	X	X	X	X		X		
Mac PS Help						X		
Help	X	X	X	X		X		
<b>Other</b>								
PS Fonts	X	X	X	X				
PS Fonts DIMM		X	X	X		X		

<sup>1</sup>Supported as a stand-alone utility.

## Software component localization

The following table provides localization information about the HP LaserJet Series Printing system software. The information in this table does not necessarily reflect in-box solutions.

Components that are not available in any given language are supported in English.

**Table 17. Software component localization**

Component	Operating system	AR	EN	FR	IT	GE	HE	SP	JN	KO	TC	SC	SW	DU	PG	NW	FN	DN	CZ	PO	RU	HU	TU
<b>PS PPD</b>	3.x, 9x, 4.0, 2000, XP	X <sup>1</sup>	X	X	X	X	X <sup>1</sup>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<b>Printer Status and Alerts</b>	9x, 4.0, 2000, XP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<b>HP Resource Manager</b>	9x, 4.0, 2000, XP			X	X	X		X	X	X	X	X		X									

**Table 17. Software component localization (continued)**

Component	Operating system	AR	EN	FR	IT	GE	HE	SP	JN	KO	TC	SC	SW	DU	PG	NW	FN	DN	CZ	PO	RU	HU	TU
Macintosh PS PPD	Mac		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X		X		X
Macintosh LJ Utility	Mac		X	X	X	X		X					X	X	X	X	X	X					
Macintosh Installation Notes	Mac		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X		X		X
PCL 6	9x, 4.0, 2000, XP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
PCL 5e	9x, 4.0, 2000, XP	X	X	X	X	X	X	X					X	X	X	X	X	X	X	X	X	X	X
Printing System Installation Notes ReadMe	9x, 4.0, 2000, XP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Printing System Release Notes (Late-breaking ReadMe)	9x, 4.0, 2000, XP		X																				
Common Windows Installer	9x, 4.0, 2000	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Web JetAdmin	4.0, 2000, XP, UNIX		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Web JetAdmin Help	4.0, 2000, XP, UNIX		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HP Web Access			X	X	X	X		X	X				X	X	X	X	X	X	X	X	X	X	X
Online manuals (PDF)	9.x, 4.0, 2000, XP		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IBM OS/2 Driver - PCL5C	OS/2		IBM	IBM	IBM	IBM		IBM					IBM	IBM	IBM	IBM	IBM	IBM					
IBM OS/2 Driver - PS	OS/2		IBM	IBM	IBM	IBM		IBM					IBM	IBM	IBM	IBM	IBM	IBM					
Standard Fonts	9x, 4.0, 2000, XP	X	X	X	X	X	X	X	X				X	X	X	X	X	X	X	X	X	X	X
PS3 Fonts	9x, 4.0, 2000, XP	X	X	X	X	X	X	X	X				X	X	X	X	X	X	X	X	X	X	X

<sup>1</sup>For the Windows NT 4.0 operating system, the English driver is used.

Language Key:

AR = Arabic  
 EN = English  
 FR = French  
 HE = Hebrew  
 IT = Italian  
 GE = German  
 SP = Spanish  
 JN = Japanese  
 KO = Korean  
 TC = Traditional Chinese  
 SC = Simplified Chinese  
 SW = Swedish  
 DU = Dutch  
 PG = Portuguese

NW = Norwegian  
FN = Finnish  
DN = Danish  
CZ = Czech  
PO = Polish  
HU = Hungarian  
TU = Turkish



# 4

# Installing Windows printing system components

## Introduction

This section provides system requirements and procedures for installing and removing the HP LaserJet printing system software using Windows operating systems. It also provides information about font support and system modifications. The following Windows operating systems are supported:

- Windows 95, Windows 98, and Windows Me
- Windows NT 4.0, Windows 2000, and Windows XP
- Windows 3.1x

## System Requirements

The system requirements necessary to install and use the HP LaserJet printing system software on each supported operating system are listed below.

---

### Note

The available disk space listed in the subsections below must be available on the same partition as the operating system.

---

### Windows 3.1x

- 386 processor or higher
- Minimum 16 color/greyscale display with 640 x 480 pixel resolution (VGA)
- 16 MB RAM
- 20 MB of available disk space for full installation

### Windows 95, 98, Me, NT 4.0, 2000, and XP

- Pentium processor
- Minimum 16 color/greyscale display with 640 x 480 pixel resolution (video graphics array [VGA])
- Same as the minimum requirements for the operating system
- 64 MB of available disk space for full installation

# Windows 95, 98, Me, NT 4.0, 2000, and XP

This section addresses the following topics:

- Font support
- General installation for Windows 95, Windows 98, Windows Me, Windows NT 4.0, Windows 2000, and Windows XP operating systems
- Detailed Windows installation instructions
- Setting a default printer

## Font support

### Basic fonts

Microsoft Windows software includes these basic fonts that can be used with any HP printer:

- Arial (R)
- Courier New Italic
- Times New Roman Italic
- Arial Italic
- Courier New Bold
- Times New Roman Bold
- Arial Bold
- Courier New Bold Italic
- Times New Roman Bold Italic
- Arial Bold Italic
- Symbol
- Wingdings
- Courier New
- Times New Roman

### Default Fonts

The following default fonts are installed through a Typical Installation of the HP LaserJet printing system software.

**Table 18. Default Fonts**

File name	Font name
albr85w.TTF	Albertus Extra Bold
albr55w.TTF	Albertus Medium
olvr55w.TTF	Antique Olive
olvr75w.TTF	Antique Olive Bold
olvr56w.TTF	Antique Olive Italic
cgor45w.TTF	CG Omega
cgor65w.TTF	CG Omega Bold



**Table 18. Default Fonts**

<b>File name</b>	<b>Font name</b>
cgor66w.TTF	CG Omega Bold Italic
cgor46w.TTF	CG Omega Italic
cgtr45w.TTF	CG Times
cgtr65w.TTF	CG Times Bold
cgtr66w.TTF	CG Times Bold Italic
cgtr46w.TTF	CG Times Italic
clar67w.TTF	Clarendon Condensed Bold
coronet.TTF	Coronet
cpsr45w.TTF	CourierPS
cpsr65w.TTF	CourierPS Bold
cpsr66w.TTF	CourierPS Bold Oblique
cpsr46w.TTF	CourierPS Oblique
garr45w.TTF	Garamond
garr65w.TTF	Garamond Bold
garr46w.TTF	Garamond Italic
garr66w.TTF	Garamond Kursiv Halbfett
helr45w.TTF	Helvetica
helr65w.TTF	Helvetica Bold
helr66w.TTF	Helvetica Bold Oblique
helr47w.TTF	Helvetica Narrow
helr67w.TTF	Helvetica Narrow Bold
helr68w.TTF	Helvetica Narrow Bold Oblique
helr48w.TTF	Helvetica Narrow Oblique
helr46w.TTF	Helvetica Oblique
avgr45w.TTF	ITC Avant Garde Gothic Book
avgr46w.ttg	ITC Avant Garde Gothic Book Oblique
avgr65w.TTF	ITC Avant Garde Gothic Demi
avgr66w.TTF	ITC Avant Garde Gothic Demi Oblique
bokr75w.TTF	ITC Bookman Demi
bokr76w.TTF	ITC Bookman Demi Italic
bokr35wq.TTF	ITC Bookman Light
bokr36w.TTF	ITC Bookman Light Italic
chanc____.TTF	ITC Zapf Chancery Medium Italic
dings____.TTF	ITC Zapf Dingbats
letr65w.TTF	Letter Gothic
letr65w.TTF	Letter Gothic Bold
letr46w.TTF	Letter Gothic Italic
marigold.TTF	Marigold
ncsr75w.TTF	New Century Schoolbook Bold
ncsr76w.TTF	New Century Schoolbook Bold Italic

**Table 18. Default Fonts**

<b>File name</b>	<b>Font name</b>
ncsr56w.TTF	New Century Schoolbook Italic
ncsr55w.TTF	NEw Century Schoolbook Roman
palr65w.TTF	Palatino Bold
palr66w.TTF	Palatino Bold Italic
palr46w.TTF	Palatino Italic
palr45w.TTF	Palatino Roman
symps__.TTF	SymbolPS
timr65w.TTF	Times Bold
timr66w.TTF	Times Bold Italic
timr46w.TTF	Times Italic
timr45w.TTF	Times Roman
unvr65w.TTF	Univers Bold
unvr66w.TTF	Univers Bold Italic
unvr67w.TTF	Univers Condensed Bold
unvr68w.TTF	Univers Condensed Bold Italic
unvr57w.TTF	Univers Condensed Medium
unvr58w.TTF	Univers Condensed Medium Italic
unvr55w.TTF	Univers Medium
unvr56w.TTF	Univers Medium Italic

Ninety-two additional PS 3 fonts are also available on the CD-ROM.

**Table 19. Additional PS 3 fonts**

<b>File name</b>	<b>Font name</b>
PS_12639.TTF	Albertus MT
PS_12640.TTF	Albertus MT Italic
PS_14530.TTF	Albertus MT Light
PS-11120.TTF	Antique Olive CompactPS
PS_11119.TTF	Antique Olive Roman
PS_11118.TTF	Antique Olive Roman Bold
PS_11846.TTF	Antique Olive Roman Italic
PS_24516.TTF	Apple Chancery Italic
PS_12704.TTF	Bodoni Poster
PS_14508.TTF	Bodoni PosterCompressed
PS_12581.TTF	BodoniPS
PS_12585.TTF	BodoniPS Bold
PS_12586.TTF	BodoniPS Bold Italic
PS_12582.TTF	BodoniPS Italic
PS_24517.TTF	Candid
PS_24518.TTF	Chicago

**Table 19. Additional PS 3 fonts (continued)**

<b>File name</b>	<b>Font name</b>
PS_14513.TTF	Clarendon Light
PS_10269.TTF	ClarendonPS
PS_12968.TTF	ClarendonPS Bold
PS_10369.TTF	Cooper Black
PS_10370.TTF	Cooper Black Italic
PS_14514.TTF	Copperplate32bc
PS_14515.TTF	Copperplate33bc
PS_10249.TTF	Coronet
PS_10267.TTF	Eurostile
PS_10268.TTF	Eurostile Bold
PS_14512.TTF	Eurostile Bold ExtendedTwo
PS_14511.TTF	Eurostile ExtendedTwo
PS_10267.TTF	Eurostile Medium
PS_24509.TTF	Geneva
PS_13872.TTF	GillSans
PS_13874.TTF	GillSans Bold
PS_13875.TTF	GillSans Bold Italic
PS_14053.TTF	GillSans Condensed
PS_14054.TTF	GillSans Condensed Bold
PS_14051.TTF	GillSans ExtraBold
PS_13873.TTF	GillSans Italic
PS_13870.TTF	GillSans Light
PS_13871.TTF	GillSans Light Italic
PS_12542.TTF	Goudy
PS_12544.TTF	Goudy Bold
PS_10695.TTF	Goudy Bold Italic
PS_12545.TTF	Goudy ExtraBold
PS_12543.TTF	Goudy Italic
PS_14526.TTF	Helvetica Condensed
PS_14528.TTF	Helvetica Condensed Bold
PS_14529.TTF	Helvetica Condensed Bold Italic
PS_14527.TTF	Helvetica Condensed Italic
PS_24519.TTF	Hoefler Text
PS_24521.TTF	Hoefler Text Black
PS_24522.TTF	Hoefler Text Black Italic
PS_24520.TTF	Hoefler Text Italic
PS_24523.TTF	Hoefler Text Ornaments
PS_14503.TTF	Joanna MT
PS_14505.TTF	Joanna MT Bold
PS_14506.TTF	Joanna MT Bold Italic

**Table 19. Additional PS 3 fonts (continued)**

<b>File name</b>	<b>Font name</b>
PS_14504.TTF	Joanna MT Italic
PS_13778.TTF	Letter Gothic Italic
PS_13777.TTF	Letter GothicPS
PS_13779.TTF	Letter GothicPS Bold
PS_13780.TTF	Letter GothicPS Bold Italic
PS_12675.TTF	Lubalin Graph
PS_12677.TTF	Lubalin Graph Bold
PS_12625.TTF	Lubalin Graph Bold Italic
PS_12623.TTF	Lubalin Graph Italic
PS_94073.TTF	Marigold
PS_14525.TTF	Mona Lisa Recut
PS_24524.TTF	Monaco
PS_24510.TTF	New York
PS_12506.TTF	Optima
PS_12510.TTF	Optima Bold
PS_12511.TTF	Optima Bold Italic
PS_12507.TTF	Optima Italic
PS_14072.TTF	Oxford Italic
PS_11546.TTF	Stempel Garamond Roman Italic
PS_11545.TTF	StempelGaramond Roman
PS_11547.TTF	StempelGaramond Roman Bold
PS_11548.TTF	StempelGaramond Roman Bold Italic
PS_14507.TTF	Taffy
PS_13501.TTF	Univers 45 Light
PS_14023.TTF	Univers 45 Light Bold
PS_14024.TTF	Univers 45 Light Bold Italic
PS_13502.TTF	Univers 45 Light Italic
PS_14030.TTF	Univers 47 Condensed Light Bold
PS_14040.TTF	Univers 47 CondensedLight Bold Italic
PS_14021.TTF	Univers 55
PS_14022.TTF	Univers 55 Italic
PS_14029.TTF	Univers 57 Condensed
PS_14039.TTF	Univers 57 Condensed Italic
PS_13548.TTF	Univers Extended Italic
PS_13547.TTF	Univers ExtendedPS
PS_14481.TTF	Univers ExtendedPS Bold Italic
PS_14480.TTF	Univers ExtendedPS Italic

## Installation instructions

### General installation for Windows 95, 98, Me, NT 4.0, 2000, and XP OSs

General installation instructions for the Windows 95, Windows 98, Windows Me, Windows NT 4.0, Windows 2000, and Windows XP operating systems, presented in the following table, are similar. When instructions are not shared by all of these Windows operating systems, the pertinent ones are listed in the left column of the table.

If the HP LaserJet product is connected through a file or print server, the HP LaserJet printing system software must first be installed on the server before being installed on any client systems. If the HP LaserJet printing system software is not first installed on the server, bidirectional communication, some Driver Autoconfiguration methods, and Printer Status and Alerts will not be available to the client systems.

For Windows NT 4.0, Windows 2000, and Windows XP, administrator rights on the system are necessary to install the software.

When the HP LaserJet printing system installer runs, the HP LaserJet uninstaller is always added to the system.

Bidirectional communication and Driver Autoconfiguration are installed on the system only in supported network environments. Parallel and USB connections do not support bidirectional communication.

### Installing from the printing system CD-ROM

To install the HP LaserJet printing system from the CD-ROM that came with your product, follow these instructions:

- Step 1 Close all applications.
- Step 2 Insert the CD-ROM in the CD-ROM drive.
- Step 3 Click **install printer** and follow the screen prompts.
- Step 4 If your CD-ROM does not autostart, browse to the SETUP.EXE file in the root location of the CD-ROM.

### Installing from a network or from downloaded files

Follow these instructions if you downloaded the files from the Web, or if you are installing the printing system files from a network. You may need to see your administrator for the location of the printing system software file.

- Step 1 Browse to the location of the SETUP.EXE file.
- Step 2 Double-click the SETUP.EXE file.
- Step 3 Click **install printer** and continue to follow the instructions until the product is installed. For detailed installation instructions, see "Detailed Windows installation."

## Detailed Windows installation

This section provides information about the installation dialog box sequence for installing the HP LaserJet printing system software in Microsoft Windows environments. You can choose to install the software by using either a Typical Installation or a Custom Installation.

## Typical Installation dialog box sequence

### Note

The dialog boxes shown here appear in the Windows NT 4.0 installation sequence. The order and appearance of dialog boxes can vary among operating systems.

The Typical Installation includes the following components:

- HP LaserJet PCL 6 driver.
- Screen fonts.
- Driver Autoconfiguration (in environments that support bidirectional communication). This option will not appear in unsupported bidirectional communications environments.

When you select the **Install Printer** option from the HP LaserJet software CD-ROM browser, the **Choose Setup Language** dialog box appears. This dialog box does not display when the setup language is Arabic or Hebrew.



Figure 43.

Choose Setup Language dialog box

### Note

The **Choose Setup Language** dialog box lists only the languages available on the particular HP LaserJet software CD-ROM you are using.

Table 20. Choose Setup Language dialog box text strings

Title of dialog box	Text in dialog box	User options and descriptions
Choose Setup Language	Select the language for this installation from the choices below:  [Drop-down menu lists available languages for installation.]  OK [button]  Cancel [button]	The installer automatically detects your computer system language and presents this choice as the default.  You can select another language available on the CD-ROM by clicking the down arrow of the drop-down menu.  Click <b>OK</b> to initiate the printing system setup.  Click <b>Cancel</b> to go to the <b>Exit Setup</b> dialog box.

Next, the **Setup** dialog box appears.

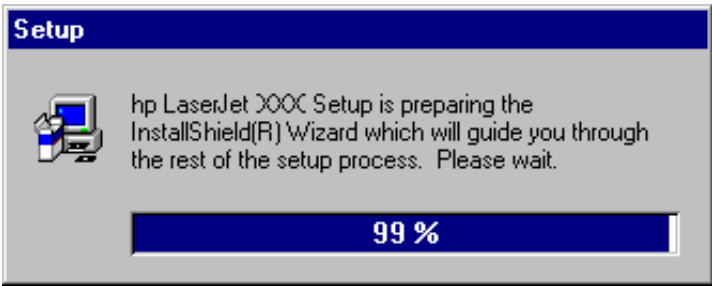


Figure 44. Setup dialog box

**Note** While the **Setup** dialog box appears, the installer is decompressing files into the system Temp directory. The elapsed time to complete this action depends upon the performance of the system.

Table 21. Setup dialog box text strings

Title of dialog box	Text in dialog box	User options and descriptions
Setup	HP LaserJet 9000 Series Printing System Setup is preparing the InstallShield (R) Wizard that will guide you through the rest of the setup process. Please wait.	No user options. This is an information-only dialog box.

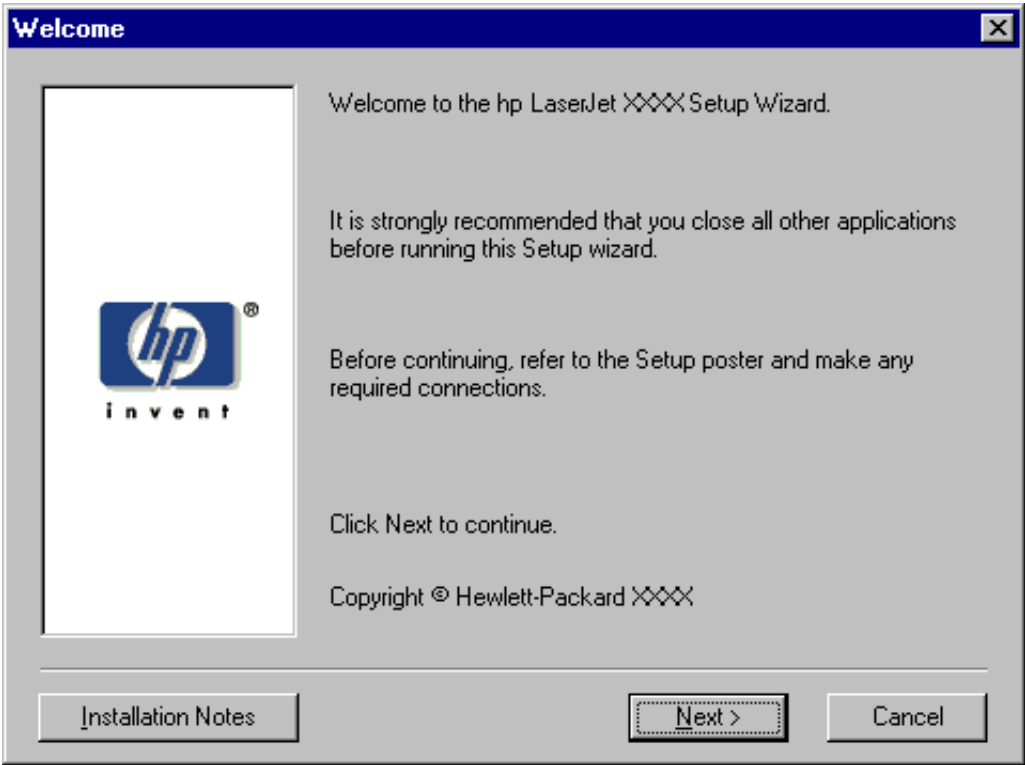
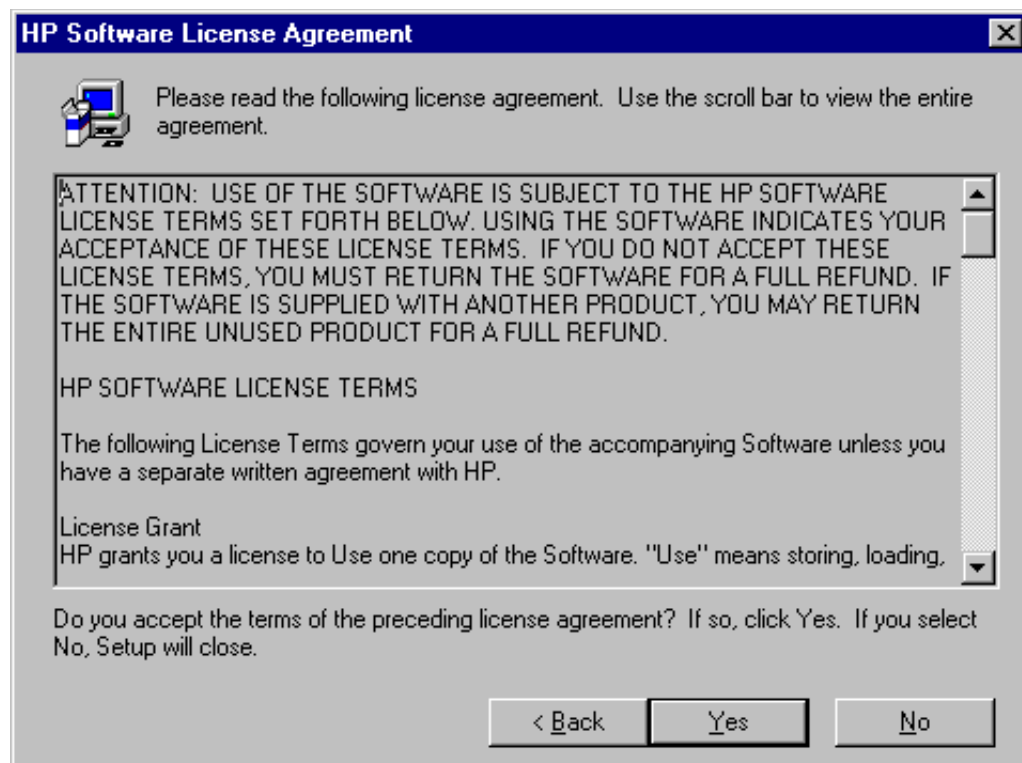


Figure 45. Welcome dialog box

**Table 22. Welcome dialog box text strings**

Title of dialog box	Text in dialog box	User options and descriptions
Welcome	<p>Welcome to the HP LaserJet 9000 Series Printing System Setup Wizard.</p> <p>It is strongly recommend that you close all other applications before running this Setup wizard.</p> <p>Before continuing, refer to the Setup poster and make any required connections.</p> <p>Click Next to continue.</p> <p>Copyright Hewlett-Packard XXXX</p>	<p><b>Next</b> takes you to the <b>HP Software License Agreement</b> dialog box.</p> <p>Click <b>Installation Notes</b> to open the file READXXXX.WRI.</p> <p>Click <b>Cancel</b> to go to the <b>Exit Setup</b> dialog box.</p>

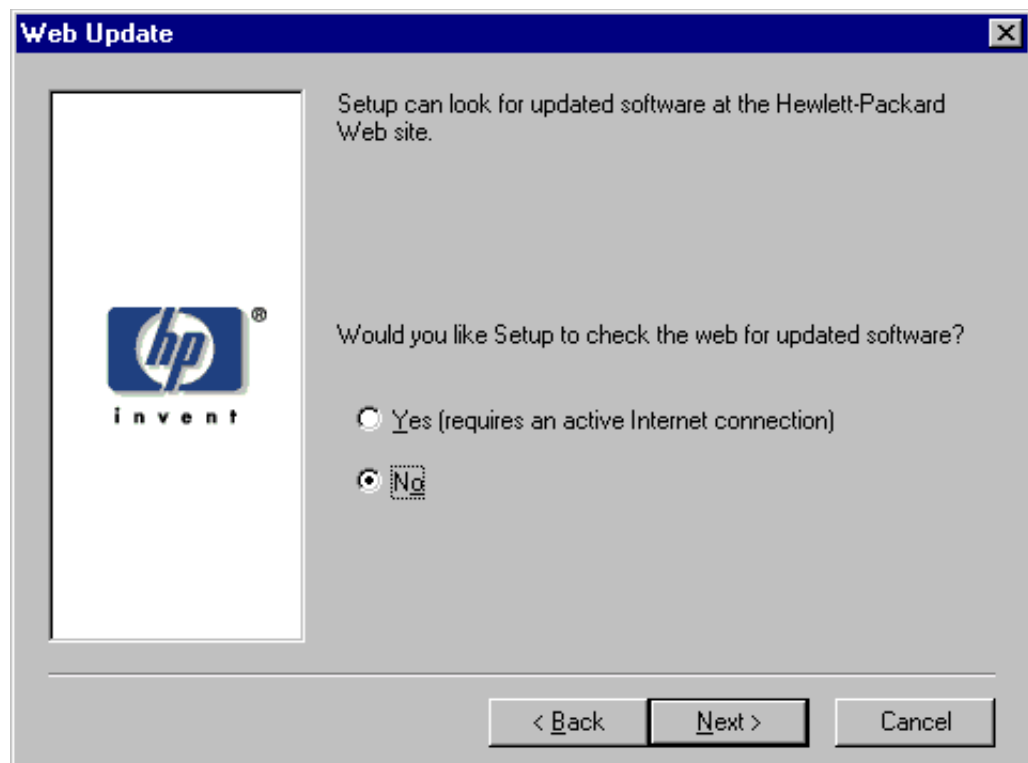


**Figure 46. HP Software License Agreement dialog box**



**Table 23. HP Software License Agreement dialog box text strings**

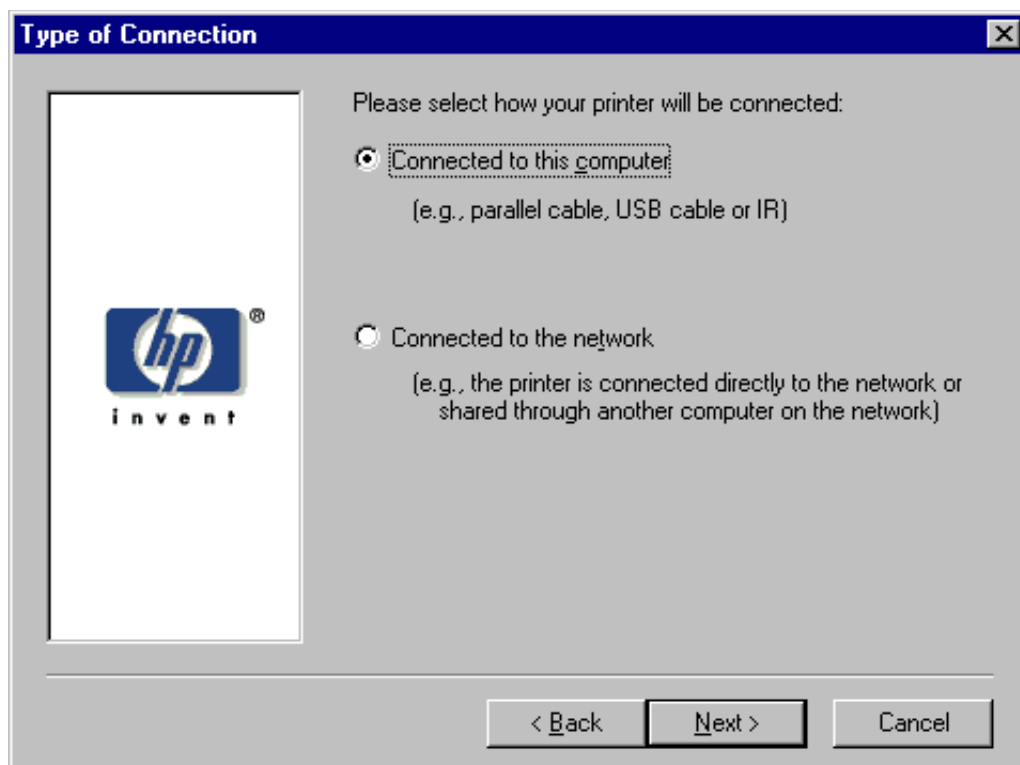
Title of dialog box	Text in dialog box	User options and descriptions
HP Software License Agreement	<p>Please read the following license agreement. Use the scroll bar to view the entire agreement.</p> <p>[Scrolling fields with text of license agreement]</p> <p>Do you accept the terms of the preceding license agreement? If so, click Yes. If you click No, Setup will close.</p>	<p><b>Yes</b> takes you to the <b>Web Update</b> dialog box.</p> <p><b>Back</b> returns you to the Welcome dialog box.</p> <p><b>No</b> takes you to the <b>Exit Setup</b> dialog box.</p>



**Figure 47. Web Update dialog box**

**Table 24. Web Update dialog box text strings**

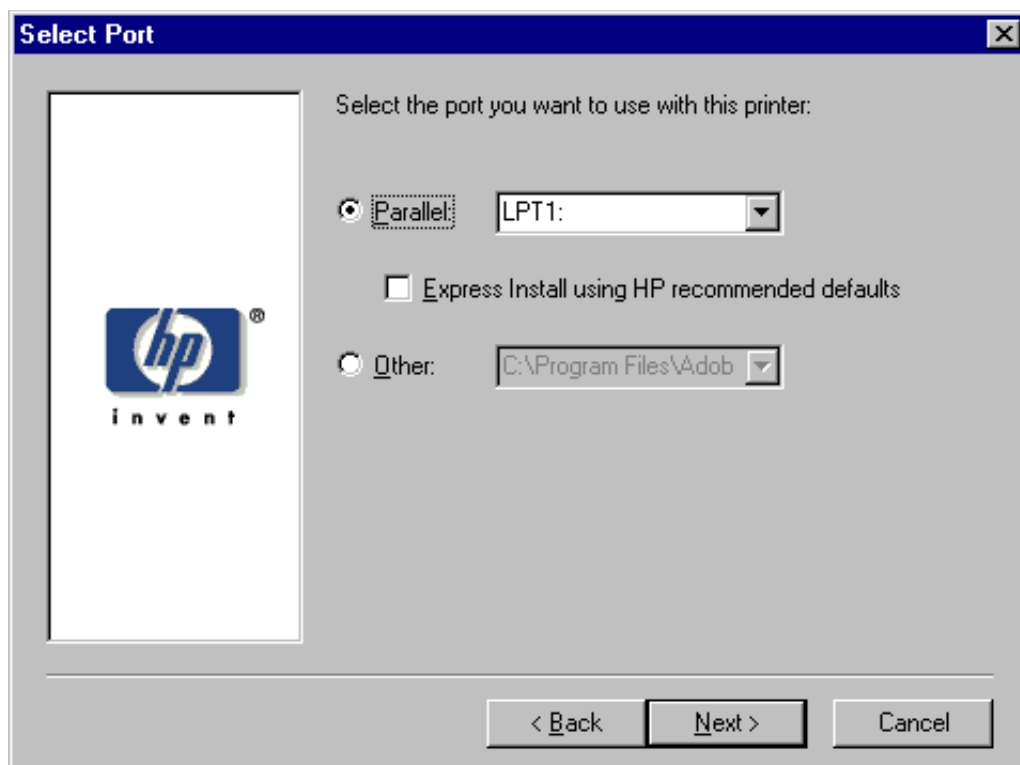
Title of dialog box	Text in dialog box	User options and descriptions
<p>Web Update (Conditional)</p>	<p>Setup can look for updated software at the Hewlett-Packard Web site.</p> <p>Would you like Setup to check the Web for updated software?</p> <p>Yes (requires an active Internet connection) [option button]</p> <p>No [option button]</p>	<p>This is a conditional dialog box; that is, it appears only if the Setup program determines there might be an Internet connection available.</p> <p>If <b>No</b> is selected, <b>Next</b> takes you to the <b>Type of Connection</b> dialog box. This is the default option.</p> <p>If <b>Yes</b> is selected, clicking <b>Next</b> starts the Web Update. Details of the Internet installation are not covered in this document. Web Update requires Internet Explorer 4.0 or later.</p> <p><b>Back</b> returns you to the <b>HP Software License Agreement</b> dialog box.</p> <p><b>Cancel</b> takes you to the <b>Exit Setup</b> dialog box.</p>



**Figure 48.** Type of Connection dialog box

**Table 25.** Type of Connection dialog box text strings

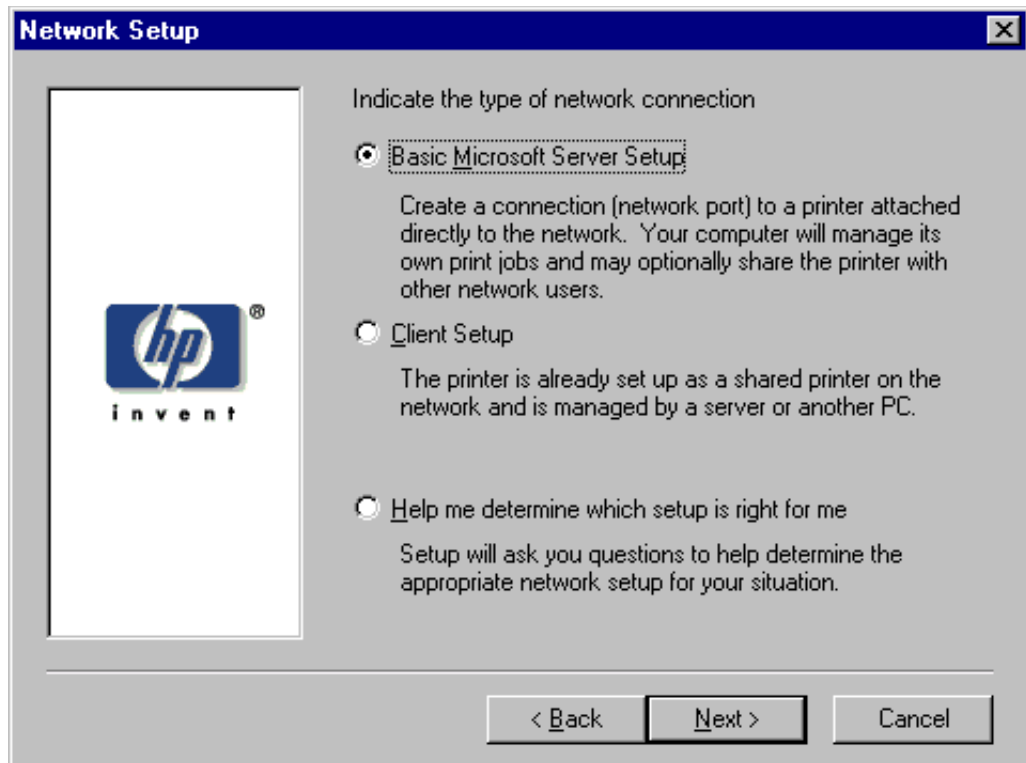
Title of dialog box	Text in dialog box	User options and descriptions
Type of Connection	<p>Please select the way your printer will be connected:</p> <p>Connected to this computer (by parallel cable, USB cable or IR) [option button]</p> <p>Connected to the network (that is, the printer is connected directly to the network or shared through another computer on the network) [option button]</p>	<p>If <b>Connected to this computer</b> (a “direct connection”) is selected, <b>Next</b> takes you to the <b>Select Port</b> dialog box. This is the default option.</p> <p>If <b>Connected to the network</b> is selected, <b>Next</b> takes you to the <b>Network Setup</b> dialog box.</p> <p><b>Back</b> returns you to the <b>HP Software License Agreement</b> dialog box.</p> <p><b>Cancel</b> takes you to the <b>Exit Setup</b> dialog box.</p>



**Figure 49.** Select Port dialog box

**Table 26.** Select Port dialog box text strings

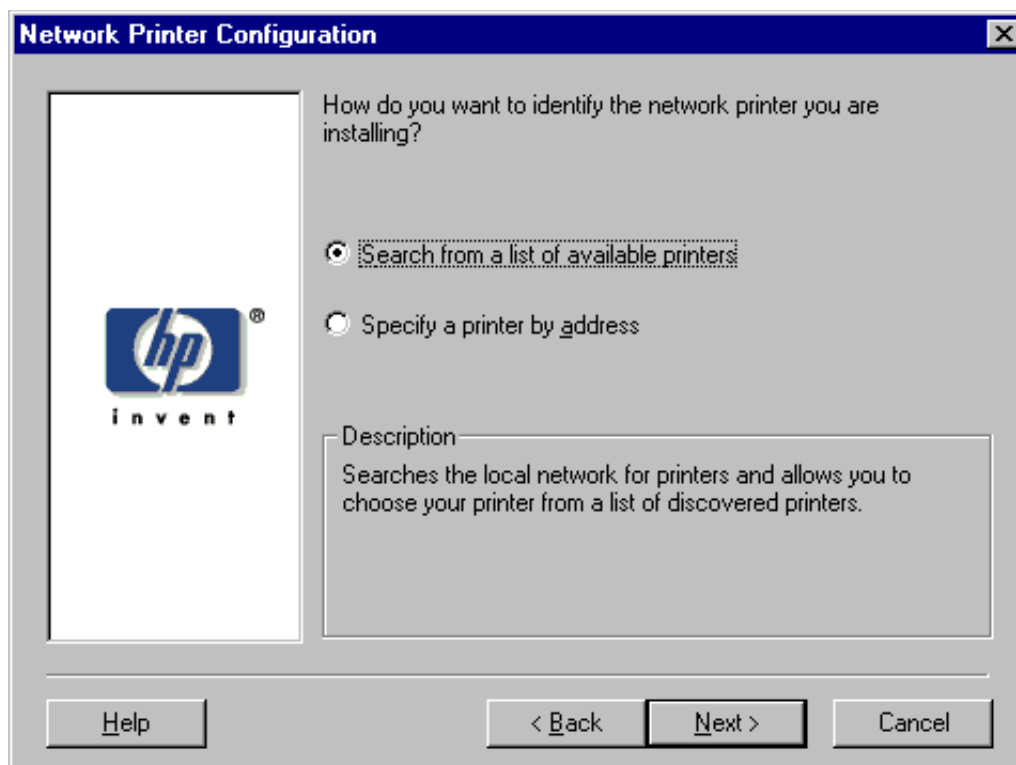
Title of dialog box	Text in dialog box	User options and descriptions
Select Port  (If Connected to this computer was selected in the <b>Type of Connection</b> dialog box)	Select the port you want to use with this printer:  Parallel [option button]  [Default. When selected, a pull-down list of parallel ports is available.]  Other [option button]  [When selected, a pull-down list of other port types is available]	Regardless of the port chosen (Parallel or Other), clicking <b>Next</b> takes you to the printer <b>Model</b> dialog box.  Clicking <b>Back</b> returns you to the <b>Type of Connection</b> dialog box.  Clicking <b>Cancel</b> takes you to the <b>Exit Setup</b> dialog box.



**Figure 50.** Network Setup dialog box

**Table 27. Network Setup dialog box text strings**

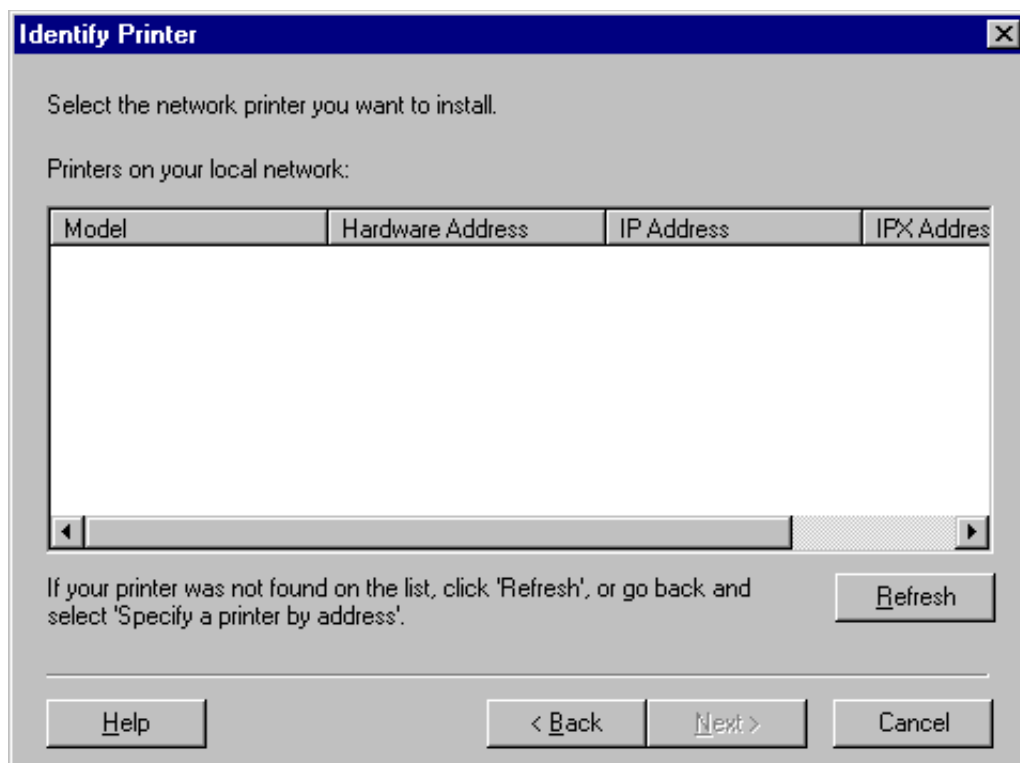
Title of dialog box	Text in dialog box	User options and descriptions
<p>Network Setup</p> <p>[If <b>Connected to the network</b> was selected in the <b>Type of Connection</b> dialog box], <b>Next</b> takes you to the <b>Network Printer Configuration</b> dialog box.</p>	<p>Indicate the type of network connection</p> <p>Basic Microsoft Server Setup</p> <p>Create a connection (network port) to a printer attached directly to the network. Your computer will manage its own print jobs and may optionally share the printer with other network users.</p> <p>[option button]</p> <p>Client Setup</p> <p>The printer is already set up as a shared printer on the network and is managed by a server or another computer.</p> <p>[option button]</p> <p>Help me determine which setup is right for me</p> <p>Setup will ask you questions to help you determine the appropriate network setup for your situation.</p> <p>[option button]</p>	<p>If you choose the <b>Client Setup</b> option, <b>Next</b> takes you to the <b>Specify Network Path</b> dialog box, and then to the <b>Installation Type</b> dialog box.</p> <p>If the <b>Help me</b> option is chosen, <b>Next</b> initiates a series of question dialog boxes that help you determine the best connection type option to follow. This series begins with the <b>Cable Type Selection</b> dialog box.</p> <p><b>Back</b> returns you to the <b>Type of Connection</b> dialog box.</p> <p><b>Cancel</b> takes you to the <b>Exit Setup</b> dialog box.</p>



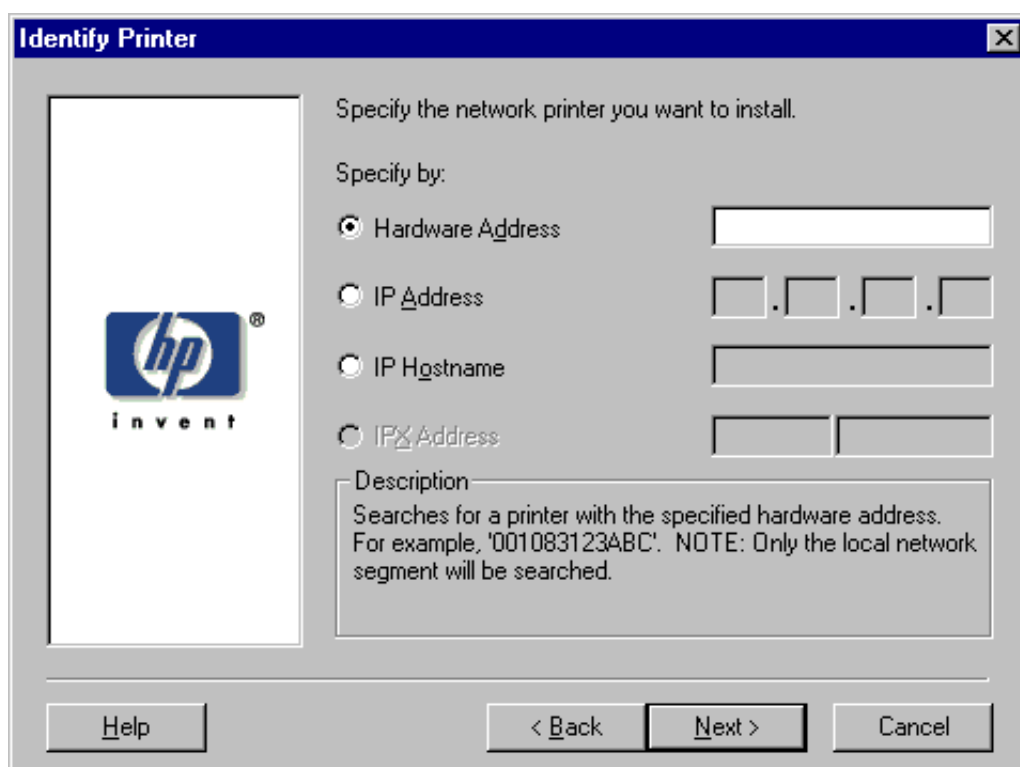
**Figure 51.** Network Printer Configuration dialog box

**Table 28.** Network Printer Configuration dialog box text strings

Title of dialog box	Text in dialog box	User options and descriptions
Network Printer Configuration	<p>How do you want to identify the network printer you are installing?</p> <p>Search from a list of available printers [option button]</p> <p>[Description] Searches the local network for printers and allows you to choose your printer from a list of discovered printers.</p> <p>Specify a printer by address [option button]</p> <p>[Description] Allows you to specify your printer by entering one of the following attributes: Hardware Address, IP Address, IP Hostname, or IPX Address.</p> <p>Description [Conditional text]</p>	<p>If you click <b>Search from a list of available printers</b>, <b>Next</b> takes you to the <b>Identify Printer</b> dialog box.</p> <p>If you click <b>Specify a printer by address</b>, <b>Next</b> takes you to the <b>Identify Printer</b> dialog box.</p> <p>Always choose <b>Specify a printer by address</b> when the printer address is available. On large networks, selecting <b>Search from a list of available printers</b> might not result in the location of a specific printer.</p> <p><b>Back</b> returns you to the <b>Network Setup</b> dialog box.</p> <p><b>Cancel</b> takes you to the <b>Exit Setup</b> dialog box.</p>



**Figure 52.** Identify Printer dialog box (1 of 2)

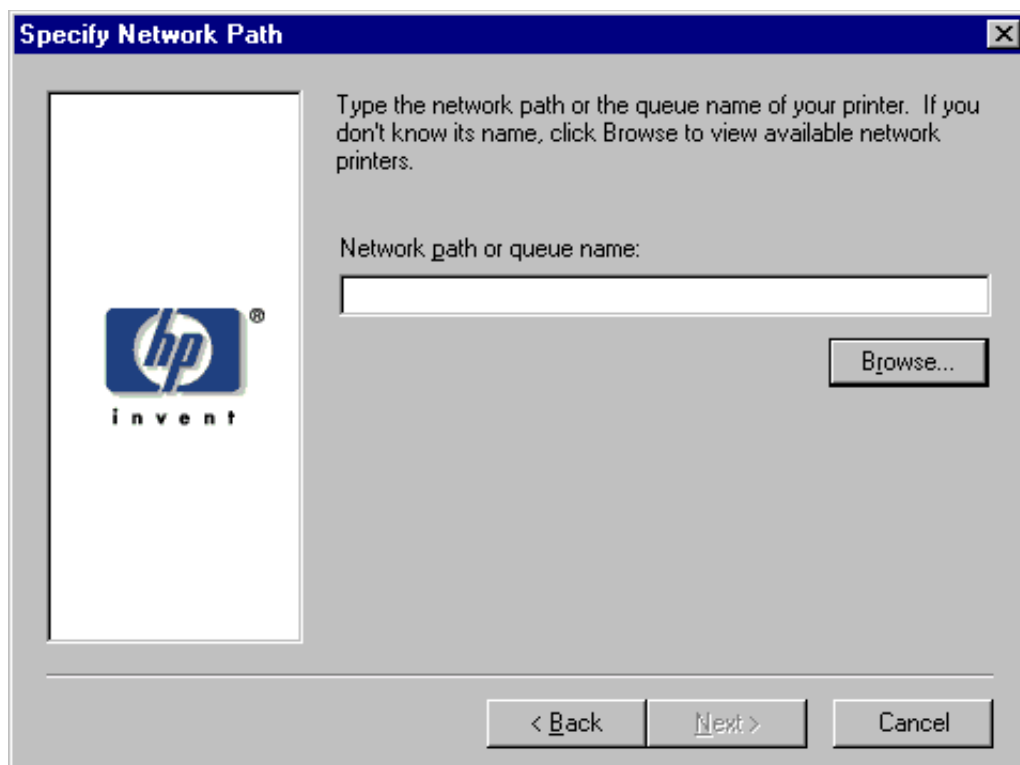


**Figure 53.** Identify Printer dialog box (2 of 2)



**Table 29. Identify Printer dialog box text strings**

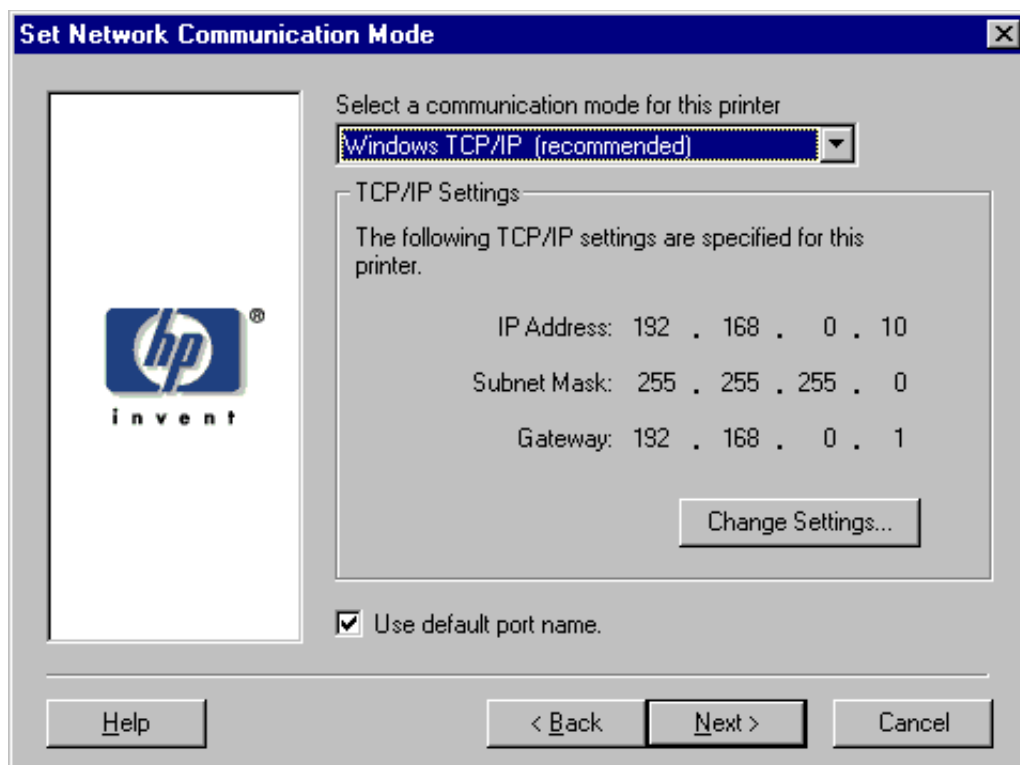
Title of dialog box	Text in dialog box	User options and descriptions
Identify Printer	<p>Select the network printer you want to install.</p> <p>Printers on your local network:</p> <p>[List, with attributes of Hardware Address, IP Address, and IPX Address listed, if available]</p> <p>If your printer is not found on the list, click 'Refresh', or go back and click 'Specify a printer by address'.</p> <p>OR</p> <p>Specify the network printer you want to install.</p> <p>Specify by:</p> <p>Hardware Address. [option button] [text field]</p> <p>IP Address [option button} [text fields]</p> <p>IP Hostname [option button] [text field]</p> <p>IPX Address [option button} [text fields]</p> <p>Description [Conditional text]</p>	<p>If you identify the printer by selecting from the list, and your HP LaserJet product appears in the list and is selected, <b>Next</b> takes you to the <b>Set Network Communication Mode</b> dialog box.</p> <p>If your HP LaserJet product is not found on the network, click <b>Refresh</b> or go back to the <b>Network Printer Configuration</b> dialog box to specify the device by address.</p> <p><b>Refresh</b> updates the list of network printers.</p> <p>If you identify the printer by specifying a specific network address, <b>Next</b> takes you to the <b>Set Network Communication Mode</b> dialog box.</p> <p><b>Back</b> returns you to the <b>Network Printer Configuration</b> dialog box.</p> <p><b>Cancel</b> takes you to the <b>Exit Setup</b> dialog box.</p>



**Figure 54.** Specify Network Path dialog box

**Table 30.** Specify Network Path dialog box text strings

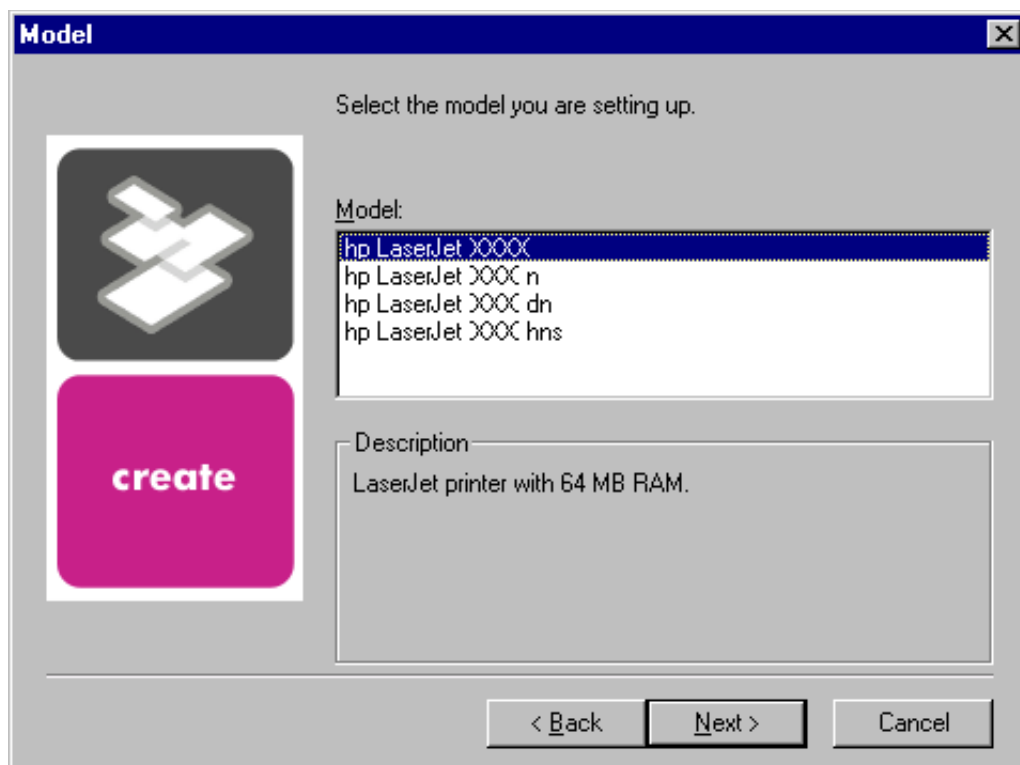
Title of dialog box	Text in dialog box	User options and descriptions
Specify Network Path	<p>Type the network path or the queue name of your printer. If you do not know its name, click Browse to view the available network printers.</p> <p>Network path or queue name: [text field]</p> <p>Browse ...[button]</p>	<p>If a network path or queue name is entered, <b>Next</b> takes you to the <b>Cable Type Selection</b> dialog box.</p> <p><b>NOTE:</b> If you reached this dialog box from the <b>Connected to Selection</b> dialog box, <b>Next</b> takes you to the <b>Installation Type</b> dialog box.</p> <p>Click <b>Browse</b> to bring up a list of devices available on the network.</p> <p>Back returns you to the <b>Network Setup</b> dialog box.</p> <p><b>Cancel</b> takes you to the <b>Exit Setup</b> dialog box.</p>



**Figure 55.** Set Network Communication Mode dialog box

**Table 31.** Set Network Communication Mode dialog box text strings

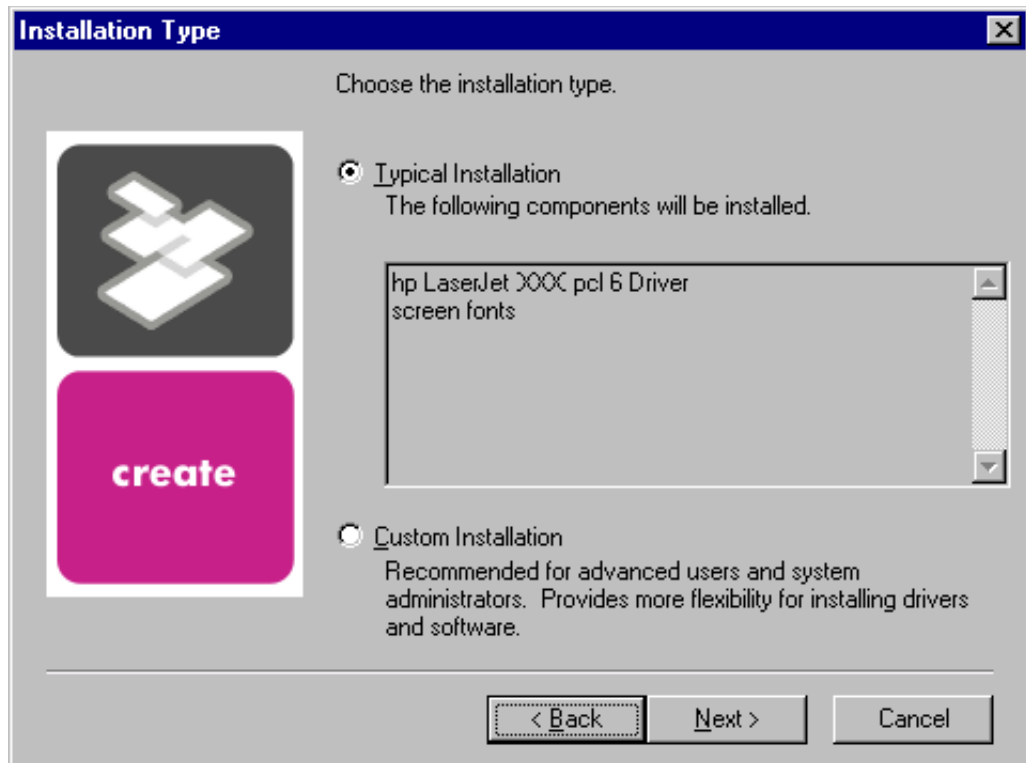
Title of dialog box	Text in dialog box	User options and descriptions
Set Network Communication Mode	<p>Select a communication mode for this printer</p> <p>[drop-down menu: Windows TCP/IP (recommended) other modes listed]</p> <p>TCP/IP Settings</p> <p>[Conditional fields for entering TCP/IP or other address information]</p> <p>Use default port name [check box]</p>	<p>Select a communication mode and type the appropriate address information.</p> <p>After you have specified a communications mode, <b>Next</b> takes you to the printer <b>Model</b> dialog box.</p> <p><b>Back</b> returns you to the <b>Identify Printer</b> dialog box.</p> <p><b>Cancel</b> takes you to the <b>Exit Setup</b> dialog box.</p>



**Figure 56.** Printer Model dialog box

**Table 32. Printer Model dialog box text strings**

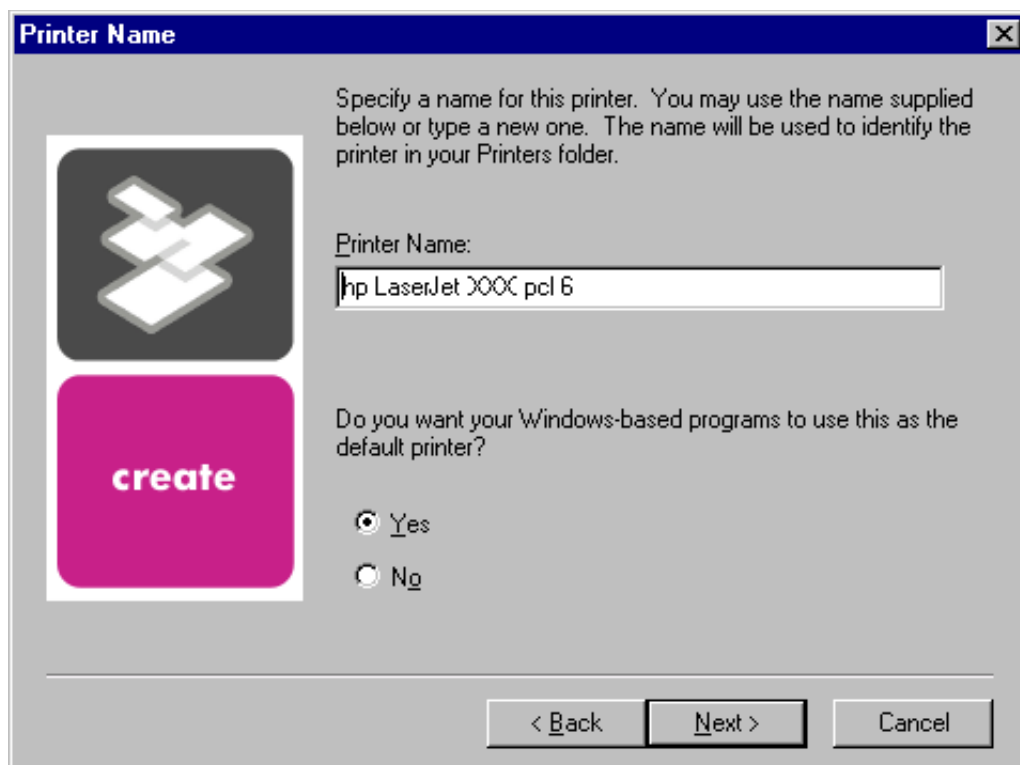
Title of dialog box	Text in dialog box	User options and descriptions
Model	<p>Select the model you are setting up.</p> <p>Model:</p> <p>[List of HP LaserJet models]</p> <p>Description</p> <p>[Conditional text, depending upon which model is chosen in the list]</p>	<p><b>Next</b> takes you to the <b>Installation Type</b> dialog box.</p> <p><b>Back</b> returns you to the <b>Select Port</b> dialog box when you are performing a direct connection installation, or to the <b>Set Network Communication Mode</b> dialog box when you are performing a network installation.</p> <p><b>Cancel</b> takes you to the <b>Exit Setup</b> dialog box.</p>



**Figure 57.** Installation Type dialog box

**Table 33. Installation Type dialog box text strings**

Title of dialog box	Text in dialog box	User options and descriptions
Installation Type	<p>Choose the installation type.</p> <p>Typical Installation [option button]</p> <p>The following components will be installed:</p> <ul style="list-style-type: none"> <li>· HP LaserJet 9000 PCL 6 Driver</li> <li>· Driver Autoconfiguration (if connecting to a network port)</li> <li>· Screen Fonts</li> </ul> <p>Custom Installation [option button]</p> <p>Recommended for advanced users and system administrators. Provides more flexibility for installing drivers and software.</p>	<p>If <b>Typical Installation</b> is selected, <b>Next</b> takes you to the <b>Printer Name</b> dialog box.</p> <p>If <b>Custom Installation</b> is selected, <b>Next</b> takes you to the <b>Components</b> dialog box.</p> <p><b>Back</b> returns you to the printer <b>Model</b> dialog box.</p> <p><b>Cancel</b> takes you to the <b>Exit Setup</b> dialog box.</p> <p><b>NOTE:</b> For direct connection installations, <b>Driver Autoconfiguration</b> is not an available option.</p>



**Figure 58.** Printer Name dialog box

**Table 34.** Printer Name dialog box text strings

Title of dialog box	Text in dialog box	User options and descriptions
Printer Name	<p>Specify a name for this printer. You can use the name supplied below or type a new one. The name will be used to identify the printer in your Printers folder.</p> <p>Printer Name: [text entry field]</p> <p>Do you want your Windows-based programs to use this as the default printer?</p> <p>Yes [option button]</p> <p>No [option button]</p>	<p><b>Next</b> takes you to the <b>Printer Sharing</b> dialog box.</p> <p>The default printer name in the text field is <b>HP LaserJet 9000 PCL 6</b>.</p> <p><b>Back</b> returns you to the <b>Installation Type</b> dialog box.</p> <p><b>Cancel</b> takes you to the <b>Exit Setup</b> dialog box.</p>



**Figure 59.** Printer Sharing dialog box

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**Note**

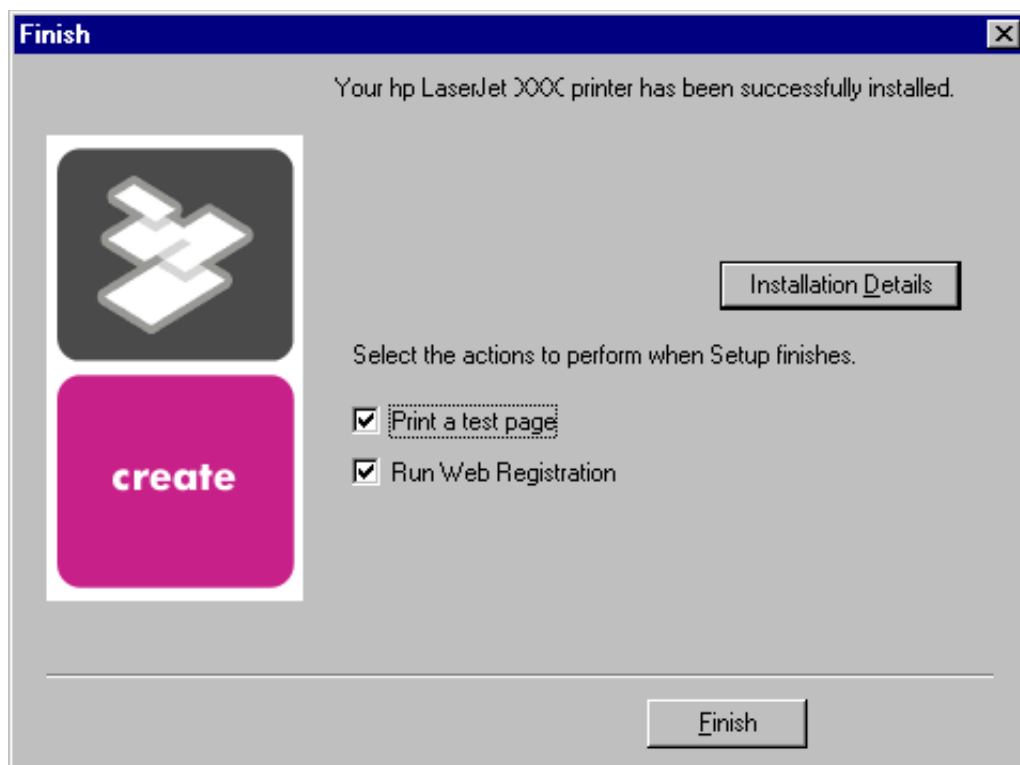
When you do not share the printer, additional driver support is not available. If you share the printer on Windows NT 4.0, Windows 2000, or Windows XP operating systems by selecting **Share as**, you must type a name. You can also provide additional printer driver support for other operating systems.

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**Table 35. Printer Sharing dialog box text strings**

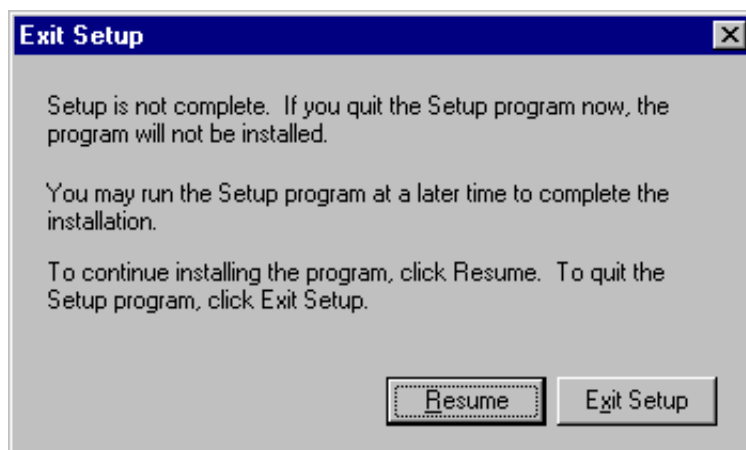
Title of dialog box	Text in dialog box	User options and descriptions
Printer Sharing	<p>Indicate whether this printer will be shared with other network users. If you choose sharing, give the printer a share name.</p> <p>Not shared [option button]</p> <p>Share as [text entry field]</p> <p><b>NOTE:</b> Exceeding 12 characters can make the printer inaccessible to Windows 95/98 clients. (Windows Me is not displayed but is supported.)</p> <p>Client Driver Support</p> <p>Additional drivers can be installed on this computer to support automated driver download to clients.</p> <p>Install a Windows 95 (or Windows 98 or Windows Me) driver. [check box]</p>	<p><b>Next</b> starts the file copy process.</p> <p><b>Back</b> returns you to the <b>Printer Name</b> dialog box.</p> <p><b>Cancel</b> takes you to the <b>Exit Setup</b> dialog box.</p>



**Figure 60.** Finish dialog box

**Table 36.** Finish dialog box text strings

Title of dialog box	Text in dialog box	User options and descriptions
Finish	<p>Your HP LaserJet 9000 printer has been successfully installed.</p> <p>Installation Details [button]</p> <p>Select the actions to perform when Setup finishes.</p> <p>Print a test page [check box]</p> <p>Web Registration [check box]</p>	<p><b>Finish</b> completes the installation process and initiates test-page printing and Web-page registration if those options are selected.</p> <p>Click <b>Installation Details</b> to display a modal dialog box that shows installation details.</p> <p><b>NOTE:</b> If the computer must be restarted, the Print a test page and Web Registration functions will occur after the computer is started.</p>



**Figure 61.** Exit Setup dialog box

**Table 37.** Exit Setup dialog box text strings

Title of dialog box	Text in dialog box	User options and descriptions
Exit Setup  [when <b>Cancel</b> is selected]	<p>Setup is not complete. If you quit the Setup program now, the program will not be installed.</p> <p>You can run the Setup program at a later time to complete the installation.</p> <p>To continue installing the program, click Resume. To quit the Setup program, click Exit Setup.</p>	<p><b>Exit Setup</b> quits the Installer program.</p> <p><b>Resume</b> takes you to the dialog box you most recently canceled.</p>

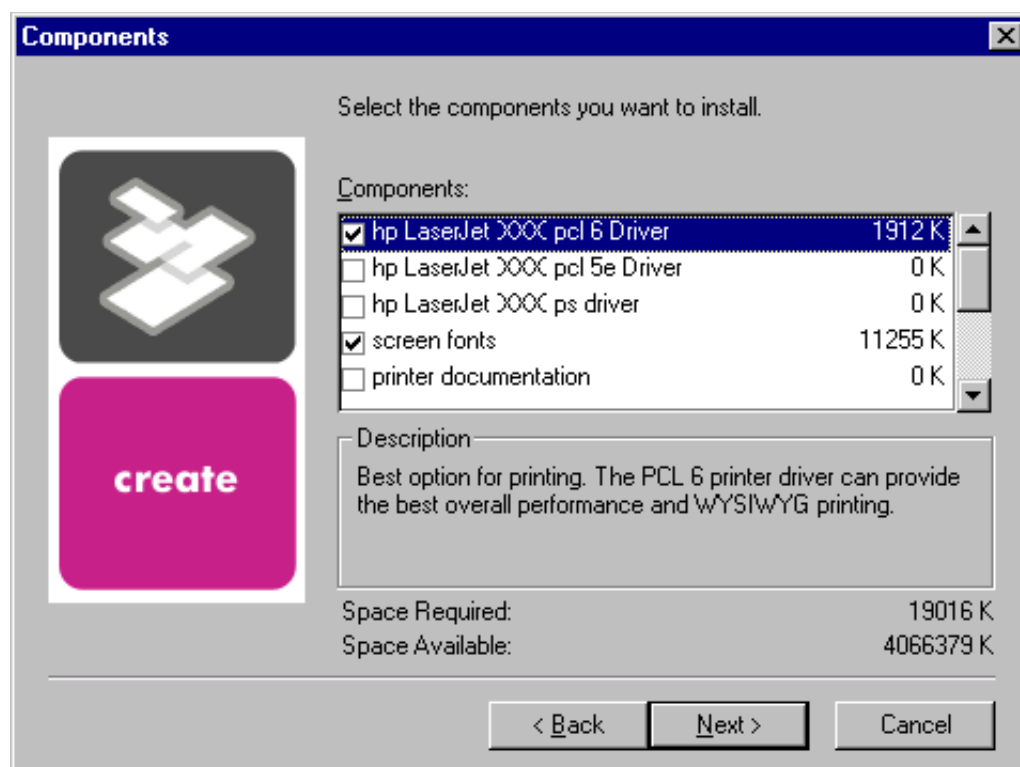
## Custom installation

The custom installation gives you the option of installing the following components:

- HP LaserJet PCL 6 driver
- HP LaserJet PCL 5e driver
- HP LaserJet PS driver
- screen fonts
- printer documentation
- accessory documentation

**Note**

Windows NT 4.0, Windows 2000, and Windows XP computers running a terminal server do not support the **Printer Status and Alerts** option.



**Figure 62.** Components dialog box, Custom Installation

**Table 38. Custom Installation dialog box text strings**

Title of dialog box	Text in dialog box	User options and descriptions
Components	<p>Select the components you want to install.</p> <p>Components:</p> <p>Description [Conditional text, according to the item currently highlighted in the list]</p> <p>Space Required [Specifies disk space required to install components currently selected in list]</p> <p>Space Available [Specifies disk space available on disk drive specified in <b>Choose Destination Location</b> dialog box (00)]</p>	<p><b>Next</b> takes you to the <b>Printer Name</b> dialog box.</p> <p><b>Back</b> returns you to the <b>Installation Type</b> dialog box.</p> <p><b>Cancel</b> takes you to the <b>Exit Setup</b> dialog box.</p> <p><b>NOTE:</b> Custom Installation automatically selects the options available in the Typical Installation. You can also select from among the following components:</p> <ul style="list-style-type: none"> <li>• PCL 5e driver</li> <li>• PS driver</li> <li>• screen fonts</li> <li>• printer documentation</li> <li>• accessory documentation</li> </ul>

### Product registration (HP WebReg)

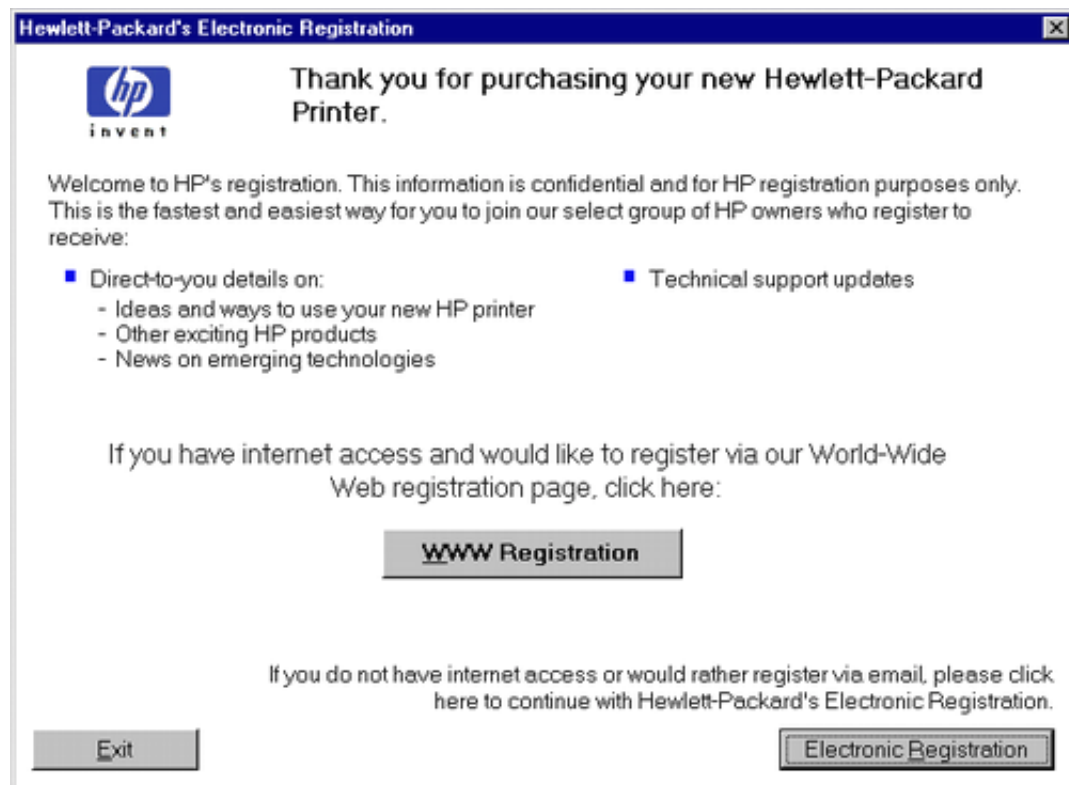
The HP LaserJet software CD-ROM browser provides two options for registering the HP LaserJet product:

- Registration through the Internet to the <http://register.hp.com> Web site
- Registration by e-mail

#### Note

Web registration for Hebrew and Arabic is in English.

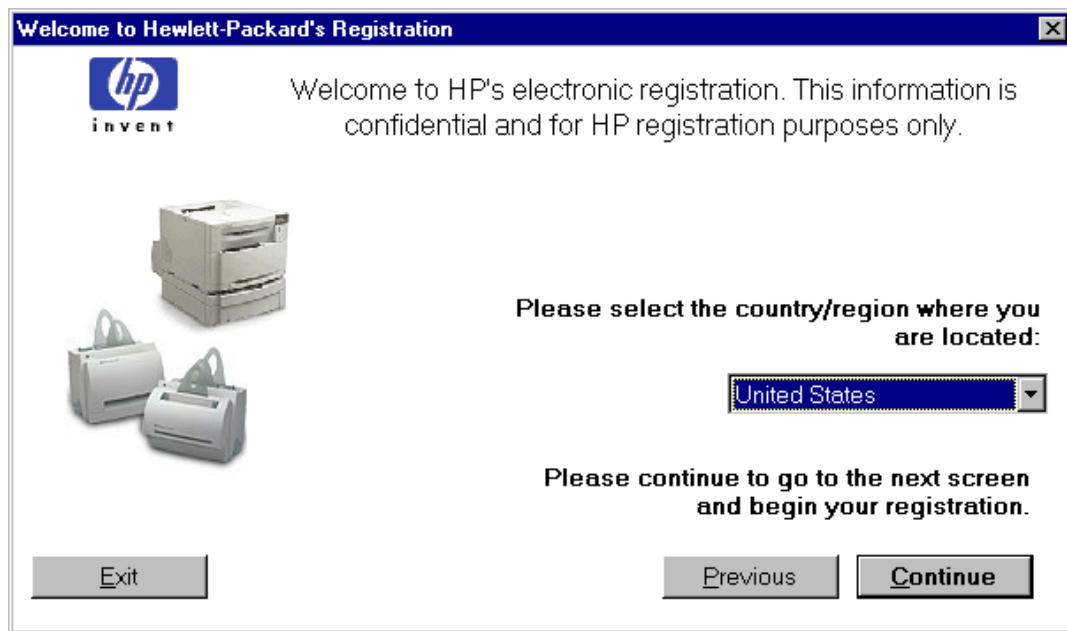
To gain access to the product-registration options, go to the main menu of the HP LaserJet software CD-ROM browser and click **Register Product**. This starts the HP WebReg utility and opens the following window.



**Figure 63.** Hewlett-Packard's Electronic Registration dialog box

**Table 39. Hewlett-Packard's Electronic Registration text strings**

Title of dialog box	Text in dialog box	User options and descriptions
Hewlett-Packard's Electronic Registration	<p>Welcome to HP's registration. This information is confidential and for HP registration purposes only. This is the fastest and easiest way for you to join our select group of HP owners who register to receive:</p> <p>Direct-to-you details about:</p> <ul style="list-style-type: none"> <li>● ideas and ways to use your new HP product.</li> <li>● other exciting HP products.</li> <li>● news about emerging technologies.</li> </ul> <p>Technical support updates.</p> <p>If you have internet access and would like to register using our World Wide Web registration page, click here:</p> <p>WWW Registration [button] [default option]</p> <p>If you do not have internet access or would rather register using e-mail, please click here to continue with Hewlett-Packard's Electronic Registration.</p> <p>Electronic Registration [button]</p> <p>Exit [button]</p>	<p>Click the <b>WWW Registration</b> button to open the default Web browser and connect to the product registration page at the <a href="http://register.hp.com">http://register.hp.com</a> Web site.</p> <p>Click the <b>Electronic Registration</b> button to open the <b>Welcome to Hewlett-Packard's Registration</b> dialog box.</p> <p>Click the <b>Exit</b> button to open the <b>Exiting Registration!</b> dialog box.</p>



**Figure 64.** Welcome to Hewlett-Packard's Registration dialog box

**Table 40.** Welcome to Hewlett-Packard's Registration dialog box text strings

Title of dialog box	Text in dialog box	User options and descriptions
Welcome to Hewlett-Packard's Registration	Welcome to HP's electronic registration. This information is confidential and for HP registration purposes only.	Click the <b>Previous</b> button to return to the <b>Hewlett-Packard's Electronic Registration</b> dialog box.
	Please select the country/region where you are located. [drop-down menu]	Click the <b>Continue</b> button to start a sequence of three screens. The first screen provides fields for typing your registration information. The second screen prompts you for information about your HP LaserJet 9000 product. The third screen gives you the option of sending the e-mail message to register the product.
	Please continue to go to the next screen and begin your registration	
	Previous [button]	
	Continue [button] [default option]	
	Exit [button]	Click the <b>Exit</b> button to open the <b>Exiting Registration!</b> dialog box.



**Hewlett-Packard's Electronic Registration**

★ Please complete the following (required fields are denoted by a blue asterisk):

★ First Name      Middle Initial      ★ Last Name

Company/Organization Name      Building/Mail Stop/Dept.

★ Mailing Address

★ City/Town      ★ State      ★ Zip Code

E-mail Address      Telephone Number      Extension

Occasionally HP communicates information on products and/or programs that may be relevant to you. Please select the method(s) of communication HP may use to contact you. (check all that apply)

☐ E-mail    ☐ Mail    ☐ Telephone

☐ Please don't contact me unless I specifically request it


Exit      Previous      Continue

**Figure 65.** Hewlett-Packard's Electronic Registration dialog box (1 of 3)

**Table 41. Hewlett-Packard's Electronic Registration dialog box text strings (1 of 3)**

Title of dialog box	Text in dialog box	User options and descriptions
<p>Hewlett-Packard's Electronic Registration</p> <p>[This is the first of three screens.]</p>	<p>Please complete the following (required fields are denoted by a blue asterisk):</p> <p>[The following items are fields unless otherwise noted.]</p> <p>First name*</p> <p>Middle Initial</p> <p>Last Name*</p> <p>Company/Organization Name*</p> <p>Building/Mail Stop/Dept.</p> <p>Mailing Address*</p> <p>City/Town*</p> <p>State* [drop-down menu]</p> <p>Zip Code*</p> <p>E-mail Address</p> <p>Telephone Number</p> <p>Extension</p> <p>Occasionally HP communicates information about products and/or programs that might be relevant to you. Please select the method(s) HP can use to contact you. (check all that apply)</p> <p>E-mail [check box]</p> <p>Mail [check box]</p> <p>Telephone [check box]</p> <p>Please don't contact me unless I specifically request it [check box]</p> <p>Previous [button]</p> <p>Continue [button]</p> <p>Exit [button]</p>	<p>Click the <b>Previous</b> button to go back to the <b>Welcome to Hewlett-Packard's Registration</b> dialog box.</p> <p>Click the <b>Continue</b> button to go to the second screen in this sequence.</p> <p>Click the <b>Exit</b> button to open the <b>Exiting Registration!</b> dialog box.</p>

**Hewlett-Packard's Electronic Registration**

 **invent**

**Please tell us about the Hewlett-Packard product that you purchased:**

\* Where will your new Hewlett-Packard product primarily be used?

\* Which Hewlett-Packard product did you purchase?

\* When did you purchase your Hewlett-Packard product?

\* Serial Number:

Approximately how many employees work at your... site?

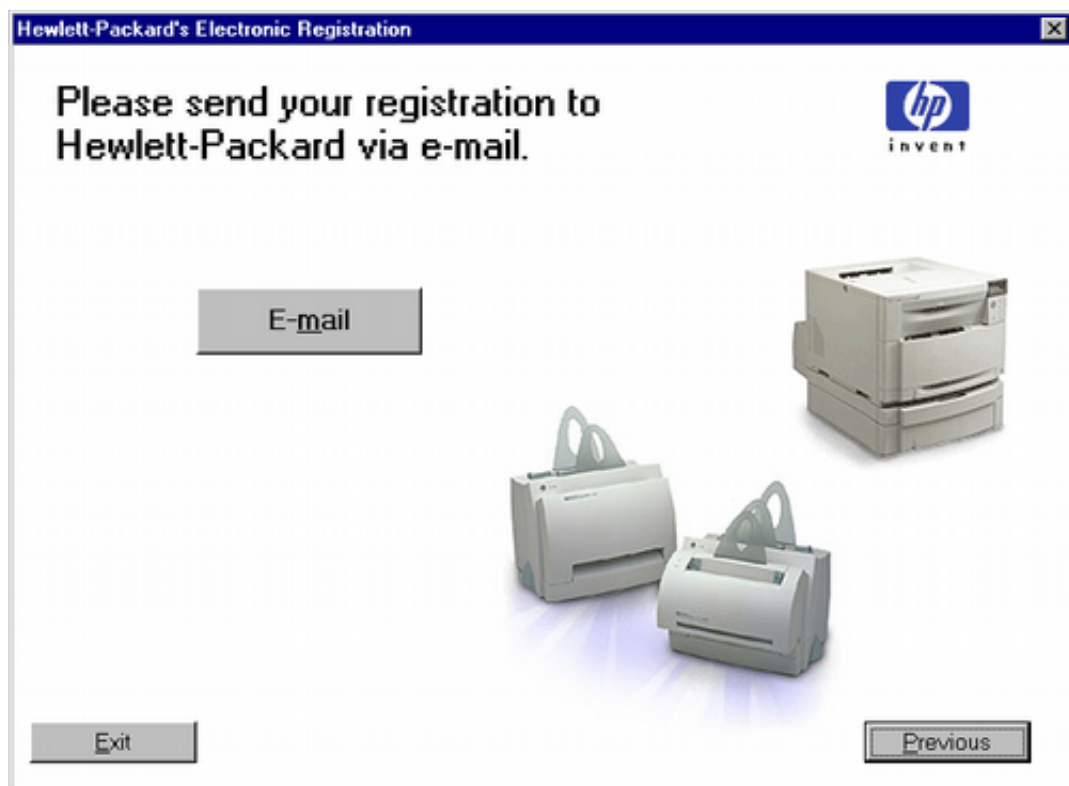
Worldwide?

What is your job responsibility as it relates to HP products?

**Figure 66.** Hewlett-Packard's Electronic Registration dialog box (2 of 3)

**Table 42. Hewlett-Packard's Electronic Registration dialog box text strings (2 of 3)**

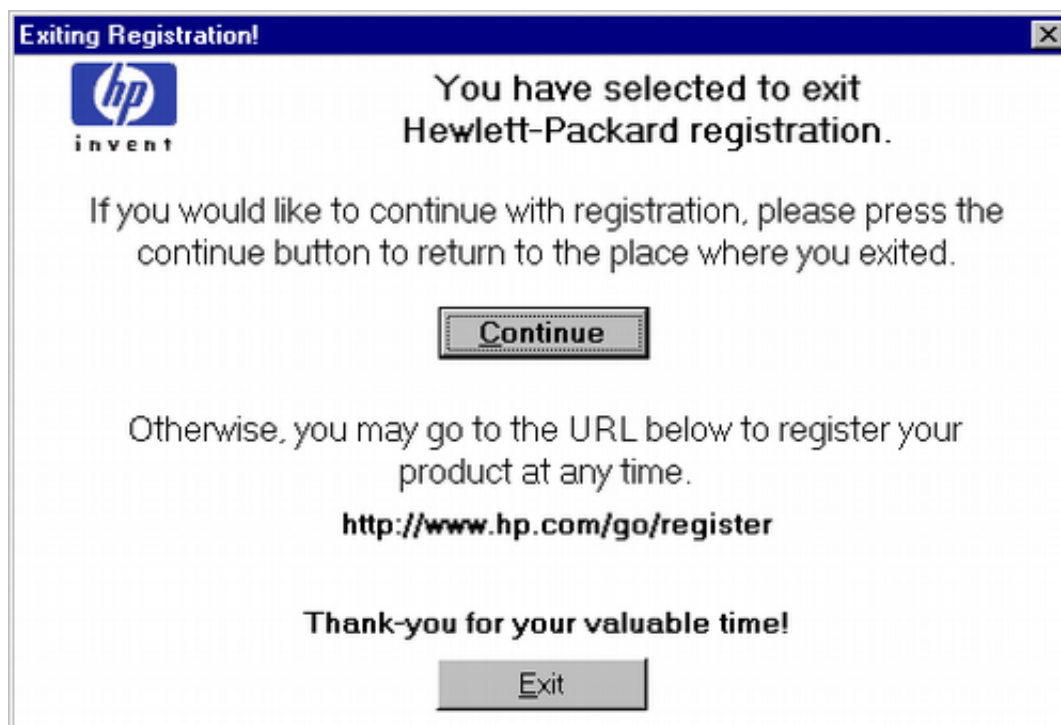
Title of dialog box	Text in dialog box	User options and descriptions
<p>Hewlett-Packard's Electronic Registration</p> <p>[This is the second of three screens.]</p>	<p>Please tell us about the Hewlett-Packard product you purchased:</p>	<p>Click the <b>Previous</b> button to go back to the first screen in this sequence.</p>
	<p>Where will your new Hewlett-Packard product primarily be used? [drop-down menu]</p>	<p>Click the <b>Continue</b> button to go to the third screen in this sequence.</p>
	<p>Which Hewlett-Packard product did you purchase? [drop-down menu]</p>	<p>Click the <b>Exit</b> button to open the <b>Exiting Registration!</b> dialog box.</p>
	<p>When did you purchase your Hewlett-Packard product? [field]</p>	<p>Type the date you purchased your Hewlett-Packard product.</p>
	<p>Serial Number [field]</p>	<p>Type the product's serial number.</p>
	<p>Approximately how many employees work at your...site? Worldwide?</p>	<p>The questions about the number of employees and your job responsibility (answering is optional) appear only if you answered that you will use your Hewlett-Packard product primarily for business or telecommuting. Dropdown boxes with possible answers are provided for your convenience.</p>
	<p>What is your job responsibility as it relates to HP products?</p>	



**Figure 67.** Hewlett-Packard's Electronic Registration dialog box (3 of 3)

**Table 43.** Hewlett-Packard's Electronic Registration dialog box text strings (3 of 3)

Title of dialog box	Text in dialog box	User options and descriptions
Hewlett-Packard's Electronic Registration  [This is the third of three screens.]	Please send your registration to Hewlett-Packard using e-mail.  E-mail [button] [default option]  Previous [button]  Exit [button]	Click the <b>E-mail</b> button to send an e-mail to HP containing the registration information you specified. A thank-you screen appears when the e-mail is sent.  Click the <b>Previous</b> button to go back to the second screen in this sequence.  Click the <b>Exit</b> button to open the <b>Exiting Registration!</b> dialog box.



**Figure 68.** Exiting registration! dialog box

**Table 44. Exiting registration text strings**

<b>Title of dialog box</b>	<b>Text in dialog box</b>	<b>User options and descriptions</b>
Exiting Registration!	<p>You have selected to exit Hewlett-Packard's registration.</p> <p>If you would like to continue with registration, please press the continue button to return to the place where you exited.</p> <p>Continue [button] [default option]</p> <p>Otherwise, you can go to the universal resource locator (URL) below to register your product at any time.</p> <p><a href="http://register.hp.com">http://register.hp.com</a></p> <p>Thank you for your valuable time!</p> <p>Exit [button]</p>	<p>Click the <b>Continue</b> button to go back to the screen where you were when you clicked the <b>Exit</b> button.</p> <p>Click the <b>Exit</b> button to close the WebReg utility.</p>

### **Invisible installation of all drivers (Internal)**

During a typical or custom installation, all three drivers (PCL 5e, PCL 6, and PS) are installed on the system. Only the drivers that are selected appear as available on the system. The other drivers are installed “invisible,” so that they are available for HP customer support personnel to use in helping a customer troubleshoot printer driver problems. If customers want to have the additional drivers visible and available on their systems, they can use the Add Printer Wizard and select the appropriate HP LaserJet drivers from the HP folder in the **Manufacturers:** list.

### **Customization Utility for Windows**

Use the Customization Utility button to create your own customized installation of printing-system components. To start the utility, click Customization Utility on the main menu of the HP LaserJet software CD-ROM browser. The available options for creating a customized installation are:

- **Copy printer drivers only.** Using this option, you can copy the HP LaserJet Windows printer drivers to a selected form of media (disk, CD-ROM, network drive, and so on). You can use the resulting disk set with the Windows Add Printer Wizard. The Customization Utility prompts these choices:
  - operating system
  - printer model
  - printing system components (drivers to copy)
  - destination path

- **Create customized installer.** Using this option, you can create either an interactive or silent (unattended) installer customized by any of the following selections:
  - operating system
  - printer model
  - printing system components
  - interactive or silent (unattended) installer
- **Copy entire printing system installer.** Using this option, you can copy the HP LaserJet printing system installer to a selected form of high-capacity media such as a network drive. The customization utility prompts these choices:
  - Language
  - Operating system

## Silent installer

You can use the HP LaserJet printing system software to create a silent installer that runs the SETUP.EXE program without user interaction. This installation method is useful when you want to use the default selections provided by the installer or when you want to run the installation without being prompted. You also have the option of creating a custom disk image that contains specific drivers and utilities, allowing users to run the installer without further interaction.

Silent installation can be performed in two ways:

- Customized silent installer
- Command-line silent installer

## Customized silent installer

Use this option to select the printing-system components to include in the silent installation. You can select the operating system, language, printer models, drivers, utilities, and documentation to install.

## Command-line silent install

This method cannot be customized and installs only the printing-system components that are included in the Typical Installation.

### Note

Values that follow equal signs ( = ) in a command line must not contain intervening spaces.

#### Method 1: Command line

Type the following at the command line (do not type the beginning and ending quotation marks):

```
"<CD-ROM-ROOT>/SETUP/SETUP.EXE /U /PORT=XXXX /PRINTER=N /PD=N"
```

#### Method 2: SETUP.LST

Use the SETUP.LST file to specify command-line arguments to the installer for an unattended installation. You can send command-line arguments in one of the following ways:

- Send the command directly to the installer.
- Send the command using the SETUP.LST file located in the setup directory.
- Use a combination of the two methods.



For example, this file contains two options: **/port** and **/printer**. The installer operates as normal because the **/u** option has not been specified. If you use **setup /u** for the installer, it operates in unattended mode and uses the two values specified in the defaults section of the SETUP.LST file. If you use **setup /u /printer=4** for the installer, it operates in unattended mode and chooses the HP LaserJet 9000mfp. The options specified on the command line override the options specified in the SETUP.LST file.

The options available can also include the **/u** option. Using this option key makes the installer always operate as unattended. The following descriptions explain the available options:

- **/u** signals the installer to use the specified port and printer given on the command line (or in this file), and to use all default selections. Installation then proceeds without prompting the user.
- **/port=xxxx** is used to specify the default port when performing an unattended installation. The value specified by xxxx should be a valid port and should contain no spaces.
- **/printer=n** is used to specify the default printer when doing an unattended installation. The value specified by "n" is an integer that references the list of available printers. For example, the following printers are available for the HP LaserJet 9000 series printer installation:

0 = HP LaserJet 9000 printer

1 = HP LaserJet 9000n printer

2 = HP LaserJet 9000dn printer

3 = HP LaserJet 9000hns printer

4 = HP LaserJet 9000mfp printer

- **/pd=n** is used to specify whether the selected printer is the default printer, when you have multiple printers connected to your network. The value specified by n is an integer (that is, 0 or 1). For this argument, entering one sets the selected printer as the default printer. Entering zero (0) or not specifying a value at all sets the printer as a non-default printer.

You can preset these options in the SETUP.LST file located in the root directory of the HP LaserJet software CD-ROM. In the defaults section, add the following syntax:

[Defaults]

Options= /port=<value> /printer=<number> /pd=<number>

## Driver-only installation

- Step 1 Close all software applications.
- Step 2 Click **Start**, click **Settings**, and then click **Printers**.
- Step 3 Double-click **Add Printer**.
- Step 4 Answer the questions in the **Add Printer Wizard** dialog box until you reach the screen with the printer manufacturer list.
- Step 5 Click **Have Disk**.
- Step 6 Browse to the driver location using one of these options:

- **Inbox CD-ROM.** Browse to the appropriate directory for your operating system and language.
- **Internet download.** Browse to the folder where the Web files were downloaded and decompressed.

Step 7 Select the appropriate .INF file.

Step 8 Click **Open**, and then click **OK**.

Step 9 Select the appropriate printer.

Step 10 Follow the remaining instructions to complete the printer installation. At this point, the driver is been copied to your hard disk and is included with the list of installed printers.

## Point and Print installation for Windows 95, 98, Me, NT 4.0, 2000, and XP

The following information will assist you as you install a printer driver using the Microsoft Point and Print function when you cannot see the printer on the network.

Point and Print is a Microsoft term used to describe a two-step driver installation process. The first step is to install a shared driver on a network print server. The second step is to “point” to the print server from a network client so that the client can use the print driver.

### Note

This section outlines the procedures for installing print drivers with Point and Print. If these procedures are not successful, contact Microsoft. Hewlett-Packard provides drivers that are compatible with the Point and Print feature, but this is a function of the Microsoft operating systems, not of HP print drivers.

Windows NT, Windows 2000, and Windows XP drivers from HP are supported only on Intel X86 (R) processor types. Any other processor types must use Windows NT drivers from Microsoft.

To install the printer driver on a Windows NT 4.0, Windows 2000, or Windows XP server, you must have administrator privileges.

To completely install the Windows NT 4.0 printer driver on the Windows NT 4.0 server (or, for Windows 2000, the Windows 2000 printer driver on the Windows 2000 server), you must have administrator privileges on the server.

The Windows NT 4.0 Printer .INF file (or, for Windows 2000, the Windows 2000 Printer .INF file) must contain the same printer name as the Windows 95, Windows 98, or Windows Me printer .INF file.

Point and Print installation of a PS driver is supported only with a Microsoft Windows 95, Windows 98, or Windows Me PScript driver version 4.0 or later.

For all operating systems, use the Add Printer Wizard to install the appropriate operating system driver on the server and client machines, as shown in the following table.

**Table 45. Windows servers with Windows clients**

Computer function	Steps
Server and clients	1. Click <b>Start</b> , click <b>Settings</b> , and then click <b>Printers</b> .
Server and clients	2. In the Printers folder, double-click the <b>Add Printer</b> icon to start the Add Printer Wizard.
Server only	3. Click <b>Next</b> , and then click <b>Local Printer</b> . Click <b>Next</b> . If your operating system is Windows 95, Windows 98, or Windows Me, go to step 6.
Server and clients	4. Select the appropriate port in the list of ports, or click <b>Add Port</b> to connect to a network port not in the list of available ports.

**Table 45. Windows servers with Windows clients (continued)**

Computer function	Steps
Server and clients	5. Select the printer model in the list of available printers, or click <b>Have Disk</b> if installing the driver from an alternative source, such as disk, CD-ROM, or software download. If installing from a software download, you must know the path where the software has been downloaded.
Server only	6. After the installation is complete, highlight the <b>Printer</b> icon and click <b>File</b> , and then click <b>Properties</b> . In the Printer Properties window, click the <b>Sharing</b> tab.
Server only	7. You must enable the File and Print Sharing service for either Microsoft networks or Novell networks on the server.
Server only	8. To exit Properties, click <b>OK</b> . A hand appears beneath the <b>Printer</b> icon in the Printers folder, indicating that the printer is shared.
Client only	9. You can install the driver using Point and Print in one of the following four ways: <ul style="list-style-type: none"> <li>• In Network Neighborhood, locate the server and double-click the printer share name.</li> <li>• In Network Neighborhood, locate the server. Then drag and drop the icon for the shared printer into your Printers folder.</li> <li>• In the Printers folder, open the Add Printer Wizard. Then, depending on the operating system: <ul style="list-style-type: none"> <li>• For Windows 95, Windows 98, and Windows Me, click <b>Network Printer</b>.</li> <li>• For Windows NT 4.0, Windows 2000, and Windows XP, click <b>Network printer server</b>.</li> </ul> </li> </ul>
Client only	10. Click <b>Next</b> . Type the network path or queue name, or choose <b>Browse</b> to search the network to locate the appropriate path.
Client only	11. In Network Neighborhood, locate the server and double-click. Then locate the printer share name and right-click.
Client only	12. Click <b>Install</b> to complete the installation through the Add Printer Wizard.

## Setting a default printer

This section applies to Windows 95, 98, Me, NT 4.0, 2000m and XP.

- Step 1 From the **Start** menu, click **Settings**, and then click **Printers**.
- Step 2 Select the printer you want to set as the default printer.
- Step 3 From the **File** menu, click **Set As Default**. A check mark appears next to the menu option.
- Step 4 Click **Close**.

## Windows 3.1x

### Printer support

- The PS emulation driver supports the HP LaserJet product, but only on standalone versions of Windows 3.1x. Other PS printers can be supported with additional PPDs.
- The PCL 6 and PCL 5e drivers support HP LaserJet products.

## Installing printer drivers on Windows 3.1x

Windows 3.1x is not supported by the CD-ROM browser and printing system installer for the HP LaserJet product. Printing from Windows 3.1x is supported using the PCL 5e and PCL 6 drivers for the HP LaserJet 8100, and with the PS driver. To install these drivers, you must use the Add Printer function in the Windows 3.1x control panel:

- Step 1 Close all programs. Turn off virus checkers and TSR programs. After installation, these programs can be turned back on.
- Step 2 Go to Main in the Program Manager and click **Control Panel**.
- Step 3 Click **Printers**.
- Step 4 Under **Printer**, choose **Add**.
- Step 5 Under the list of printers, choose **Unlisted** and click **Install**.
- Step 6 Browse to the driver location using one of the options below:
  - **CD-ROM**. Browse to the appropriate <CD-ROM Drive>:\<Language>\Drivers\Win3.x directory for your operating system and language.
  - **Internet download**. Browse to the <CD-ROM Drive>:\<Language>\Drivers\Win3.x folder where the Web files were downloaded and decompressed.
- Step 7 Select the appropriate printer and click **OK**.
- Step 8 Follow the remaining instructions to complete the printer installation.

# 5 Installation and removal for non-Windows operating systems

## Introduction

This section provides system requirements and procedures for installing and removing the HP LaserJet printing system software for other supported operating system than Windows. It also provides information about font support and system modifications. Supported operating systems include:

- Macintosh
- IBM OS/2

## System Requirements

System requirements necessary to install and use the HP LaserJet printing system software on each supported operating system are listed below.

### Macintosh

- 68-kilobyte processor
- Macintosh OS 7.5.3 or later
- 16 MB RAM
- 20 MB available disk space

### IBM OS/2

- Pentium processor
- 32 MB RAM (required for OS/2)
- 5 MB available disk space (required for driver)

## Macintosh

### Macintosh component descriptions

The printer includes the following software for Macintosh computers.

PPDs (Mac OS 8.6 to 9.x and Mac OS X classic)

## HP LaserJet PPDs

These PS printer-definition files for HP LaserJet products are installed to the Printer Descriptions folder, which is in the Extensions folder within the System folder.

PPDs, in combination with the LaserWriter driver, provide access to the printer features and allow the computer to communicate with the printer. An installation program for the PPDs is provided on the printing software CD-ROM.

For Mac OS 8.6 to 9.x, the Apple LaserWriter 8 driver must be installed to use the PPD file. Use the Apple LaserWriter 8 driver that came with your Macintosh. For Mac OS X, use Print Center to print.

## PDEs (Mac OS X)

Printer Dialog Extensions (PDEs) are code plug-ins that provide access to printer features, such as number of copies, duplexing, and quality settings. An installation program for the PDEs and other software is provided on the printing software CD-ROM.

## HP LaserJet Utility

This Hewlett-Packard printer utility is installed to the HP LaserJet folder in Macintosh OS 8.6 to 9.1 Macintosh systems. It provides configuration and management support for PS and PCL printers.

HP LaserJet Utility allows control of features that are not available in the driver. The illustrated screens make selecting printer features from the Macintosh computer easier than ever. Use the HP LaserJet Utility to do the following:

- customize the printer's control panel messages.
- name the printer, assign it to a zone on the network, download files and fonts, and change most of the printer settings.
- set a password for the printer.
- From the computer, lock out functions on the printer's control panel to prevent unauthorized access. (See the printer software help.)

## Installation notes

This text file contains important information about product features, instructions for installing the printing-system software, and technical assistance.

## Online Help

This HTML-based help system replaces the Apple Guide help system provided with earlier HP printers. The help system can be viewed through a browser or in the Macintosh OS Help Center.

## HP Auto Setup Utility

This utility is installed to the Startup Items folder of Macintosh OS 7 and newer Macintosh systems. It provides assistance to set up a new printer, then moves itself to **Trash**.

## Screen fonts

These screen fonts are available only for Macintosh computers and Macintosh compatibles. The screen fonts match your printer fonts, allowing you to see on screen how your printed page will look.

## Font support

To ensure that you can use all installed fonts with the HP LaserJet product, the Macintosh printing system includes the standard 35 screen fonts in 11 families:

- Avant Garde
- Helvetica Narrow
- Times
- Bookman
- New Century Schoolbook
- Zapf Chancery
- Courier
- Palatino
- Zapf Dingbats
- Helvetica
- Symbol

The Macintosh printing system also includes the HP 45 XPS font families:

- Clarendon Condensed Bold
- Symbol
- Albertus Medium
- Coronet
- Times New Roman
- Antique Olive
- Courier
- Univers
- Arial
- Garamond
- Univers Condensed
- CG Omega
- Letter Gothic
- Wingdings
- CG Times
- Marigold

The following bitmap screen fonts reside on the HP LaserJet product:

- ITC Avant Garde Gothic Book
- Helvetica
- Palatino
- ITC Avant Garde Gothic Book Oblique
- Helvetica Bold
- Palatino Bold
- ITC Avant Garde Gothic Demi
- Helvetica Bold Oblique
- Palatino Bold Italic
- ITC Avant Garde Gothic Demi Oblique
- Helvetica Oblique

- Palatino Italic
- ITC Bookman Demi
- Helvetica Narrow
- Symbol
- ITC Bookman Demi Italic
- Helvetica Narrow Bold
- Times Bold
- ITC Bookman Light
- Helvetica Narrow Bold Oblique
- Times Bold Italic
- ITC Bookman Light Italic
- Helvetica Narrow Oblique
- Times Italic
- Courier
- New Century Schoolbook Bold
- Times Roman
- Courier Bold
- New Century Schoolbook Bold Italic
- ITC Zapf Chancery Medium Italic
- Courier Bold Oblique
- New Century Schoolbook Italic
- ITC Zapf Dingbats
- Courier Oblique
- New Century Schoolbook Roman

The following fonts are resident on all HP LaserJet products, but can be used by Macintosh platforms only by installing additional screen fonts. You can either use these screen fonts directly from the HP LaserJet software CD browser, or obtain them from the HP Web site at <http://www.hp.com/go/lj9000> CD-ROM.

- Albertus Extra Bold
- CG Times Italic
- Marigold
- Albertus Medium
- Clarendon Condensed Bold
- Symbol
- Antique Olive
- Coronet
- Times New Roman
- Antique Olive Bold
- Courier
- Times New Roman Bold
- Antique Olive Italic
- Courier Bold
- Times New Roman Bold Italic
- Arial Courier Bold Oblique



- Times New Roman Italic
- Arial Bold
- Courier Italic
- Univers Bold
- Arial Bold Italic
- Garamond Antiqua
- Univers Bold Italic
- Arial Italic
- Garamond Halbfett
- Univers Condensed Bold Italic
- CG Omega
- Garamond Kursiv
- Univers Condensed Medium
- CG Omega Bold
- Garamond Kursiv Halbfett
- Univers Condensed Medium Italic
- CG Omega Bold Italic
- Letter Gothic
- Univers Medium
- CG Omega Italic
- Letter Gothic Bold
- Univers Medium Italic
- CG Times
- Letter Gothic Italic
- Univers Italic
- CG Times Bold
- CG Times Bold Italic
- Wingdings
- CG Times Bold Italic

## Installing the Macintosh printing system

On a Macintosh-compatible computer, the installation procedures are the same for a network administrator, a network client, and a single user. Install the software on any computer with access rights to the printer.

### Note

If the computer is connected to the product by a LocalTalk (Printer Port) or EtherTalk connection, the AppleTalk (or Network) control panel must be configured for the correct connection to communicate with the product.

The HP LaserJet product must be set up, connected to the computer, and turned on before the software is installed.

Macintosh OS systems do not support parallel connections. You must use a USB connection for a direct connection to a computer running Macintosh OS.

In the following instructions, “XXXX” represents the HP LaserJet product model number.

The Macintosh partition contains an installer program for each language. Find the language appropriate for the operating system being used, and use the installer program for that language.

## To install the HP LaserJet printer software for Macintosh OS

- Step 1 Insert the CD-ROM that came with the Macintosh product software into the CD-ROM drive.

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### Note

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If the CD screen does not open automatically, double-click the CD-ROM icon on the desktop to open the CD-ROM window.

- Step 2 Open the HP LaserJet Installers folder. Find the **Installer** icon for the appropriate language. Double-click the **Installer** icon to launch the Installer. In the opening dialog, click **Continue**.
- Step 3 The main **Installer** dialog box appears. Click **Install** and then follow the instructions on the screen to complete the software installation.
- Step 4 When software installation is complete, click **Restart**.
- Step 5 Run the Apple Desktop Printer Utility.
- Step 6 Click **HP Printer (USB)** and then click **OK**.
- Step 7 Click **Change** in the USB Printer Selection area.
- Step 8 Click **HP Printer (USB)** and then click **OK**.
- Step 9 Click **Auto Setup**. This attempts to match a PPD file and USB driver to your printer. If this fails, click **Change**, scroll through the list, click **HP LaserJet XXXX**, and then click **Select**.
- Step 10 Click **Create**.

## Uninstalling the Macintosh printing system

To uninstall the Macintosh Printing System, drag the PPDs and the unwanted component(s) to **Trash**.

### In-box disk layout

The Macintosh Printing System consists of one file: the HP LaserJet Installer - Integrated installer program.

## Folders and files added through installation of the HP LaserJet software (Macintosh OS)

The tables in the following sections detail the changes to your system as new folders and files are added when the HP LaserJet product software is installed on Macintosh OS systems.

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### Note

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This listing does not include temporary directories and files that are created, and then deleted, during the installation process.

In the following listing, "MACINTOSH HD" indicates the drive on which the software was installed.

## Macintosh (Macintosh OS) installation

This section provides information about the various installation dialog box sequences for the Macintosh operating system.

### Main Install dialog box sequence

This section provides information about the Macintosh installation dialog box sequence for the Easy Install (the typical installation option).



**Figure 69.** hp LaserJet for Macintosh installer splash screen dialog box

**Table 46.** hp LaserJet for Macintosh installer splash screen dialog box text strings

Title of dialog box	Text in dialog box	User Options and Descriptions
Splash screen	HP LaserJet for Macintosh	Click <b>Continue</b> to open the <b>HP LaserJet Installer</b> dialog box.
[This title does not appear in the dialog box.]	Continue... [button]	



**Figure 70.** HP LaserJet Installer dialog box (easy install)

**Table 47.** HP LaserJet Installer dialog text strings (easy install)

Title of dialog box	Text in dialog box	User Options and Descriptions
HP LaserJet Installer	<p>Easy Install [drop-down menu]</p> <p>Click the <b>Install</b> button to install:</p> <ul style="list-style-type: none"> <li>• Printer Descriptions</li> <li>• HP LaserJet Utility</li> <li>• Installation Notes</li> <li>• ColorSync Profiles</li> </ul> <p>Disk space available: [conditional]</p> <p>Approximate disk space needed: [conditional]</p> <p>The folder "HP LaserJet Folder" will be created on the disk "Macintosh HD"</p> <p>Select Folder [button]</p> <p>Quit [button]</p> <p>Install [button] (default option)</p>	<p>If you want to install the files in a location other than the default "Macintosh HD," click <b>Select Folder</b> to specify a location.</p> <p>You can also choose a <b>Custom installation</b> option from the drop-down menu at upper left.</p> <p>Click the <b>Read Me</b> button to open the Installer readme file.</p> <p>Click the <b>Install</b> button to start the installation on the selected disk</p> <p>Click the <b>Quit</b> button to quit the Installer without making changes to the system.</p>



Figure 71. HP LaserJet Installer dialog box (custom install)

**Table 48. HP LaserJet Installer dialog text strings (custom install)**

Title of dialog box	Text in dialog box	User Options and Descriptions
HP LaserJet Installer	Custom Install [drop-down menu]	Select the install location using the <b>Select Folder</b> option (if the desired location is different from "Macintosh HD").
	Printer Descriptions	
	HP LaserJet Utility	Select available components to install by using the check boxes in the list.
	Installation Notes	Click the <b>Read Me</b> button to open the Installer readme file.
	ColorSync Profiles	
	HP LaserJet Help	Clicking <b>Install</b> starts the installation on the selected disk.
	LaserJet Printer Help	Click the <b>Quit</b> button to quit the Installer without making any changes to the system.
	USB Components	
	Disk space available: [conditional]	
	Approximate disk space needed: [conditional]	
	The HP LaserJet Folder will be created on the disk "Macintosh HD."	
	Select Folder [button]	
	Quit [button]	
	Install [button] [default option]	

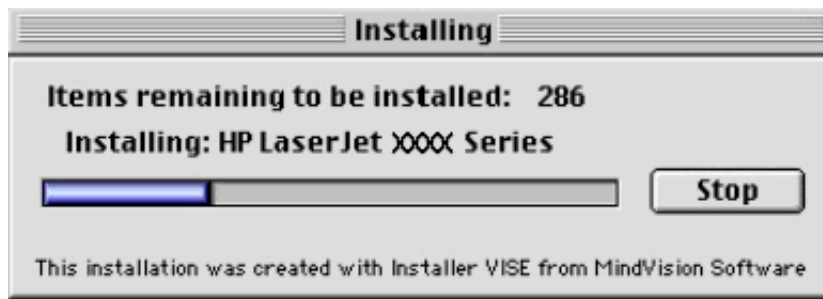


Figure 72. Installing dialog box

Table 49. Installing dialog text strings

Title of dialog box	Text in dialog box	User Options and Descriptions
Installing	<p>Items remaining to be installed: [conditional number]</p> <p>Installing: HP LaserJet XXXX Series</p> <p>Stop [button]</p>	<p>This dialog box shows installation progress. No action is required unless you wish to stop the installation. Click the <b>Stop</b> button to interrupt the install file copy process.</p>



Figure 73. Installation was successful dialog box

Table 50. Installation successful dialog text strings

Title of dialog box	Text in dialog box	User Options and Descriptions
[This untitled dialog box begins with the words "Installation was successful."]	<p>Installation was successful. If you are finished, click <b>Quit</b> to leave the Installer. If you want to perform additional installations, click Continue.</p>	<p>Click the <b>Quit</b> button to exit the Installer. The Printer Setup Assistant opens.</p> <p>Click the <b>Continue</b> button to return to the HP LaserJet Installer.</p>

Printer setup using AppleTalk Chooser

This section provides information about installing the printer using the AppleTalk Chooser.

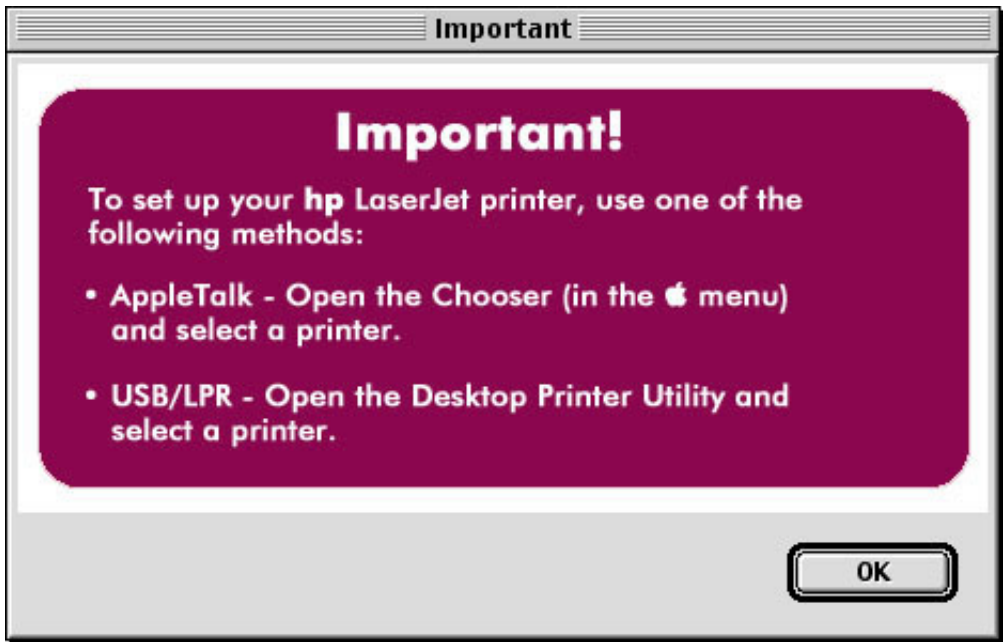


Figure 74. Important! dialog box

Table 51. Important! dialog box text strings

Title of dialog box	Text in dialog box	User Options and Descriptions
Important!	<p>To set up your HP LaserJet printer, use one of the following methods:</p> <p>AppleTalk - Open the Chooser (in the [Apple icon] menu) and select a printer.</p> <p>USB/LPR - Open the Desktop Printer Utility and select a printer.</p>	<p>Click <b>OK</b>, and then continue installing the printer using either the AppleTalk Chooser, or USB/LPR.</p>

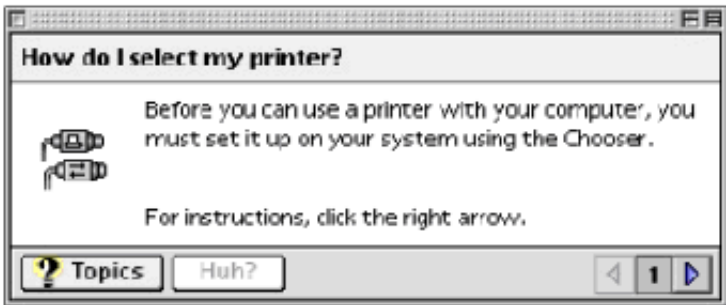


Figure 75. How do I select my printer? dialog box



**Table 52. How do I select my printer? dialog text strings**

Title of dialog box	Text in dialog box	User Options and Descriptions
How do I select my printer?	<p>For instructions, click the right arrow.</p> <p>Topics [button]</p> <p>[An eight-panel Apple Guide sequence describes how to gain access to the Macintosh Chooser and how to select and set up the printer.]</p>	This is a standard Macintosh OS help sequence.

### HP LaserJet Screen Fonts Installer dialog box sequence

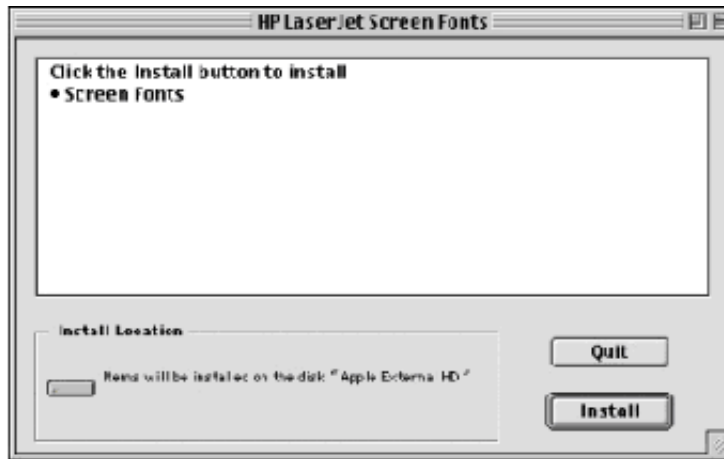
This section provides information about the installation dialog box sequence for the HP Screen Font Installer.



**Figure 76. HP LaserJet Screen Fonts splash screen dialog box**

**Table 53. HP LaserJet Screen Fonts splash screen dialog text strings**

Title of dialog box	Text in dialog box	User Options and Descriptions
HP LaserJet Screen Fonts	<p>HP LaserJet Screen Fonts</p> <p>[The phrase "Screen Fonts" is repeated in multiple scripts and languages.]</p> <p>Continue [button]</p>	Click the <b>Continue</b> button to open the <b>HP LaserJet Screen Fonts</b> dialog box.



**Figure 77.** HP LaserJet Screen Fonts installer dialog box

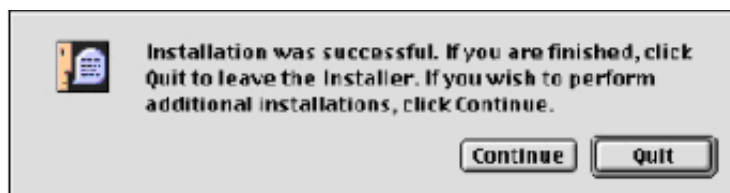
**Table 54.** HP LaserJet Screen Fonts installer dialog text strings (1 of 2)

Title of dialog box	Text in dialog box	User Options and Descriptions
HP LaserJet Screen Fonts	Click the <b>Install</b> button to install:  Screen Fonts  Items will be installed on the disk "Apple External HD"  Quit [button]  Install [button] (default option)	Click the <b>Install</b> button to start the installation.  Click the <b>Quit</b> button to quit the Installer without making changes to the system.

When you click **Install**, an installation progress bar dialog box briefly appears. The following table details the contents of that dialog box.

**Table 55.** HP LaserJet Screen Fonts installer dialog text strings (2 of 2)

Title of dialog box	Text in dialog box	User Options and Descriptions
Installing	Items remaining to be installed: [conditional number]  Stop [button]	Click the <b>Stop</b> button to interrupt the install file copy process.



**Figure 78.** Installation was successful dialog box

**Table 56.** Installation was successful dialog text strings

Title of dialog box	Text in dialog box	User Options and Descriptions
[This untitled dialog box begins with the words "Installation was successful."]	Installation was successful. If you are finished, click <b>Quit</b> to leave the Installer.  If you want to perform additional installations, click Continue.	Click the <b>Quit</b> button to exit the Installer.  Click the <b>Continue</b> button to return to the HP LaserJet Screen Fonts installer.

## IBM OS/2 Warp 3.0 and greater

### OS/2 installation instructions

#### Note

Installation procedures differ depending upon whether or not a printer object does or does not exist on the OS/2 Desktop being used. Use the instructions that match the desktop.

#### Installing a printer in OS/2 when printer object is missing

Use this procedure when a printer object does not appear on the computer desktop. To create a printer object and install a printer driver, follow these steps:

#### Note

Use this procedure if the OS/2 desktop does not have a printer object. A system can have this configuration if no printer was selected during OS/2 installation, or if all the print objects have been deleted from the desktop.

- Step 1 Open the templates folder that is located in OS/2 system folder after OS/2 installation.
- Step 2 Click the **Printer** template. Press and hold the right mouse button.
- Step 3 Drag the template to Desktop.
- Step 4 Release the right mouse button.
- Step 5 Type a name for the printer in the **Name** field.
- Step 6 Select a port to which the printer is connected.
- Step 7 Click **Install new printer driver**. A window appears with a list of the printer drivers that are shipped with O/S2.

- Step 8 Click **Other printer driver**.
- Step 9 Point to the downloaded printer drivers.
- Step 10 Click **Refresh**. Wait until the window fills with printer drivers.
- Step 11 Select a driver by clicking the left mouse button over the desired driver.
- Step 12 Click **Install**.

### Installing a printer in OS/2 with pre-existing printer object on desktop

To install a new printer driver using an existing printer object, use the following procedure:

#### Note

If the 16-bit HP LaserJet driver is installed on a system, delete it before installing this driver.

Use these directions if a printer object exists on the OS/2 desktop, but you do not have the correct printer driver installed on the system. This could happen if a different printer has been added to the system.

- Step 1 Select the **Printer** object using the right mouse button.
- Step 2 Click **Settings**.
- Step 3 Click the **Printer Driver** tab.
- Step 4 Select one of the **Printer Driver** objects using the right mouse button.
- Step 5 Click **Install**.
- Step 6 Click **Other OS/2 printer driver**.
- Step 7 Point to the downloaded printer drivers.
- Step 8 Click the **Refresh** button. Wait until the window fills with printer drivers.
- Step 9 Select a driver by clicking the left mouse button over the desired driver.
- Step 10 Click the **Install** button.

Additional information about the OS/2 drivers is included in the readme files that come with each driver.

## Font support

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**Note**

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Fonts can be downloaded to the printer by using the Font Installer feature of the printer driver.

- Albertus
- CG Times Italic
- Symbol
- Albertus Extra Bold
- Clarendon Condensed
- Times New Roman
- Antique Olive· Coronet
- Times New Roman Bold
- Antique Olive Bold
- Courier
- Times New Roman Bold Italic
- Antique Olive Italic
- Courier Bold
- Times New Roman Italic
- Arial
- Courier Bold Italic
- Univers
- Arial Bold
- Courier Italic
- Univers Bold
- Arial Bold Italic
- Garamond Antiqua
- Univers Bold Italic
- Arial Italic
- Garamond Halbfett
- Univers Italic
- CG Omega
- Garamond Kursiv
- Univers Condensed
- CG Omega Bold
- Garamond Kursiv Halbfett
- Univers Condensed Bold
- CG Omega Bold Italic
- Letter
- Univers Condensed Bold Italic
- CG Omega Italic
- Letter Bold
- Univers Condensed Medium Italic
- CG Times
- Letter Italic
- Wingdings

- CG Times Bold
- Line Printer
- CG Times Bold Italic
- Marigold

## Changing a printer driver in the printer object

Once both the printer object and the printer driver have been installed, the correct printer driver should be selected in the print object. This might also be necessary if using different printer drivers with a single print object. To change to a different printer driver:

1. Right-click the **Printer** object.
2. Click **Settings**.
3. Click the **Printer Driver** tab.
4. Double-click the **Titlebar** icon.

The printer object is now set up to use a different printer driver. To customize the settings for this printer driver, see "Changing the printer properties" or "Changing the job properties."

## Changing the printer properties

Printer properties describe how a particular printer is physically set up. Examples of printer properties include the amount of memory in a printer, forms defined by the printer, forms associated with the printer paper trays, and installed printer patterns.

To set or change printer properties:

- Step 1 Point to the Printer object. Right-click the **Printer** object.
- Step 2 Click **Settings**.
- Step 3 Click the **Printer Driver** tab.
- Step 4 Select the printer driver, and then right-click the mouse button.
- Step 5 Click **Settings**.
- Step 6 Change the properties to match the printer setup.
- Step 7 Double-click the **Titlebar** icon.

The printer object is now set up to print a job. For information about how to print a job, see the OS/2 tutorial or the information folder for information about printing.

## Changing the job properties

Job properties describe how a particular print job is printed. Examples of job properties include number of copies, print resolution, print quality, and orientation (portrait or landscape). Applications generally allow the selection of a printer object, and they allow you to change the job properties associated with a particular job by selecting setup or options buttons. Under certain conditions, it is appropriate to change job properties outside of an application, such as when performing drag-and-drop printing.

To change the default job properties associated with a printer object outside of an application:

- Step 1 Right-click the **Printer** object.
- Step 2 Click **Settings**.
- Step 3 Click the **Job Properties** tab.
- Step 4 Change the properties.
- Step 5 Click **Save**.

The default job properties associated with a printer object are now set up. For more information about how to print a job, see the OS/2 tutorial or the information folder.





# 6 Engineering Detail

## Introduction

This section presents engineering detail for the following topics:

- Digital Sending Config Applet
- Enterprise AutoConfiguration (Internal)
- Media attributes
- Network Administrator Software
- Novell NetWare (Internal)
- Printer Status and Alerts

## Digital Sending Config Applet

The Digital Sending Config Applet provides an interface between the digital sending functions of the HP LaserJet MFP and your computer using a Web browser. To gain access to the Digital Sending Config Applet, open your Web browser and type your product TCP/IP address to open HP Web Access. Click the **Settings** tab, then click **Digital Sending** in the menu on the left.

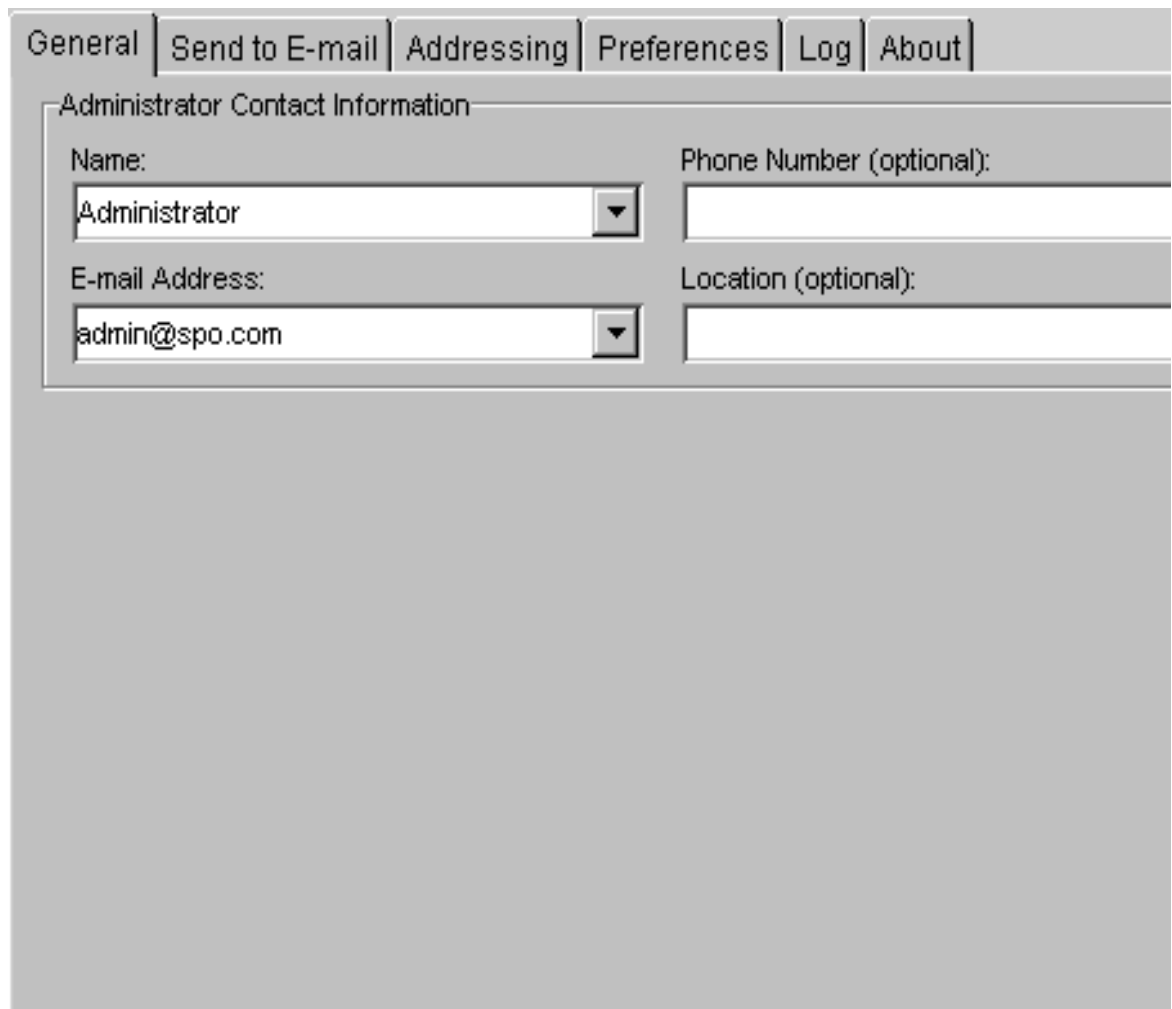
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### Note

Some browsers require downloading Java libraries from the Sun Web site.

## General tab

The fields in the **General** tab help to identify the administrator for this MFP. When used with HP Digital Sending Software version 3.0, this tab has options for delivering administrative alerts to this person.



The screenshot shows a software window titled "Digital Sending Config Applet" with several tabs: "General", "Send to E-mail", "Addressing", "Preferences", "Log", and "About". The "General" tab is selected. Inside this tab, there is a group box labeled "Administrator Contact Information". This group box contains four input fields arranged in two rows. The first row has "Name:" followed by a dropdown menu showing "Administrator" and "Phone Number (optional):" followed by an empty text box. The second row has "E-mail Address:" followed by a dropdown menu showing "admin@spo.com" and "Location (optional):" followed by an empty text box.

**Figure 79.** Digital Sending Config Applet — General tab

The **Administrator Contact Information** group box contains the following fields:

- Name:
- E-mail Address:
- Phone Number (optional):
- Location (optional):

## Send to E-mail tab

The **Send to E-mail** tab is shown in the following illustration.

The screenshot shows the 'Send to E-mail' tab of the Digital Sending Config Applet. The interface includes a tabbed menu at the top with 'Send to E-mail' selected. Below the menu, the 'Enable Send to E-mail' checkbox is checked. The 'E-mail Settings' section contains the 'Use Service Settings' checkbox, which is unchecked. The 'SMTP Settings' section features a 'Server's IP Address' field with four 'xx' placeholders and 'Find Server' and 'Test' buttons. The 'Default 'From:' Address' section has 'E-mail Address' and 'Display Name' dropdown menus, along with an unchecked checkbox to prevent MFP users from changing the default 'From:' address. The 'Default Subject' field is set to 'Mail from...' with an 'Advanced...' button. At the bottom of the window are 'Apply' and 'Help' buttons.

**Figure 80.** Digital Sending Config Applet — Send to E-mail tab

Click the **Enable Send to E-mail** check box to use the feature.

### Note

You will not be able to exit from this tab if the SMTP server TCP/IP address is not configured.

Select the **Use Service Settings** check box to allow Digital Sending Software version 3.0 to override these settings.

The **Server's IP Address** field in the **SMTP Settings** group box shows the server TCP/IP address, which determines the network address of the e-mail gateway. DNS names are not supported.

Click the **Find Server** button to acquire SMTP gateway information in one of two ways:

1. Broadcast a predetermined query on the local subnet that MFP devices listen for.
2. If DNS is configured, query the DNS server for the "mail exchanger" (mx) record, which defines where SMTP network traffic is routed.

Select the **Test** button to verify the e-mail server at the configured address in one of two ways:

1. Start an SMTP conversation on TCP port 25 with the HELO command.

2. Attempt to send an e-mail by using the MAIL FROM command. This verifies that the gateway will accept messages.

Use the **Default 'From': Address** group box to create default settings for e-mail sent from your MFP.

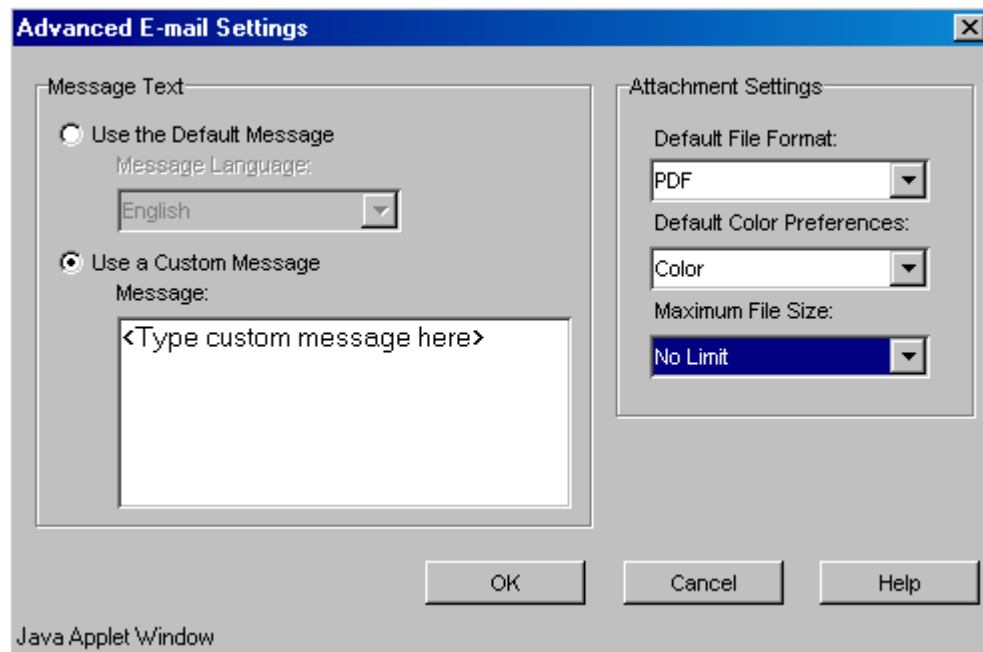
The SMTP protocol will not allow a message to be sent if it does not contain a return address. The address in the **E-mail Address:** field under **Default 'From': Address** will be added to the **From:** field. It can be overridden by typing in a different address.

Text typed in the **Display Name:** box is the alias that appears in the **From:** field instead of the e-mail address.

Text typed in the **Default Subject:** box will automatically be populated in the **Subject:** field. It can be overridden by typing in different text.

## Advanced E-mail Settings

To gain access to these settings, click the **Advanced...** button on the **Send to E-Mail** tab.



**Figure 81.** Digital Sending Config Applet - Advanced E-mail Settings

Information in the **Message Text** group box defines the content of the e-mail message that includes the scanned attachment. If you click **Use Default Message**, the **Message Language** drop-down menu becomes available. If you click **Use a Custom Message**, you can type your own message.

Information in the **Attachment Settings** group box determines the default settings for the scanned attachment:

- Default File Format
- Default Color Preferences
- Maximum File Size

## Addressing tab

The **Addressing** tab is shown in the following illustration.

**Figure 82.** Digital Sending Config Applet — Addressing tab

Select the **Enable Network Address Book** check box to use an LDAP database for address queries.

An address book is stored locally on the MFP and is available to all users. When an address is typed at the control panel, the MFP queries the user about whether to save the address.

Click the **Clear Local Address Book** button to delete all addresses from the local address book.

### Note

This address book is not accessible or editable from the legacy Address Book Manager application.

The **Network Address Book Settings (LDAP)** group box includes controls for configuring network settings for the address book.

Click the **Find Server** button to acquire LDAP servers on the network by broadcasting a predetermined query on the local subnet that MFP devices listen for.

You can type the network address of the LDAP server in the **LDAP Server:** field. DNS names are not supported.

Click the **Find Settings** button to determine LDAP database search root by using the following methods:

1. Connecting to the LDAP database at the configured port and querying for the “base dn” record.
2. Querying for address records using various values for the search root, including the null search value and values discovered from the base dn record.
3. Querying for e-mail and fax records using standard LDAP attribute values.

In the **Log-on method:** field, the settings are:

- **Anonymous** — no username or password is submitted to the LDAP server with the query.
- **Simple** — the values from the **Username** and **Password** boxes are used to authenticate to the LDAP server. This is not NTLM authentication. The username and password are set up by an administrator for this instance of an LDAP database.

Use the **Search Root** box to indicate where in the LDAP database hierarchy to begin searching for the requested address record.

Use the **Find addresses using...** group box to find addresses according to certain attributes.

Select **Exchange 5.5 Defaults** to use a predefined set of LDAP attribute associations to locate address records. Alternatively, you can select **Custom Look-up** to locate address records with the following customizable attributes:

- **Match attribute...** — Select **UID**, **CN**, **SN**, **givenName**, or type the value.
- **to obtain e-mail address from...** — Select **rfc822Mailbox**, **email**, or type the value.
- **to obtain fax number from...** — Select **FacsimileTelephoneNumber** or type the value.

The user name you type at the control panel is used to find matches for records in the LDAP database that are filed under the **UID**, **CN**, **SN**, or **givenName** attributes. When a match is found, the email and fax addresses are completed by using the addresses stored in the attributes named in the **to obtain e-mail address from...** and **to obtain fax number from...** fields.

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**Note**

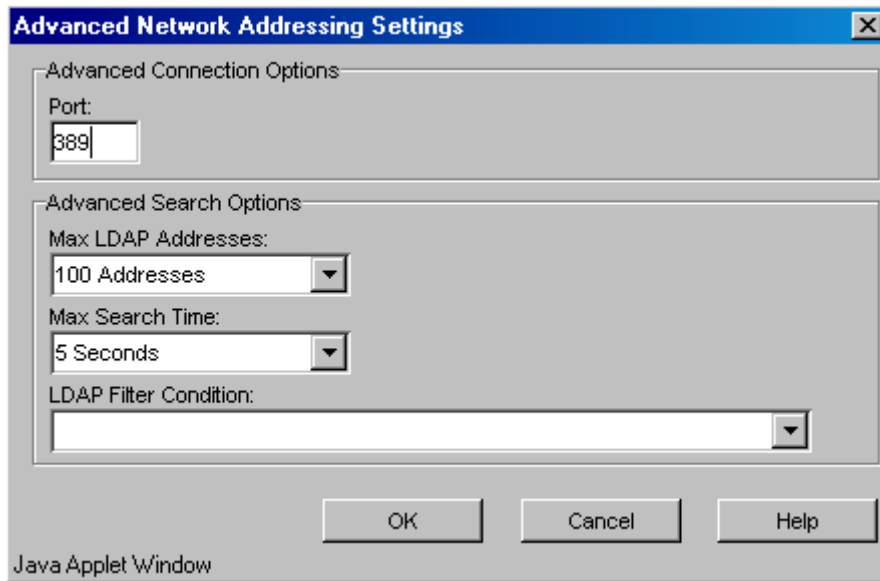
Fax numbers are supported only if you are using Digital Sending Software version 3.0.

Select the **LDAP Database is Alphabetized** check box to sort the records that are returned from an LDAP search. This is required for automatic completion.

Click the **Test** button to query the LDAP database with the configured look-up options and obtain any records.

## Advanced Network Addressing Settings

The **Advanced Network Addressing Settings** mini-tab is shown in the following illustration.

The image shows a Java Applet window titled "Advanced Network Addressing Settings". It contains two main sections: "Advanced Connection Options" and "Advanced Search Options". In the "Advanced Connection Options" section, there is a "Port:" label followed by a text box containing the value "389". In the "Advanced Search Options" section, there are three controls: "Max LDAP Addresses:" with a dropdown menu showing "100 Addresses", "Max Search Time:" with a dropdown menu showing "5 Seconds", and "LDAP Filter Condition:" with a text box and a dropdown arrow. At the bottom of the window are three buttons: "OK", "Cancel", and "Help". The text "Java Applet Window" is visible in the bottom left corner.

**Figure 83.** Digital Sending Config Applet - Advanced Network Addressing Settings

Use the **Port:** box under **Advanced Connection Options** to determine the TCP port through which the MFP communicates with the LDAP server.

Use the boxes under **Advanced Search Options** to set the following controls:

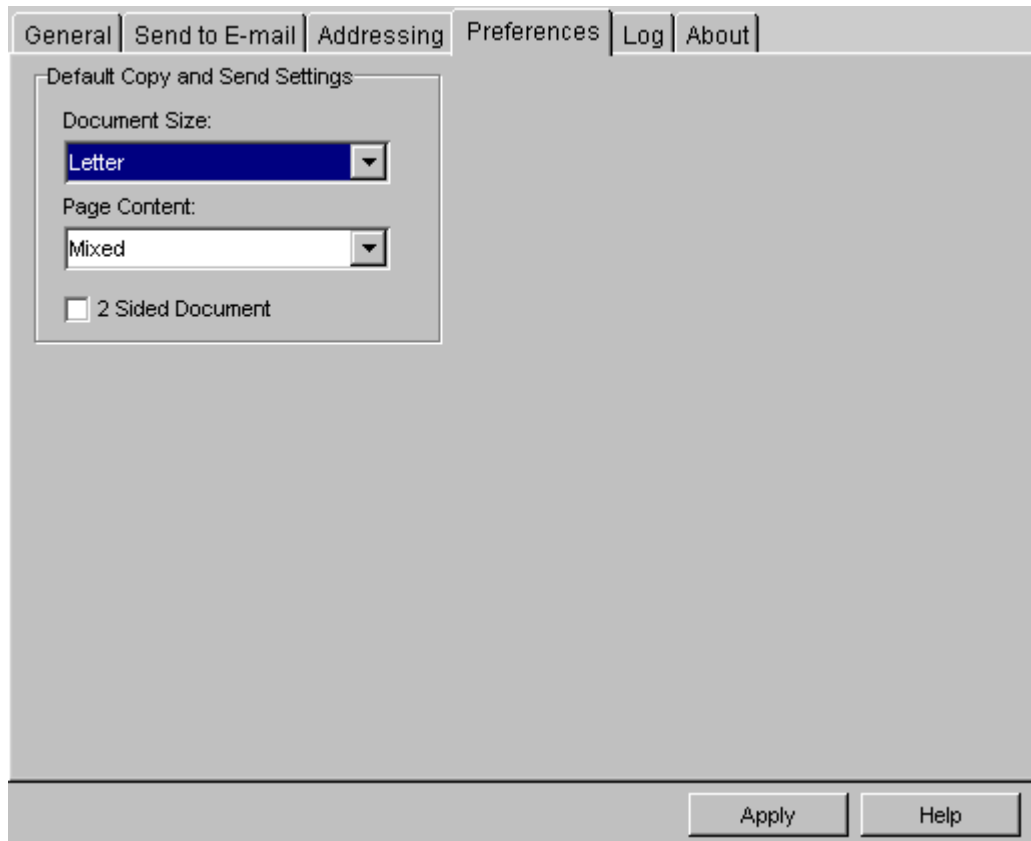
**Max LDAP Addresses:** This value determines how many records are returned in a single database query.

**Max Search Time:** This value determines the timeout interval for a database query.

**LDAP Filter Condition:** Additional search conditions must be in the form of a valid LDAP filter. For example, "L = any city, any state, any country" limits the search to addresses located in that city.

## Preferences tab

The **Preferences** tab is shown in the following illustration.



**Figure 84.** Digital Sending Config Applet — Preferences tab

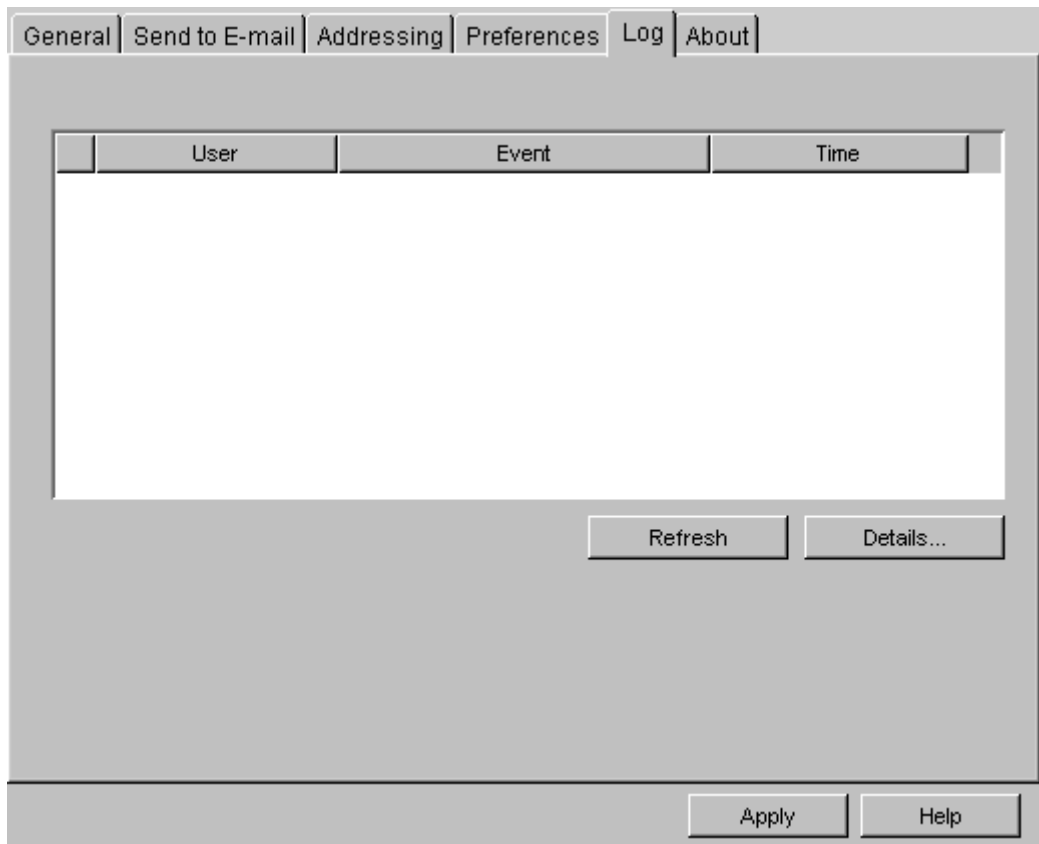
On the **Preferences** tab, use **Default Copy and Send Settings** to set the default settings for document size, expected page content, and duplexing:

- Document Size
- Page Content
- **2 Sided Document** check box



## Log tab

The **Log** tab is shown in the following illustration.



**Figure 85.** Digital Sending Config Applet — the Log tab

Click **Refresh** to refresh log events.

Click **Details** to view additional details about the selected log event.

## About tab

The **About** tab is shown in the following illustration.



**Figure 86.** Digital Sending Config Applet — The About tab

The **About** tab shows the MFP firmware version.

## E-mail Servers That Function as SMTP Gateways

### Exchange 5.5

In Exchange 5.5, the Internet Mail Service (IMS) is responsible for the transfer of SMTP mail. To transfer the mail successfully, the IMS must be configured with a route to another gateway.

### Exchange 2000

Exchange 2000 (IIS5) does not directly support SMTP, but it is installed with IIS5, which does support the SMTP service. Exchange 2000 integrates with Active Directory. It does not have its own data store. Similarly, IIS5 manages the SMTP service for Exchange 2000. You can verify that the SMTP service in Windows 2000 is running by viewing Administrative Tools > Services.

### Sendmail

Sendmail runs as a Unix daemon (service) - In many large networks, as in HP's network, several Exchange servers are routed to a Sendmail gateway, which can serve as a kind of firewall.

## Qmail

Qmail is very similar to Sendmail. Qmail does not accept a 'bare line-feed character' in any of the SMTP content. We have seen several problems with the standalone Digital Sender products because of this. Earlier versions of the DSM 2.x and the 9100C sent messages with bare line feed characters.

## Lotus Domino (Notes)

The SMTP MTA or Message Transfer Agent must be configured in Domino for it to work as an SMTP gateway.

## SMTP Gateway Verification

### Telnet to Port 25

By opening a telnet session and sending an e-mail, you not only verify that you can communicate with the SMTP gateway, you also verify that the SMTP gateway is correctly configured to route Internet e-mail. To fully verify this, you should use an e-mail account outside of the local network - for example, a Hotmail® account.

By verifying that e-mail can be sent, you can rule out any problem with the particular gateway you have configured for the HP LaserJet 9000mfp to use.

### Procedure

You cannot backspace in a telnet session. Any characters that you type will be sent one character at a time to the SMTP gateway, backspaces included. Note also that SMTP is not case-sensitive.

- Step 1 Open a command prompt, type "telnet <smtp gateway> 25", and press Enter (where <smtp gateway> is the fully qualified domain name or IP address of the SMTP gateway) to establish communication with the SMTP gateway on port 25.
- Step 2 Type "help" and the Enter key. Note the different SMTP options that are returned.
- Step 3 To start a conversation with the SMTP gateway, type "HELO <smtp gateway>" and press Enter. Note that the response contains a list of attributes as well as the type of SMTP gateway that you are communicating with.
- Step 4 To initiate the sending of an e-mail, type "mail from: <your e-mail address>" and press Enter
- Step 5 Type "rcpt to: <your e-mail address>" and press Enter.
- Step 6 Type "subject: This is a test message."
- Step 7 Type "data:" and press Enter.
- Step 8 Whatever you type next goes into the body of the message.
- Step 9 To send the message type "." and press Enter.
- Step 10 Type "quit" and press Enter to end the Telnet session.

You should see the test e-mail message in your inbox in a few seconds.

## Lightweight Directory Access Protocol

Lightweight Directory Access Protocol (LDAP) is a directory access service (RFC1777). LDAP stores attribute-based data in hierarchical data structures.

### Common Abbreviations for LDAP Attributes

- Uid, NTDomainAccountName, or SamAccountName: User id
- Cn: Common Name
- Sn: Surname
- Mail or rfc822mailbox: e-mail address
- o: Organization
- dc: Domain Component
- st: State

### E-mail Servers that support LDAP

- If Exchange 5.5 is installed in Windows 2000 with Active Directory, and the Active Directory connector is not configured, both by default enable LDAP. Since both cannot use port 389, one or the other may have been configured for a different port number.
- Windows 2000 Active Directory is also very hierarchical in nature. LDAP is tightly integrated with Active Directory.

#### Note

When using Active Directory, the entire, fully-qualified domain name must be defined using the “DC=” qualifier. For example, for the “City.Company.com” domain name, use “DC=City, DC=Company, DC=com”.

- Sendmail runs in Unix.

More information about open source LDAP can be found at the following URL:

<http://www.openldap.org>

## Enterprise AutoConfiguration (Internal)

Enterprise AutoConfiguration (EAC) makes it possible for a printer driver that is being installed using the Add Printer Wizard or Point and Print to take advantage of HP's bidirectional communication software and AutoConfiguration functionality. This driver can thus be configured with the same settings as the physical configuration of the printer.

**Table 57. Drivers that support Enterprise AutoConfiguration**

Product	Windows 95, 98, Me	Windows NT 4.0	Windows 2000, XP
HP LaserJet 4100mfp	No	PCL 5e and PCL 6 only (version 4.3.2.178 or later)	PCL 5e and 6 only (version 4.3.2.167 or later)
HP Color LaserJet 4550	No	PCL 5e and PCL 6 only (version 4.3.2.178 or later)	PCL 5e and 6 only (version 4.3.2.163 or later)
HP Color LaserJet 8150	No	PCL 5e and PCL 6 only (version 4.3.2.178 or later)	PCL 5e and 6 only (version 4.3.2.163 or later)
HP LaserJet 9000mfp	No	PCL 5e and PCL 6 only (version 4.3.2.178 or later)	PCL 5e and 6 only (version 4.3.2.167 or later)

EAC loads and uses the bidirectional communication component included with the driver only long enough to retrieve the device configuration and will then close down the bidirectional communication.

## Windows NT 4.0, Windows 2000, and Windows XP requirements

The driver entry point used to invoke normal autoconfiguration is DrvPrinterEvent. EAC design requires that the driver call into a “mini-installer” DLL to setup the bidirectional communication infrastructure needed for AutoConfiguration to succeed. Once the driver has completed its existing AutoConfiguration step, it will be required to call back into the mini-installer to clean up. The mini-installer will use an .HPI file to drive the process of installing the bidirectional communication component.

### Driver INF file requirements

The changes required to make EAC work are of two kinds: adding bidirectional communication component files, and adding mini-installer files.

### Adding bidirectional communication component files

The bidirectional communication component that gets installed via Enterprise AutoConfiguration will reside and run from the driver directory (\2 or \3 depending on driver version type.) This is in contrast to the bidirectional communication component that gets installed via the HP Installer, which resides in the System32 directory. This is done for two reasons: a.) It allows the bidirectional communication component to be distributed with the driver in a Point and Print vend scenario (only files in the driver directory are vended), and b) It will allow an independent location from which to run bidirectional communication in the event that there's an incompatible version already on the system.

INF changes:

CopyFiles= HPBF412I\_FILES,AUTOCFG\_FILES,HPAUTO\_FILES

[AUTOCFG\_FILES]

HPNRA.EX\_, HPNRA.EXE

HPBOID.EX\_, HPBOID.EXE

HPBPRO.EX\_, HPBPRO.EXE

HPPAPML0.EX\_, HPPAPML0.EXE

HPBNRAC2.DL\_, HPBNRAC2.DLL

HPBMIAPI.DL\_, HPBMIAPI.DLL

HPBOIDPS.DL\_, HPBOIDPS.DLL

HPBPROPS.DL\_, HPBPROPS.DLL

HPJCMN2U.DL\_, HPJCMN2U.DLL

HPJIPX1U.DL\_, HPJIPX1U.DLL

HPPAPTS0.DL\_, HPPAPTS0.DLL

HPPASNM0.DL\_, HPPASNM0.DLL

[DestinationDirs]

DefaultDestDir=66000

HPBF412I\_FILES=66000

AUTOCFG\_FILES=66000

HPAUTO\_FILES=66000

[SourceDisksFiles.x86]

HPBF412E.DL\_=1

HPBF412F.DL\_=1

HPBF412G.DL\_=1

HPBF412H.DL\_=1

HPBF412I.PM\_=1

HPBF412I.DL\_=1

HPBF412I.HL\_=1

HPBF412J.DL\_=1

HPBF412K.DL\_=1

HPDCMON.DL\_=1

HPBAFD32.DL\_=1

HPBFTM32.DL\_=1

HPNRA.EX\_=1

HPBOID.EX\_=1

HPBPRO.EX\_=1

HPPAPML0.EX\_=1

HPBNRAC2.DL\_=1

HPBMIAPI.DL\_=1

HPBOIDPS.DL\_=1

HPBPROPS.DL\_=1

HPJCMN2U.DL\_=1

HPJIPX1U.DL\_=1

HPPAPTS0.DL\_=1

HPPASNM0.DL\_=1

## Adding mini-installer files

The mini-installer files consist of the mini-installer DLL (always called HPBMINI.DLL for NT-based platforms) and the .INI file that drives the Mini Installation process (which will be named to ensure that any given driver uses the correct file to install the version of bidirectional communication that is being included in the .INF).

CopyFiles=HPBF412I\_FILES,AUTOCFG\_FILES,HPAUTO\_FILES

[HPAUTO\_FILES]

HPBMINI.DL\_, HPBMINI.DLL

<INI File FileName>.HP\_ <INI File FileName>.HPI

[DestinationDirs]

DefaultDestDir=66000  
HPBF412I\_FILES=66000  
AUTOCFG\_FILES=66000  
HPAUTO\_FILES=66000

[SourceDisksFiles.x86]

HPBF412E.DL\_=1  
HPBF412F.DL\_=1  
HPBF412G.DL\_=1  
HPBF412H.DL\_=1  
HPBF412I.PM\_=1  
HPBF412I.DL\_=1  
HPBF412I.HL\_=1  
HPBF412J.DL\_=1  
HPBF412K.DL\_=1  
HPDCMON.DL\_=1  
HPBAFD32.DL\_=1  
HPBFTM32.DL\_=1  
HPNRA.EX\_=1  
HPBOID.EX\_=1  
HPBPRO.EX\_=1  
HPPAPML0.EX\_=1  
HPBNRAC2.DL\_=1  
HPBMAPI.DL\_=1  
HPBOIDPS.DL\_=1  
HPBPROPS.DL\_=1  
HPJCMN2U.DL\_=1  
HPJIPX1U.DL\_=1  
HPPAPTS0.DL\_=1  
HPPASNM0.DL\_=1  
HPBMINI.DL\_=1  
<INI File FileName>.HP\_=1

## Windows 95, Windows 98, and Windows Me requirements

The requirement for Windows 95, Windows 98, and Windows Me platforms are more complicated than the requirements for Windows NT 4.0 and Windows 2000. Because of differences in the design and implementation of device/driver interface (DDI), the driver in this environment is not autoconfigured at the time of install; rather, the features are set the first time the user has the opportunity to open the driver UI or when a print job is started.

## Driver INF file requirements

The changes required to make EAC work are of two kinds: adding bidirectional communication component files, and adding mini-installer files.

### Adding bidirectional communication component files

Whereas NT-based platforms store and run printer drivers from their own directory, Win9x platforms store drivers in the System folder. This causes problems for EAC because an HP Installer based bidirectional communication installation will also be in this directory. We do not want to override any existing bidirectional communication files, but install our own copy and decide whether or not we have to use it based on what's already on the system. For this reason, all of the bidirectional communication specific files in the INF will be uncompressed into temporary filenames by changing the last letter of the extension to a 'T.' The temporary names will be mapped to the actual file names in the mini-installer INI file, and the mini-installer itself will determine what to do with any existing bidirectional communication on the system prior to using the version shipped with the driver.

INF Changes:

CopyFiles=HPBF412I\_FILES,AUTOCFG\_FILES,HPAUTO\_FILES

[AUTOCFG\_FILES]

HPNRA.EX\_, HPNRA.EXT

HPBOID.EX\_, HPBOID.EXT

HPBPRO.EX\_, HPBPRO.EXT

HPPAPML0.EX\_, HPPAPML0.EXT

HPBNRAC2.DL\_, HPBNRAC2.DLT

HPBMIAPI.DL\_, HPBMIAPI.DLT

HPBOIDPS.DL\_, HPBOIDPS.DLT

HPBPROPS.DL\_, HPBPROPS.DLT

HPJCMN2U.DL\_, HPJCMN2U.DLT

HPJIPX1U.DL\_, HPJIPX1U.DLT

HPPAPTS0.DL\_, HPPAPTS0.DLT

HPPASNM0.DL\_, HPPASNM0.DLT

[DestinationDirs]

DefaultDestDir=66000

HPBF412I\_FILES=66000

AUTOCFG\_FILES=66000

HPAUTO\_FILES=66000

[SourceDisksFiles.x86]

HPBF412E.DL\_=1

HPBF412F.DL\_=1

HPBF412G.DL\_=1



HPBF412H.DL\_=1  
HPBF412I.PM\_=1  
HPBF412I.DL\_=1  
HPBF412I.HL\_=1  
HPBF412J.DL\_=1  
HPBF412K.DL\_=1  
HPDCMON.DL\_=1  
HPBAFD32.DL\_=1  
HPBFTM32.DL\_=1  
HPNRA.EX\_=1  
HPBOID.EX\_=1  
HPBPRO.EX\_=1  
HPPAPML0.EX\_=1  
HPBNRAC2.DL\_=1  
HPBMAPI.DL\_=1  
HPBOIDPS.DL\_=1  
HPBPROPS.DL\_=1  
HPJCMN2U.DL\_=1  
HPJIPX1U.DL\_=1  
HPPAPTS0.DL\_=1  
HPPASNM0.DL\_=1

### Adding mini-installer files

The DLL is always called the same thing, but it provides an ID parameter to allow drivers to specify which version of the mini-Installer should be used. We have version tolerance in the mini-installer .INI file by requiring that it be renamed if it changes in any way from it's previous state.

These files also be copied into the driver directory:

```
CopyFiles=HPBF412I_FILES,AUTOCFG_FILES,HPAUTO_FILES
[HPAUTO_FILES]
HPBMINT.DL_, HPBMINT.DLL
HPBMINI.DL_, HPBMINI.DLL
<INI File FileName>.HP_, <INI File FileName>.HPI
[DestinationDirs]
DefaultDestDir=66000
HPBF412I_FILES=66000
AUTOCFG_FILES=66000
HPAUTO_FILES=66000
[SourceDisksFiles.x86]
```

```

HPBF412E.DL_=1
HPBF412F.DL_=1
HPBF412G.DL_=1
HPBF412H.DL_=1
HPBF412I.PM_=1
HPBF412I.DL_=1
HPBF412I.HL_=1
HPBF412J.DL_=1
HPBF412K.DL_=1
HPDCMON.DL_=1
HPBAFD32.DL_=1
HPBFTM32.DL_=1
HPNRA.EX_=1
HPBOID.EX_=1
HPBPRO.EX_=1
HPPAPML0.EX_=1
HPBNRAC2.DL_=1
HPBMIAPI.DL_=1
HPBOIDPS.DL_=1
HPBPROPS.DL_=1
HPJCMN2U.DL_=1
HPJIPX1U.DL_=1
HPPAPTS0.DL_=1
HPPASN0.DL_=1
HPBMINI.DL_=1
HPBMINT.DL_=1
<INI File FileName>.HP_=1

```

## Disabling Enterprise AutoConfiguration

The following steps provide the ability for the .INF to be modified to remove the components necessary for Enterprise AutoConfiguration.

### Note

The .INF file should be modified only by ATS personnel. Please notify the appropriate Tech Marketing Product Manager if you receive a request for EAC to be disabled.

Within the Driver Package INF files for EAC enabled drivers, the Installation section looks something like this:

```

; Installer Sections
[HPBF511I.PMD]
DataSection=HPBF511I_DATA

```

```

; NON EAC Copy Sections - Un-Comment to Disable EAC
;
; CopyFiles=HPBF511I_FILES,LANGMON_FILES
;
; EAC Copy Sections - Comment to Disable EAC
; CopyFiles=HPBF511I_FILES,LANGMON_FILES,,AUTOCFG_FILES,HPAUTO_FILES
DataFile=HPBF511I.PMD

```

In order to disable EAC in a driver, simply comment out the CopyFiles indicated by the instructions in the .INF (the exact contents of the CopyFiles lines may differ from driver to driver).

The installer section for a driver that is not EAC-enabled would look something like this:

```

; Installer Sections
[HPBF511I.PMD]
DataSection=HPBF511I_DATA
; NON EAC Copy Sections - Un-Comment to Disable EAC
;
CopyFiles=HPBF511I_FILES,LANGMON_FILES
;
; EAC Copy Sections - Comment to Disable EAC
; ; CopyFiles=HPBF511I_FILES,LANGMON_FILES,,AUTOCFG_FILES,HPAUTO_FILES
DataFile=HPBF511I.PMD

```

The highlighted lines above show the required change.

The driver installed in this disabled case would result in no extra files being copied to the driver directory, and no AutoConfiguration being performed on that printer.

However, if there is an existing instance of HP bidirectional communication software installed and running on the target system, the **Update Now** button is enabled, and the user can invoke that functionality from the driver UI.

## Media attributes

This section includes the following information about media attributes:

- paper-source commands
- media types and sizes
- PCL 5e and PCL 6 custom paper sizes

### Paper-source commands

The PCL 5e escape sequence for paper source is “Esc&l#H” (the “l” is a lowercase “L” rather than the numeral “1”). See the table 9 for values of #. For example, “Esc& l1H” is the command for tray 2.

The PCL 6 escape sequence for paper source is “ubyte # MediaSource”. See the table 9 for values of #. For example, “ubyte 4 MediaSource” is the command for tray 2.

**Table 58. Paper source commands for the HP LaserJet 9000mfp product**

Paper source	PCL 5e	PCL 6
Tray 1	4	3
Tray 2	1	4
Tray 3	5	5
Tray 4	20	8
Auto Select	7	1
Manual Feed	2	2

## Media types and sizes

The tables in this section provide information about media features, media attributes, and paper-handling constraints for the HP LaserJet products.

### Note

The following table lists the features and attributes of various media listed under the **Size Is:** drop-down menu on the **Paper** tab. The list order can vary, depending on the product and operating system. The list will contain all the sizes shown below, and might contain sizes from other drivers.

**Table 59. Supported features and attributes**

Paper sizes	Width	Height	PCL 5 escape value <sup>1</sup>	PCL 6 <sup>2</sup>	PCL 5 margin x,y portrait	PCL 5 margin x,y landscape	PCL 6 margins
Letter <sup>3</sup>	216 mm (8.5 inches)	279 mm (11.0 inches)	2	"LETTER"	150,100	120,100	100, 100
Legal	216 mm (8.5 inches)	356 mm (14.0 inches)	3	"LEGAL"	150,100	120,100	100, 100
Executive	184 mm (7.25 inches)	267 mm (10.5 inches)	1	"EXEC"	150,100	120,100	100, 100
A5	148 mm (5.83 inches)	210 mm (8.27 inches)	25	"A5"	150,100	120,100	100, 100
A4 <sup>3</sup>	210.0 mm (8.27 inches)	297 mm (11.69 inches)	26	"A4"	142, 100	118, 100	100, 100
A3	297 mm (11.69 inches)	420 mm (16.53 inches)	27	"A3"	142, 100	118, 100	100, 100
Envelope Commercial #10	105 mm (4.12 inches)	241 mm (9.5 inches)	81	"COM10"	150, 100	120, 100	100, 100
Envelope DL (ISO)	110 mm (4.3 inches)	220 mm (8.66 inches)	90	"DL"	142, 100	118, 100	100, 100
Envelope C5 (ISO)	162 mm (6.38 inches)	229 mm (9.01 inches)	91	"C5"	142, 100	118, 100	100, 100
Envelope B5 (ISO)	176 mm (6.93 inches)	250 mm (9.84 inches)	100	"B5 ENV"	142, 100	118, 100	100, 100

**Table 59. Supported features and attributes**

Paper sizes	Width	Height	PCL 5 escape value <sup>1</sup>	PCL 6 <sup>2</sup>	PCL 5 margin x,y portrait	PCL 5 margin x,y landscape	PCL 6 margins
Envelope Monarch	98 mm (3.87 inches)	190 mm (7.5 inches)	80	"MONARCH"	150, 100	120,100	100, 100
11 by 17	279 mm (11.0 inches)	432 mm (17.0 inches)	6	"LEDGER"	100, 100	100, 100	100, 100
B4 (JIS)	257 mm (10.12 inches)	364 mm (14.33 inches)	46	"JIS B4"	100, 100	100, 100	100, 100
B5 (JIS)	182 mm (7.16 inches)	257 mm (10.12 inches)	45	"JIS B5"	142,100	142, 100	100, 100
Double Postcard <sup>4</sup>	148 mm (5.83 inches)	200 mm (7.87 inches)	72	"JPOSTD"	100, 100	100, 100	100, 100
16K <sup>4</sup>	197 mm (7.75 inches)	273 mm (10.75 inches)	17	"ROC16K"	150, 100	100, 100	100, 100
8K <sup>4</sup>	273 mm (10.75 inches)	394 mm (15.5 inches)	19	"ROC8K"	100, 100	100, 100	100, 100
Executive (JIS) <sup>4</sup>	216 mm (8.5 inches)	330 mm (12.99 inches)	18	"JISEXEC"	150, 100	120, 100	100, 100
Custom (leading edge) (other edge)	Minimum: 98 mm (3.87 inches) Maximum: 356 mm (12.28 inches)	Minimum: 312 mm (12.28 inches) Maximum: 470 mm (18.5 inches)	101	5	5	5	5

<sup>1</sup>The PCL 5e escape sequence for paper size is Esc&l#H. The values in this column are for #.

<sup>2</sup>The PCL 6 command for paper size is ubyte array(String)MediaSize. The values in this column are the values for "String".

<sup>3</sup>Long-edge feed (others are short-edge feed).

<sup>4</sup>In Windows NT 4.0, this paper size is treated as a custom size.

<sup>5</sup>For custom sizes, the PCL 6 Wizard specifies actual dimensions - for example, for 8-inch by 9-inch custom size, "real32\_8.000000 9.000000 CustomMediaSize".

The following table shows paper sizes that are supported by HP LaserJet 9000mfp product input devices, trays 1 through 4. Envelopes and labels can only be fed to the product from tray 1.

**Table 60. Input-device supported sizes for the HP LaserJet 9000mfp product**

Standard paper sizes	Tray 1	Tray 2	Tray 3	Tray 4 HCl
Letter <sup>1</sup>	Y	Y	Y	Y
Legal	Y	Y	Y	Y
Executive	Y	Y	Y	Y
A5	Y	Y	Y	N

**Table 60. Input-device supported sizes for the HP LaserJet 9000mfp product**

Standard paper sizes	Tray 1	Tray 2	Tray 3	Tray 4 HCI
A4 <sup>3</sup>	Y	Y	Y	Y
A3	Y	Y	Y	Y
Envelope #10	Y	N	N	N
Envelope DL	Y	N	N	N
Envelope C5	Y	N	N	N
Envelope B5	Y	N	N	N
Envelope Monarch	Y	N	N	N
11 by 17	Y	Y	Y	Y
B4 (JIS)	Y	Y	Y	Y
B5 (JIS)	Y	N	N	N
Double Postcard	Y	N	N	N
16K	Y	N	N	N
8K	Y	N	N	N
Executive (JIS)	Y	N	N	N
Oversize 11.7 by 17.7	Y	N	N	N
Custom	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>3</sup>	Y <sup>3</sup>

<sup>1</sup>Long-edge feed (others are short-edge feed).

<sup>2</sup>This input device supports custom paper sizes that meet the following specifications: for the leading edge, minimum 98 mm (3.87 inches), maximum 312 mm (12.28 inches); for the other edge, minimum 312 mm (12.28 inches), maximum 470 mm (18.5 inches).

<sup>3</sup>This input device supports custom paper sizes that meet the following specifications: for the leading edge, minimum 148 mm (5.83 inches), maximum 297 mm (11.7 inches); for the other edge, minimum 210 mm (8.27 inches), maximum 432 mm (17.0 inches).

The following table lists media sizes that are supported by the following HP LaserJet 9000mfp output devices:

- duplexing unit
- HP 3000-Sheet Stacker
- HP 3000-Sheet Stapler/Stacker

**Table 61. Supported media sizes — duplexing unit, 3000-Sheet Stacker, and 3000-Sheet Stapler/Stacker**

Paper sizes	Duplexing unit	3000-Sheet Stacker		3000-Sheet Stapler/Stacker		
		Face up	Face down	Face up	Face down	Stapling
Letter <sup>1</sup>	Y	Y	Y	Y	Y	Y
Legal	Y	Y	Y	Y	Y	Y
Executive	Y	Y	Y	Y	Y	Y <sup>2</sup>
A5	Y	Y	Y	Y	Y	Y <sup>2</sup>
A4	Y	Y	Y	Y	Y	Y
A3	Y	Y	Y	Y	Y	Y

**Table 61. Supported media sizes — duplexing unit, 3000-Sheet Stacker, and 3000-Sheet Stapler/Stacker (continued)**

Paper sizes	Duplexing unit	3000-Sheet Stacker		3000-Sheet Stapler/Stacker		
		Face up	Face down	Face up	Face down	Stapling
Envelope #10	N	Y	N	Y	N	N
Envelope DL	N	Y	N	Y	N	N
Envelope C5	N	Y	N	Y	N	N
Envelope B5	N	Y	N	Y	N	N
Envelope Monarch	N	Y	N	Y	N	N
11 by 17	Y	Y	Y	Y	Y	Y
B4 (JIS)	Y	Y	Y	Y	Y	Y
B5 (JIS)	N	Y	Y	Y	Y	Y <sup>2</sup>
Double Postcard <sup>3</sup>	N	Y	Y	Y	Y	Y
16K <sup>3</sup>	N	Y	Y	Y	Y	Y
8K <sup>3</sup>	N	Y	Y	Y	Y	Y
Executive (JIS)	N	Y	Y	Y	Y	Y
Oversize <sup>3</sup>	N	Y	Y	Y	Y	Y <sup>4</sup>
Custom <sup>3,5</sup>	N	Y	Y	Y	Y	Y

<sup>1</sup>Letter and A4 paper are both long-edge and short-edge feed. Other paper sizes are short-edge feed.

<sup>2</sup>When the **6-staples** option is selected, the device puts in only 4 or 5 staples, depending on the staple-position calibration.

<sup>3</sup>This is not standard paper. It is supported as a custom size.

<sup>4</sup>The angle staple position and opposite stapled position are not supported.

<sup>5</sup>Paper size 98 mm x 191 (3.86 x 7.52 inches) stays in the printer and does not reach the output device.

The following table lists media sizes that are supported by the HP Multifunction Finisher for the HP LaserJet 9000mfp.

**Table 62. Supported media sizes — HP Multifunction Finisher**

Paper sizes	Multifunction Finisher			
	Stacker bin		Booklet bin	Stapling
	Face up	Face down		
Letter	Y	Y	Y <sup>1</sup>	Y
Legal	Y	Y	Y	Y
Executive	Y	Y	Y	Y
A5	Y	Y	Y	Y
A4	Y	Y	Y <sup>1</sup>	Y
A3	Y	Y	Y	Y
Envelope #10	Y	N	N	N
Envelope DL	Y	N	N	N
Envelope C5	Y	N	N	N
Envelope B5	Y	N	N	N

**Table 62. Supported media sizes — HP Multifunction Finisher (continued)**

Paper sizes	Multifunction Finisher			
	Stacker bin		Booklet bin	Stapling
	Face up	Face down		
Envelope Monarch	Y	N	N	N
11 by 17	Y	Y	Y	Y
B4 (JIS)	Y	Y	Y	Y
B5 (JIS)	Y	Y	Y	Y
Double Postcard	Y	N	Y	Y
16K	Y	Y	Y	Y
8K	Y	Y	Y	Y
Executive (JIS)	Y	Y	Y	Y
Oversize	Y	N	Y	Y
Custom	Y	Y <sup>2</sup>	Y	Y

<sup>1</sup>Short-edge feed only (Letter and A4 paper must be rotated when loading the selected input tray).

<sup>2</sup>All custom sizes from standard input trays can be flipped over and delivered face-down.

## PCL 5e and PCL 6 custom paper sizes

The following table shows custom paper sizes available for the HP LaserJet 9000mfp.

**Table 63. PCL 5e and PCL 6 custom paper sizes**

Tray	Paper sizes	Width	Height
Tray 1	Custom (leading edge)	Minimum: 98 mm (3.87 inches)	Minimum: 191 mm (7.52 inches)
	(other edge)	Maximum: 312 mm (12.28 inches)	Maximum: 470 mm (18.50 inches)
Trays 2 through 4	Custom (leading edge)	Minimum: 148 mm (5.83 inches)	Minimum: 210 mm (8.27 inches)
	(other edge)	Maximum: 297 mm (11.69 inches)	Maximum: 432 mm (17.01 inches)

### Note

The PS driver does not support custom paper sizes.

The following table identifies the media types that are supported by HP LaserJet 9000mfp product input devices, Trays 1 through 4.



**Table 64. Input-device supported media**

Input media types (PS string)	Tray 1	Tray 2	Tray 3	HCI Tray 4
Plain	Y	Y	Y	Y
Preprinted	Y	Y	Y	Y
Letterhead	Y	Y	Y	Y
Transparency	Y	Y	Y	N
Prepunched	Y	Y	Y	Y
Labels	Y	N	N	N
Bond	Y	Y	Y	Y
Recycled	Y	Y	Y	Y
Color	Y	Y	Y	Y
Card stock <sup>1</sup>	Y	Y	Y	Y
Rough	Y	Y	Y	Y

<sup>1</sup>Tray 1 accepts card stock at a maximum weight of 216 g/m2 (60-lb.). Trays 2, 3, and 4 accept cardstock of 16 to 28 lb. weight.

The following table identifies the media types that are supported by these HP LaserJet 9000mfp output devices:

- duplexing unit
- 3000-Sheet Stacker/Stapler
- 3000-Sheet Stapler/Stacker

**Table 65. Output-device supported media**

Output media types	Duplexing unit	3000-Sheet Stacker		3000-sheet stacker		
		Face up	Face down	Face up	Face down	Stapling
Plain	Y	Y	Y	Y	Y	Y
Preprinted <sup>1</sup>	Y	Y	Y	Y	Y	Y
Letterhead <sup>1</sup>	Y	Y	Y	Y	Y	Y
Transparency	N	Y	Y	Y	Y	N
Prepunched	Y	Y	Y	Y	Y	Y
Labels	N	Y	N	Y	N	N
Bond	Y	Y	Y	Y	Y	Y
Recycled	Y	Y	Y	Y	Y	Y
Color	Y	Y	Y	Y	Y	Y
Card stock	Y	Y	N	Y	N	N
Rough <sup>2</sup>	Y	Y	Y	Y	Y	Y

<sup>1</sup>Media must be properly oriented when loaded in selected input trays.

<sup>2</sup>Stapling and/or folding is not recommended.

The following table identifies the media types that are supported by the HP LaserJet 9000mfp Multifunction Finisher.

**Table 66. HP Multifunction Finisher supported media**

Output media types	Multifunction Finisher			
	Stacker bin		Booklet bin	Stapling
	Face down	Face up		
Plain	Y	Y	Y	Y
Preprinted	Y	Y	Y	Y
Letterhead	Y	Y	Y	Y
Transparency	Y	Y	N	N
Prepunched	Y	Y	Y <sup>1</sup>	Y <sup>2</sup>
Labels	Y	N	N	N
Bond	Y	Y	Y	Y
Recycled	Y	Y	Y	Y
Color	Y	Y	Y	Y
Card stock	Y	Y <sup>3</sup>	Y <sup>3,4</sup>	Y <sup>3,5</sup>
Rough	Y	Y	Y	Y

<sup>1</sup>Mechanically feasible, but impractical.

<sup>2</sup>Media must be properly oriented when loaded in selected input trays.

<sup>3</sup>Up to a weight of 199 grams per square meter. Between 199 grams per square meter, and 216 grams per square meter, only face-up delivery is supported.

<sup>4</sup>Only covers are supported.

<sup>5</sup>Stapling is allowed to a maximum weight of 199 grams per square meter.

## Paper Type commands

The PCL 5e escape sequence for paper type is “Esc&n#Wdpapertype”, where “n#” is the number of characters in the paper type plus 1. For example, in the sequence “Esc&n6WdPlain”, “Plain” has 5 letters plus 1 for a total of 6.

For the command to work properly, at least one of the paper trays in the product must be configured in the control panel for the paper type used in the command.

Some paper type options listed in the table below might not be defined in the printer driver.

**Table 67. Paper-type commands**

Esc&	n#	Wd	Paper type
Esc&	5	Wd	Bond
Esc&	10	Wd	Card stock <sup>1</sup>
Esc&	6	Wd	Color
Esc&	7	Wd	Labels
Esc&	11	Wd	Letterhead
Esc&	6	Wd	Plain
Esc&	11	Wd	Preprinted
Esc&	11	Wd	Prepunched

**Table 67. Paper-type commands**

Esc&	n#	Wd	Paper type
Esc&	9	Wd	Recycled
Esc&	6	Wd	Rough
Esc&	13	Wd	Transparency <sup>2</sup>

<sup>1</sup>The correct command for card stock is “Esc&n11WdCard Stock”, with a space between the “d” and the “S”, and with an uppercase “S”.

<sup>2</sup>You must spell out the word “Transparency” in the string, although it is abbreviated on the printer control panel.

## Network Administrator Software

### Novell NetWare (Internal)

This section provides important information about the Novell NetWare environment. It addresses the following topics:

- Determining the server connection (bindery versus NDS)
- Installing the Novell Client (bindery and NDS- Default)
- Using Jet Admin 3.4/4.2 to build Novell queues
- Removing printer objects from the Novell server
- Installing NDPS printer agents
- Making NDPS printer agents
- ZENworks 2.0
- Troubleshooting, notes, problems

#### Determining the server connection (bindery versus NDS) (Internal)

The following procedure is used to determine the type of connection you have with the Novell server if you already have a Novell client installed.

Step 1 Right-click the red Novell icon **N** in the System Tray.

Step 2 In the pop-up menu, click **NetWare Connections...**

A new window appears showing the tree and the server connection (you might be connected to more than one tree or more than one server). The type of connection also appears under Authentication State. If it is a bindery connection, the word “Bindery” appears. Otherwise, the words “Directory Services” appear, indicating that it is an NDS connection.

#### Note

If you are connected in bindery mode, only a server connection appears, not a tree.

#### Installing the Novell Client (bindery and NDS - Default) (Internal)

The Novell Client software can be installed on the client computer using bindery mode or NDS mode. If you click **Typical**, the Novell Client software will install NDS mode automatically. If you click **Custom**, the screen in the following illustration appears after the IP/IPX selection screen.

## Note

The screens that appear when installing the Windows XP client may differ in details from the following illustrations.



**Figure 87.** NDS Login Authenticator dialog box

Click **Bindery (NetWare 3.x)** to install the bindery mode.

## Note

In the bindery mode, any functionality associated with NDS connectivity is lost.

To determine whether a workstation client has been previously loaded as bindery or NDS, do the following:

- Step 1 Right-click the Novell **N** Icon in the taskbar (or Click **Start**, click **Programs**, click **Novell**, and then click **Novell login**).
- Step 2 Click **NetWare Login**.
- Step 3 Click the **Advanced** button to expand the window.
- Step 4 The first tab reads **Bindery** or **NDS**, depending on the installation.

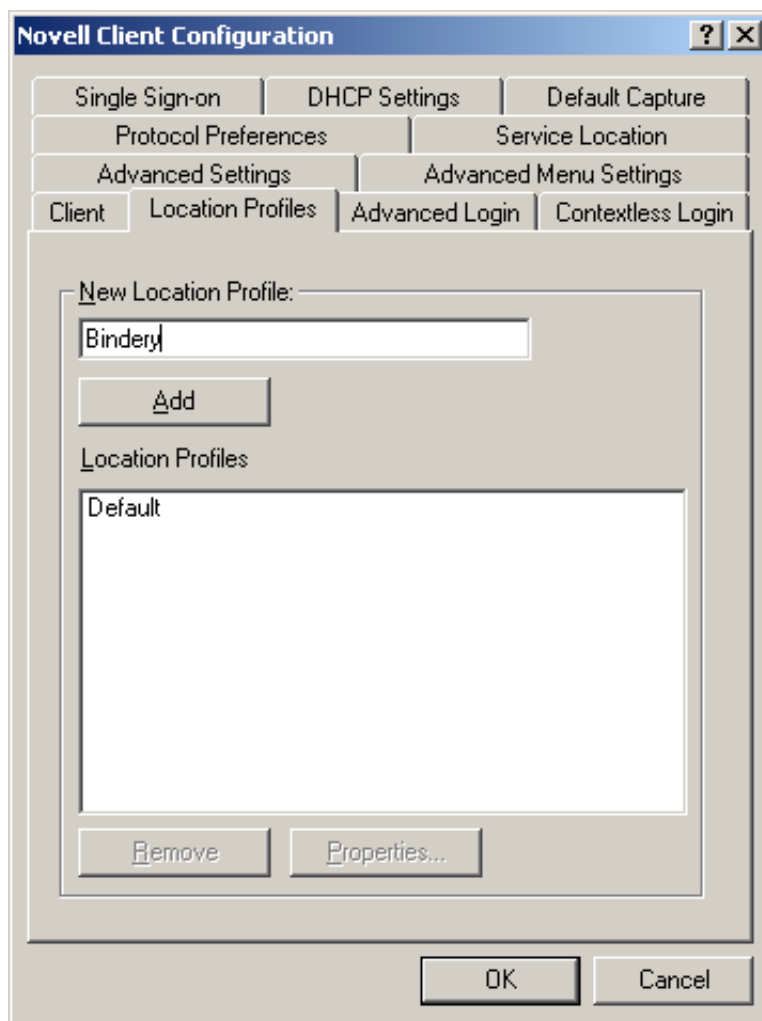
## Setting up an NDS-installed client to operate in bindery emulation mode (Internal)

## Note

These instructions apply to Windows 95, Windows 98, Windows Me, Windows NT 4.0, Windows 2000, and Windows XP with slight variations in the appearance of the menus.

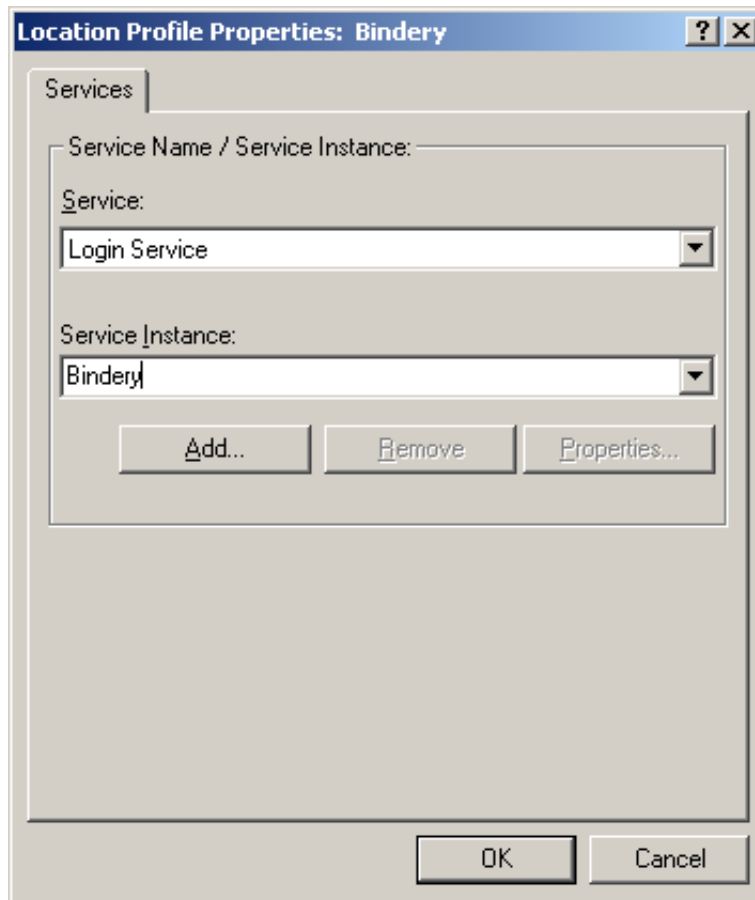
- Step 1 Right-click the red **N** icon in the system tray.
- Step 2 In the menu that appears, click **Novell Client Properties....** A menu titled **Novell Client Configuration** appears.
- Step 3 Click the **Location Profiles** tab.

Step 4 Type “Bindery” (Do not type the quotation marks. The word “Bindery” is not case-sensitive.) into the **New Location Profile** field, and then click **Add**.



**Figure 88.** Novell Client Configuration dialog box

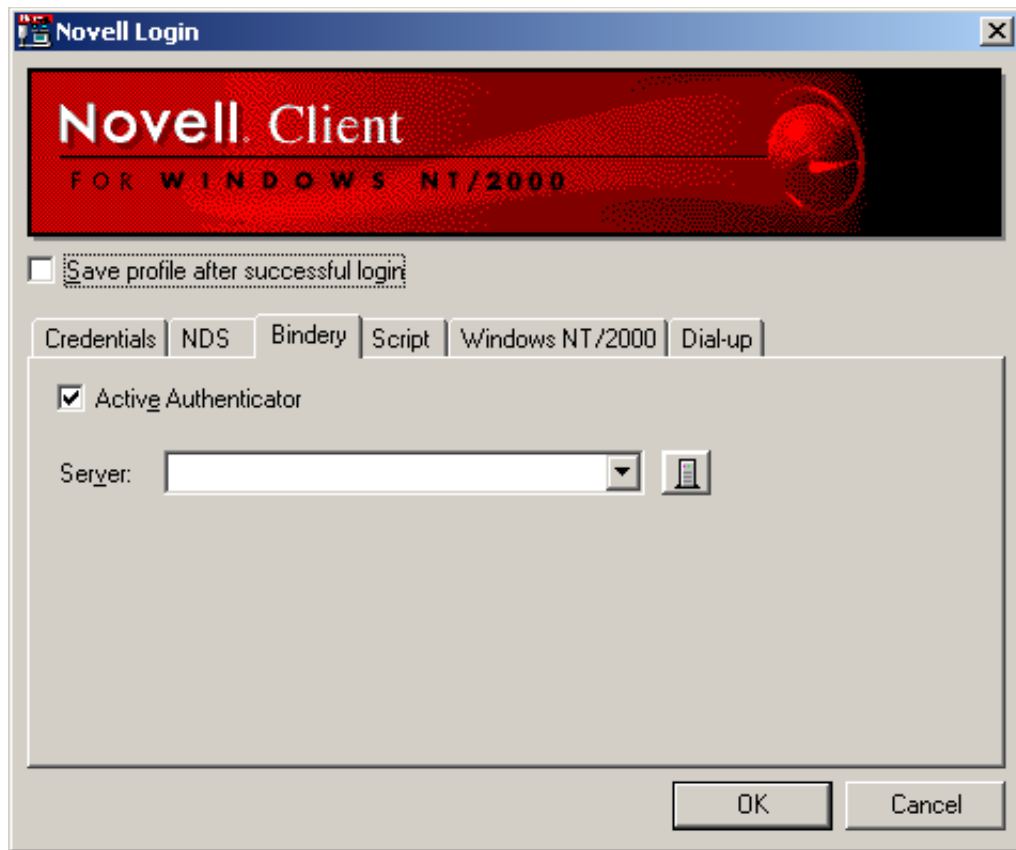
Step 5 The **Location Profile Properties: Bindery** dialog box appears. Click the **Services** tab. In the Services selection window, click **Login Service**.



**Figure 89.** Location Profile Properties: Bindery dialog box

Step 6 In the **Service Instance** field, type "Bindery" (without the quotation marks), and then click **Add**.

Step 7 In the **Novell Login** dialog box (see the following illustration), click the **Bindery** tab.



**Figure 90.** Novell Login dialog box

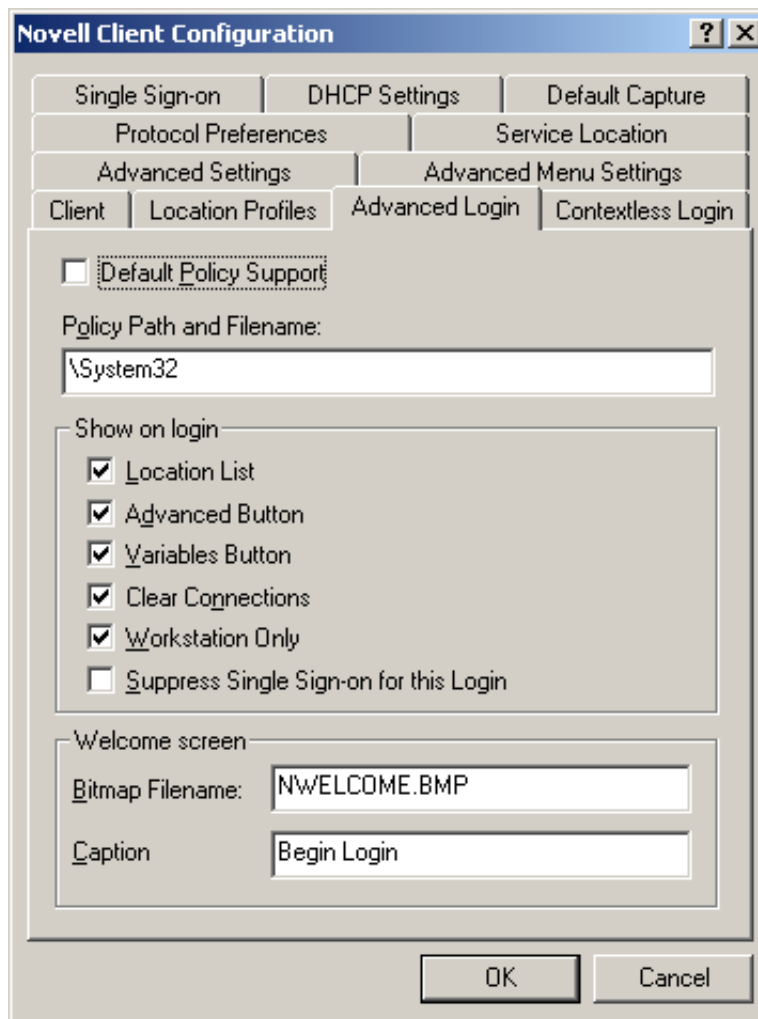
Step 8 Select the **Active Authenticator** check box.

Step 9 Click the icon to the right of the **Server** field. It allows you to browse and select a default server.

**Note** If the **Server** field is left blank, server selection will have to be made during the logon process.

Step 10 To exit, click **OK** in this and subsequent windows until the Novell Client Configuration window appears, as shown in the following illustration.

Step 11 Click the **Advanced Login** tab, select the **Location List** check box, and then select the **Clear Connections** check box.



**Figure 91.** Novell Client Configuration dialog box

Step 12 The setup is now complete. To close the window, click **OK**.

Step 13 Right-click the red **N** icon located in the system tray, and then click NetWare Login... to log on to the server again. The **Location** field appears. The drop-down menu contains two fields, **Default** (the NDS login) and **Bindery**. Select **Bindery**, and then continue the normal login process.

Step 14 Once you have logged in, confirm the connections (see “Determining the server connection”), and make sure the printer is connect in a bindery mode.

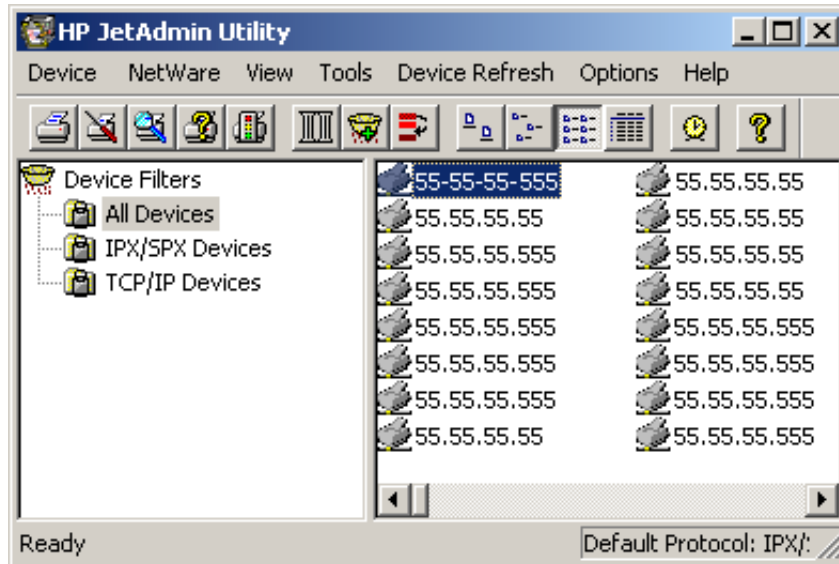


## Using Jet Admin 3.42/4.2 to build Novell queues (Internal)

After Jet Admin has been installed, open the program and select the **Options** menu, then click **Preferences**.

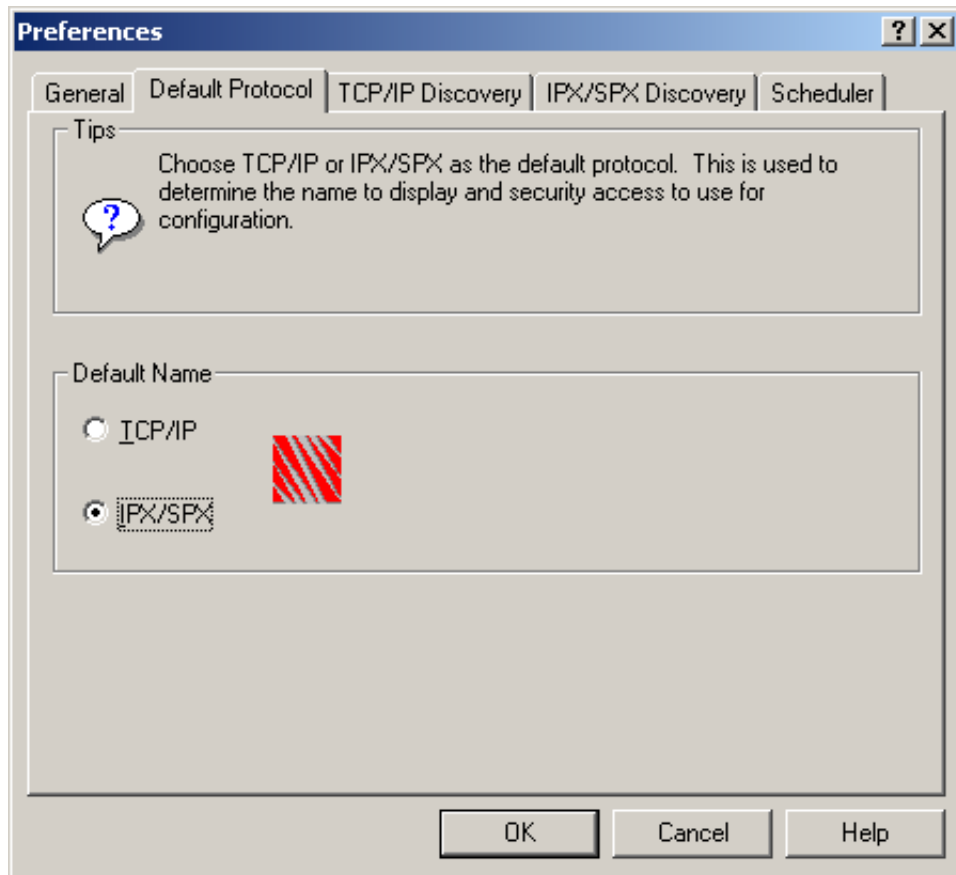
### Note

The Novell Client software must be installed before Jet Admin.



**Figure 92.** HP JetAdmin Utility window

In the Preferences window (shown below), click **Default Protocol** and make sure **IPX/SPX** has been selected. Return to Jet Admin by clicking **OK**.

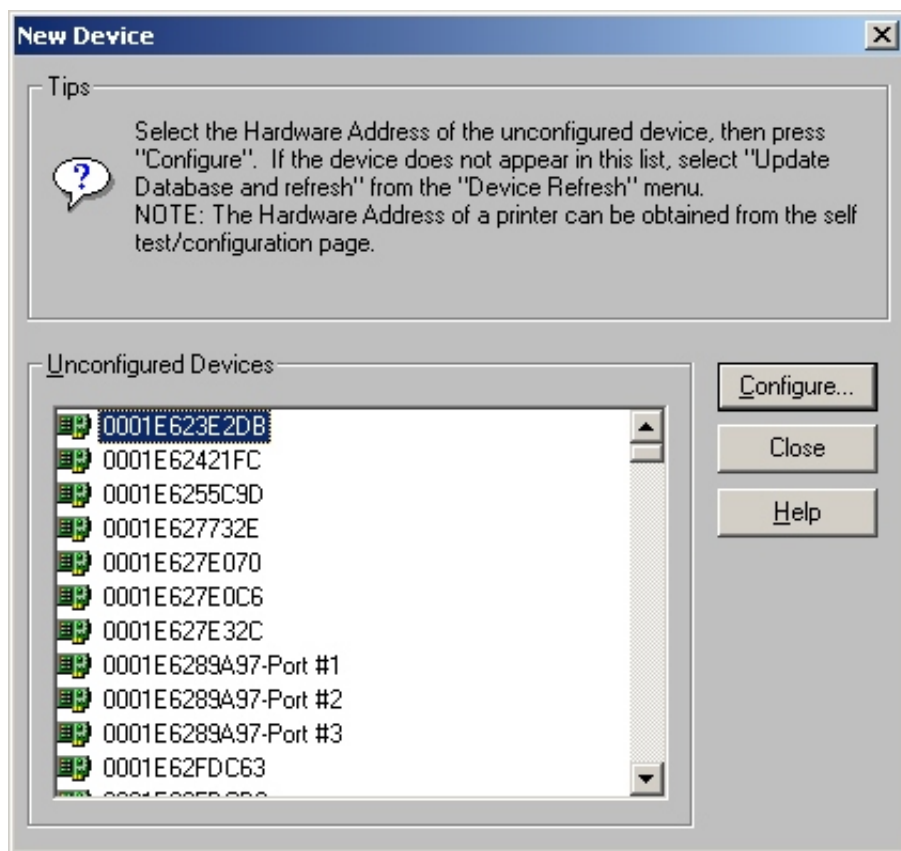


**Figure 93.** Preferences dialog box

If you are installing a new printer (or if you performed a cold reboot on an existing printer) with a Jet Direct card/server, then click **Device** from the **HP JetAdmin Utility** menu bar (See figure 92) and then click **New**. This opens the dialog box in the following illustration, which lists the media access control (MAC) address, also referred to as hardware address, of all of the unconfigured devices and resets JetDirect cards and servers.

**Note**

Print a printer configuration page to find the MAC address of the Jetdirect card.



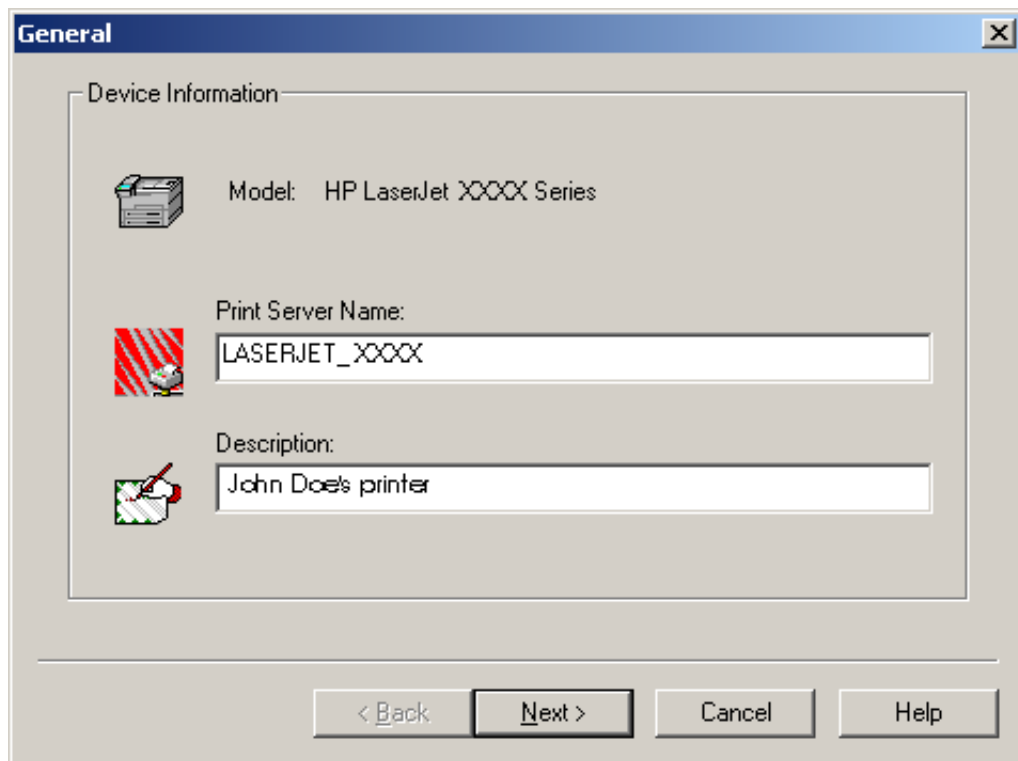
**Figure 94.** New Device dialog box

Find the MAC/Hardware number that corresponds to that on the configuration printout you printed. This is usually found on the second page (EIO - JetDirect Page) under the subheading HP JetDirect Configuration, listed as the hardware address. Now, click **Configure**.

**Note**

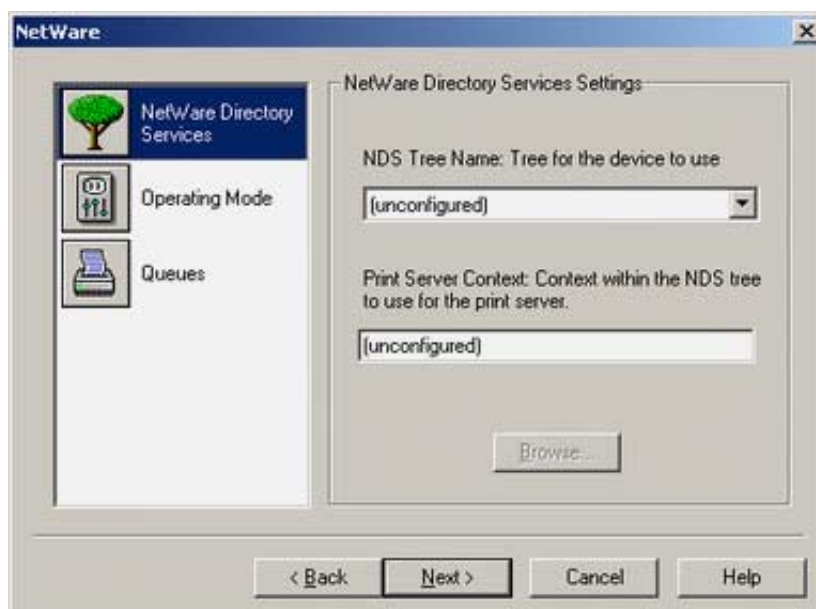
On some printers, the EIO printout is separate from the configuration printout.

In the next window, type the name of the printer and a description or location of the printer.



**Figure 95.** General Device Information dialog box

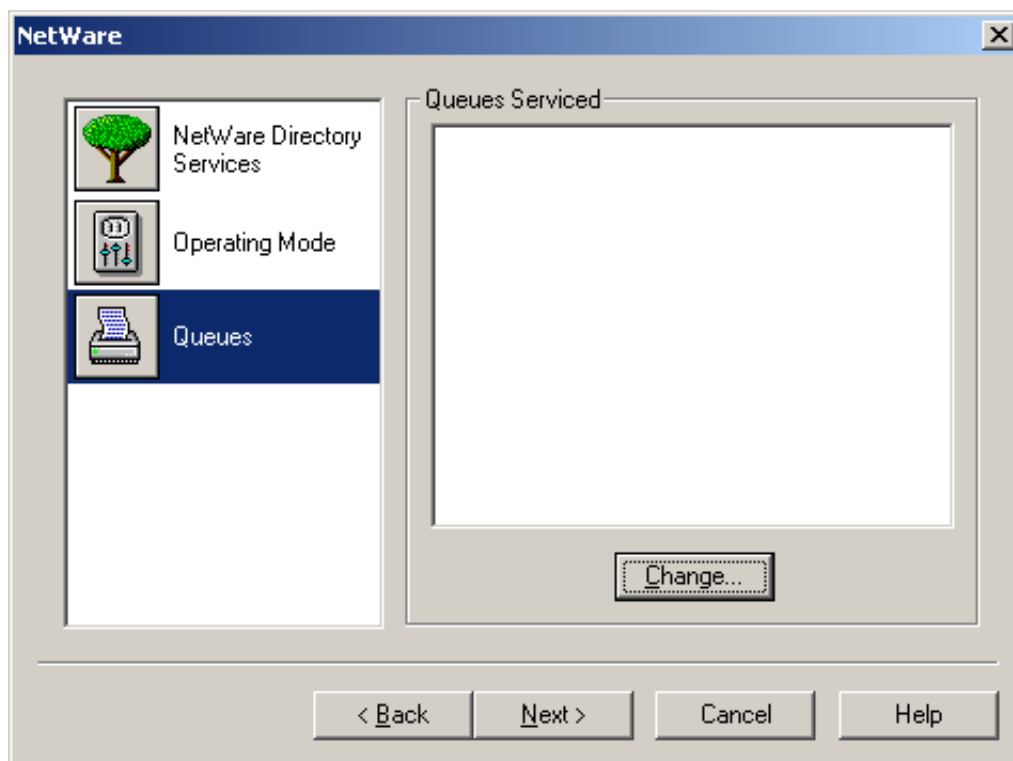
Click **Next**. The **NetWare** dialog box that appears allows you to build either a NetWare Directory Services queue or a bindery queue. A third option is to bypass this window by selecting Next, leaving the default settings. This allows you to make the TCP/IP assignments without building a queue.



**Figure 96.** NetWare dialog box

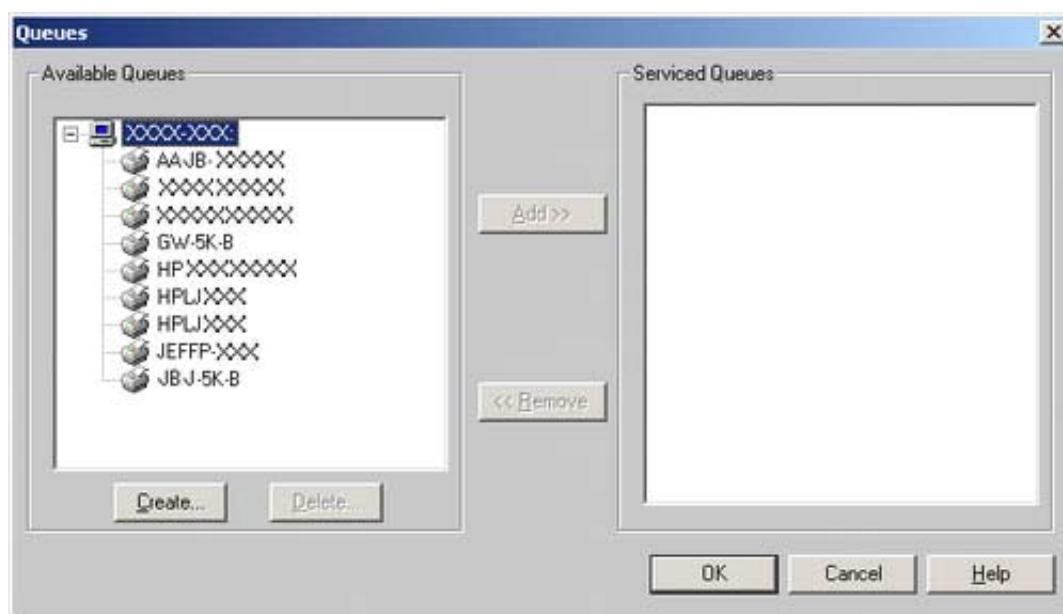
## Building a bindery queue (Internal)

To build a bindery queue, leave the fields on the right (See figure 95) unconfigured and select the **Queues** icon on the left (See figure 97).



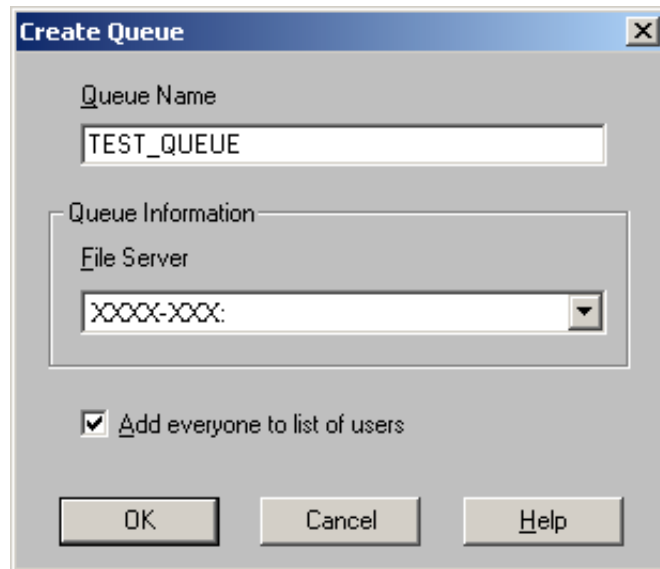
**Figure 97.** NetWare dialog box — queues serviced

Click **Change** (See figure 97). The **Queues** dialog box appears (See figure 98).



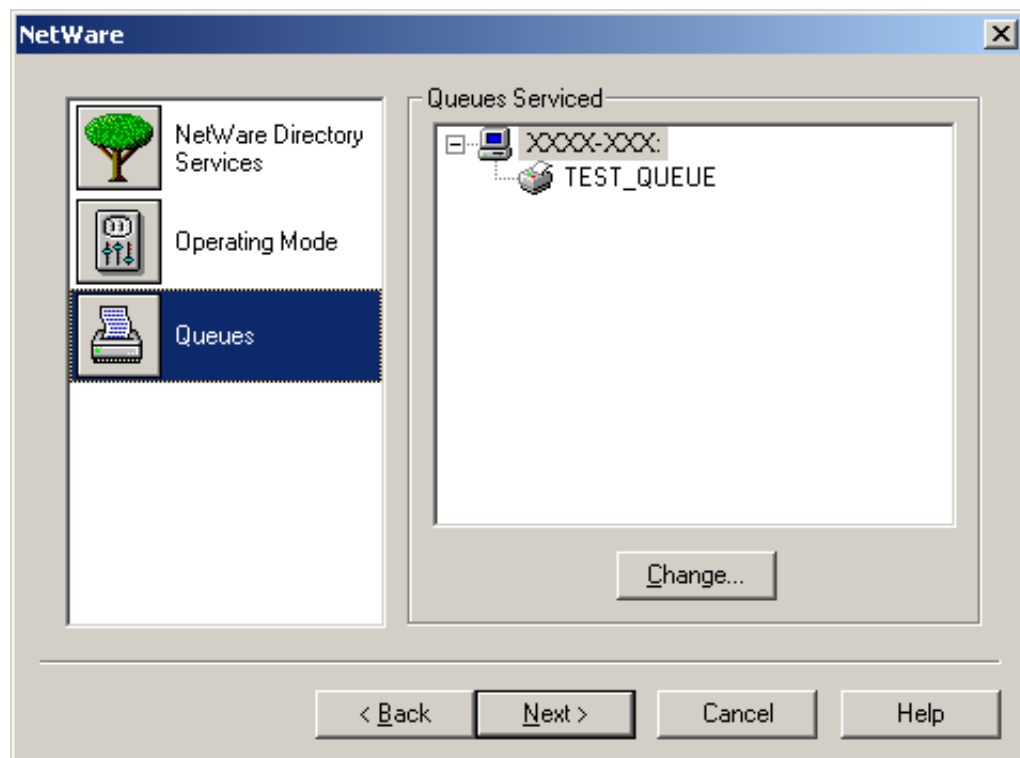
**Figure 98.** Queues dialog box — Available Queues

Click **Create** (See figure 98). The **Create Queue** dialog box appears (See figure 99).



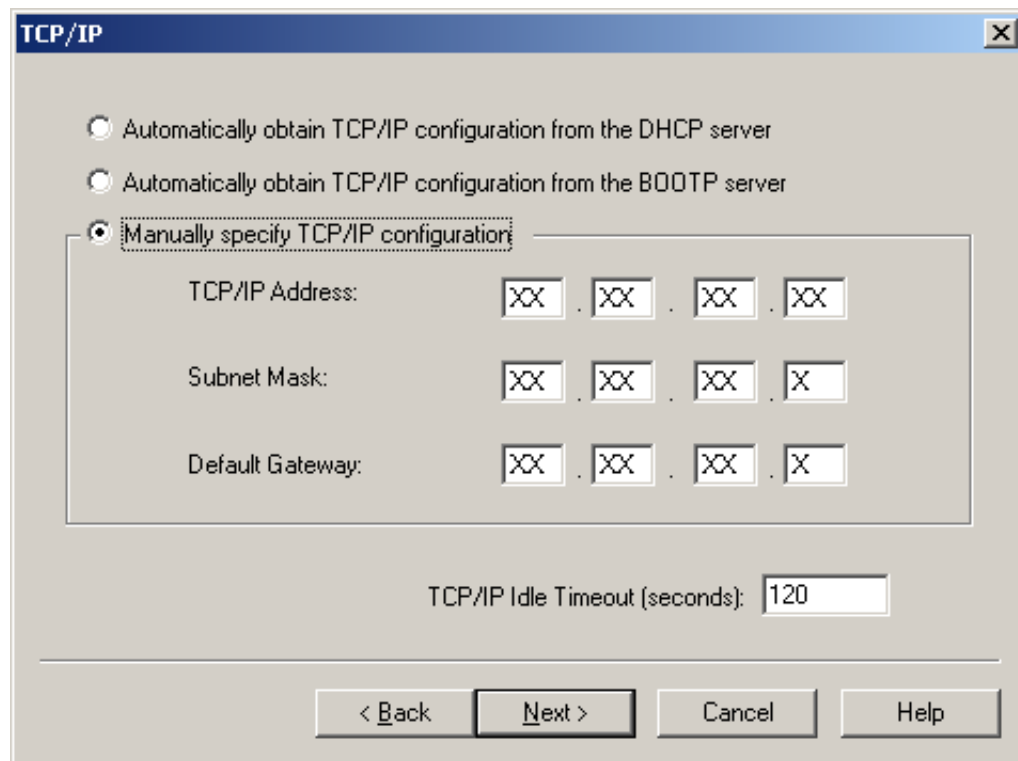
**Figure 99.** Create Queue dialog box

Type the queue name of your choice in the **Queue Name** field (See figure 99). Use the **File Server** drop-down menu to select the Novell server you want to use, and then click **OK**. The next NetWare window shows the server you selected and the printer queue on the right side. Click **Next** (See figure 100).



**Figure 100.** NetWare dialog box, displaying queues serviced

In the dialog box that appears (See figure 101), enter the TCP/IP information for the Jetdirect card/server.



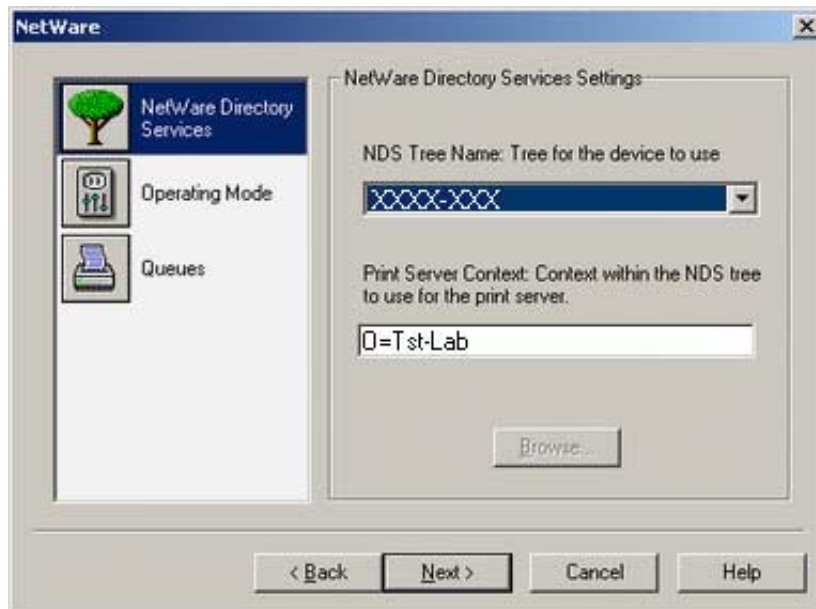
The image shows a Windows-style dialog box titled "TCP/IP". It contains three radio buttons for configuration methods: "Automatically obtain TCP/IP configuration from the DHCP server", "Automatically obtain TCP/IP configuration from the BOOTP server", and "Manually specify TCP/IP configuration". The third option is selected. Below the radio buttons is a group box containing three rows of input fields: "TCP/IP Address:", "Subnet Mask:", and "Default Gateway:". Each row has four small input boxes separated by dots. The "TCP/IP Address" row has four boxes, each containing "XX". The "Subnet Mask" row has four boxes, with the first three containing "XX" and the last containing "X". The "Default Gateway" row has four boxes, with the first three containing "XX" and the last containing "X". Below the group box is a text field labeled "TCP/IP Idle Timeout (seconds):" with the value "120" entered. At the bottom of the dialog are four buttons: "< Back", "Next >", "Cancel", and "Help".

**Figure 101.** TCP/IP dialog box

Click **Next** in this and subsequent dialog boxes that appear. In this example, a bindery queue with the name "Test\_Queue" was created on the server.

## Building an NDS queue

Building an NDS queue requires a procedure that differs only slightly from building a bindery queue. Follow the instructions for creating a bindery queue until the window in the following illustration appears (See figure 102).

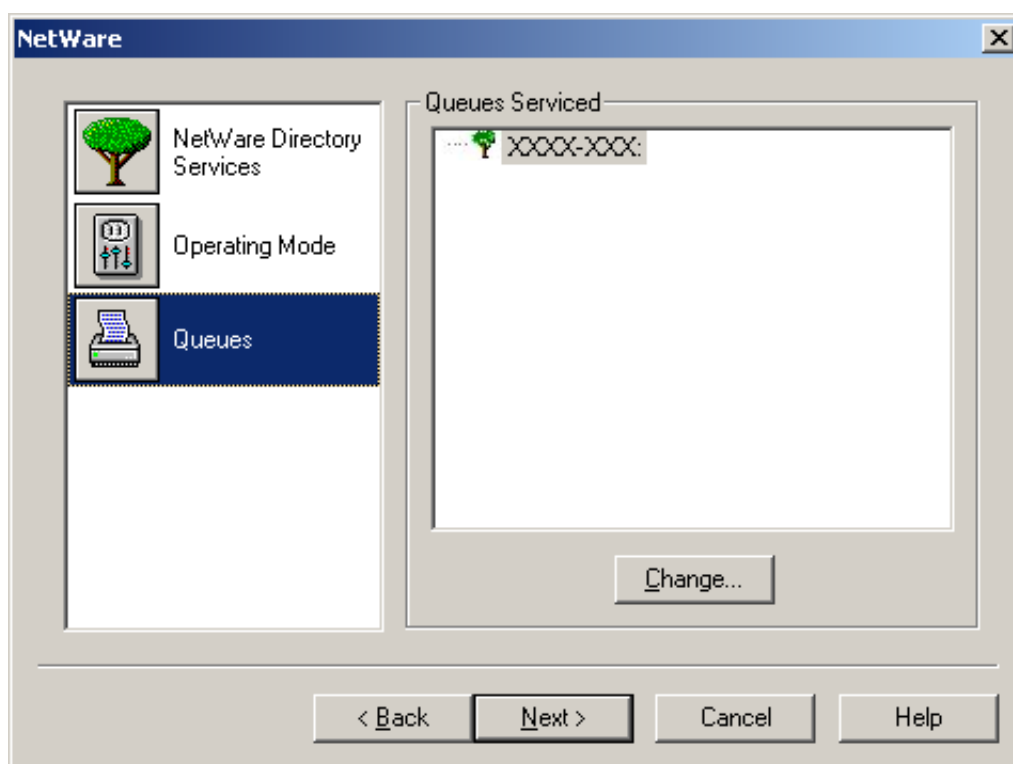


**Figure 102.** NetWare dialog box — beginning an NDS queue

Instead of leaving the **NDS Tree Name: Tree for the device to use** field unconfigured, click the drop-down menu and select a Novell tree. The correct corresponding server context appears (figure 102). You can manually change the content if it is not correct.

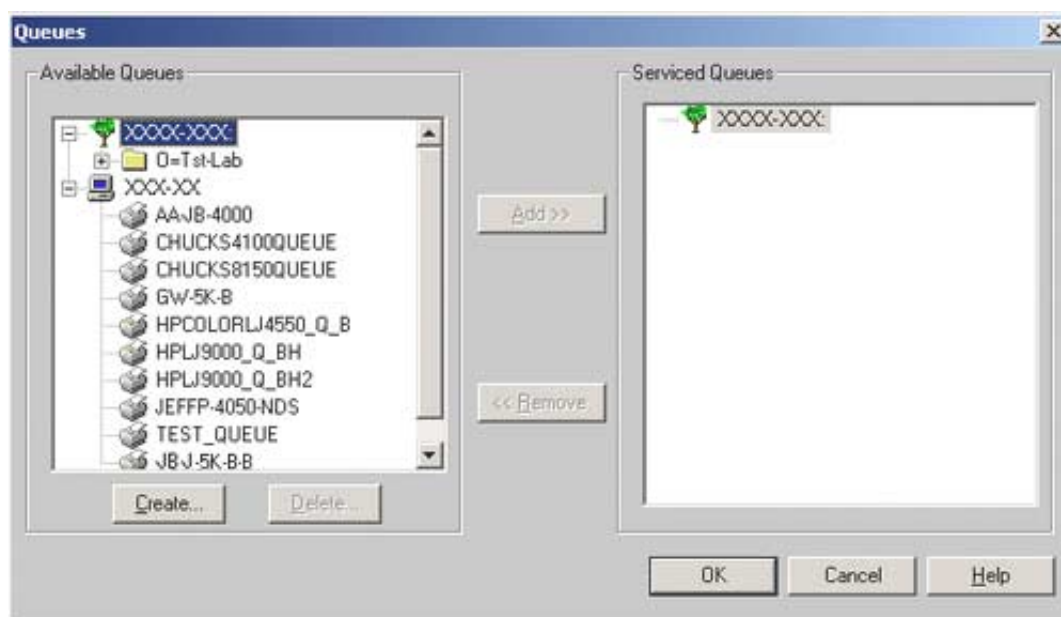


Click the **Operating Mode** icon in the left window for the mode you want to use. Then click the **Queues** icon on the left pane in figure 103.

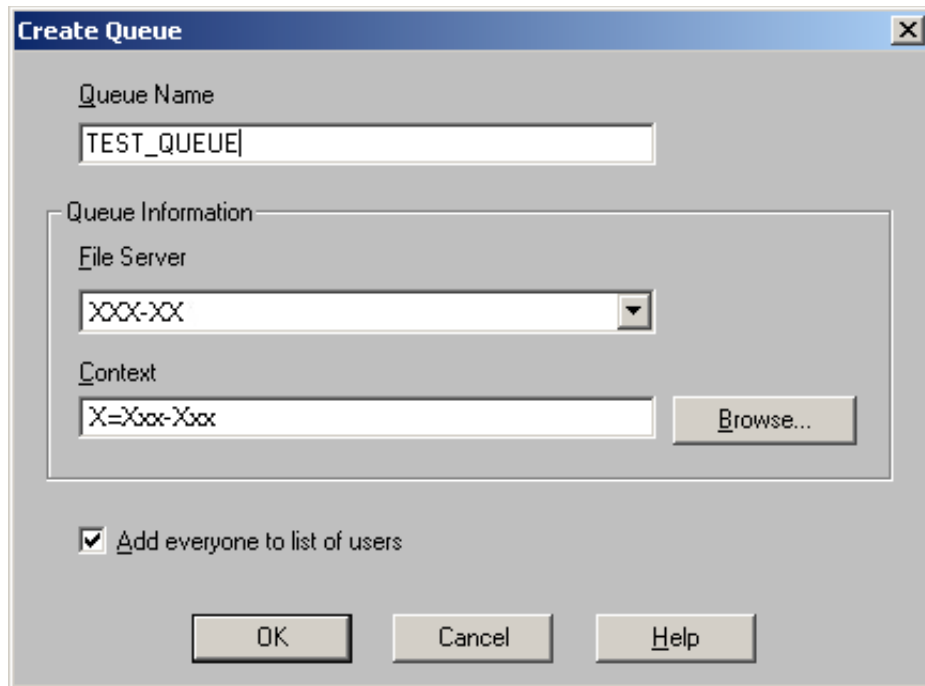


**Figure 103.** NetWare dialog box — queues serviced

Click **Change**. This screen (figure 104) differs slightly from the bindery version of the same window. In this window, a tree structure appears on the left side, indicating the Novell Tree. Click the icon.



**Figure 104.** Queues dialog box — NDS queue



**Figure 105.** Create Queue dialog box — NDS queue

Type the queue name you want to use (figure 105), verify that the file server and context are correct, and then click **OK**. The remaining process is the same as shown in the “Building a bindery queue” (figure 99).

#### Note

Occasionally, you will be asked to provide a community name. The usual default community name is Public.

## Removing printer objects from the Novell server (Internal)

#### Note

A bindery queue for a Novell server consists of two objects: the print queue object and the print server object. An NDS queue consists of three objects: the print queue object, the print object, and the print server object.

- Step 1 Find and open the NWADMIN32 program. If ZENworks has been installed on the server, you can browse to NWADMIN32 through the following path:  
NETWORK NEIGHBORHOOD > SERVER (SPY-5XB) > SYS > PUBLIC > WIN32 > NWADMIN32.EXE (indicated by a red icon).

Step 2 Open NWADMIN32. If you are not logged in to the specific server where the file is installed, you might need authentication for that server.

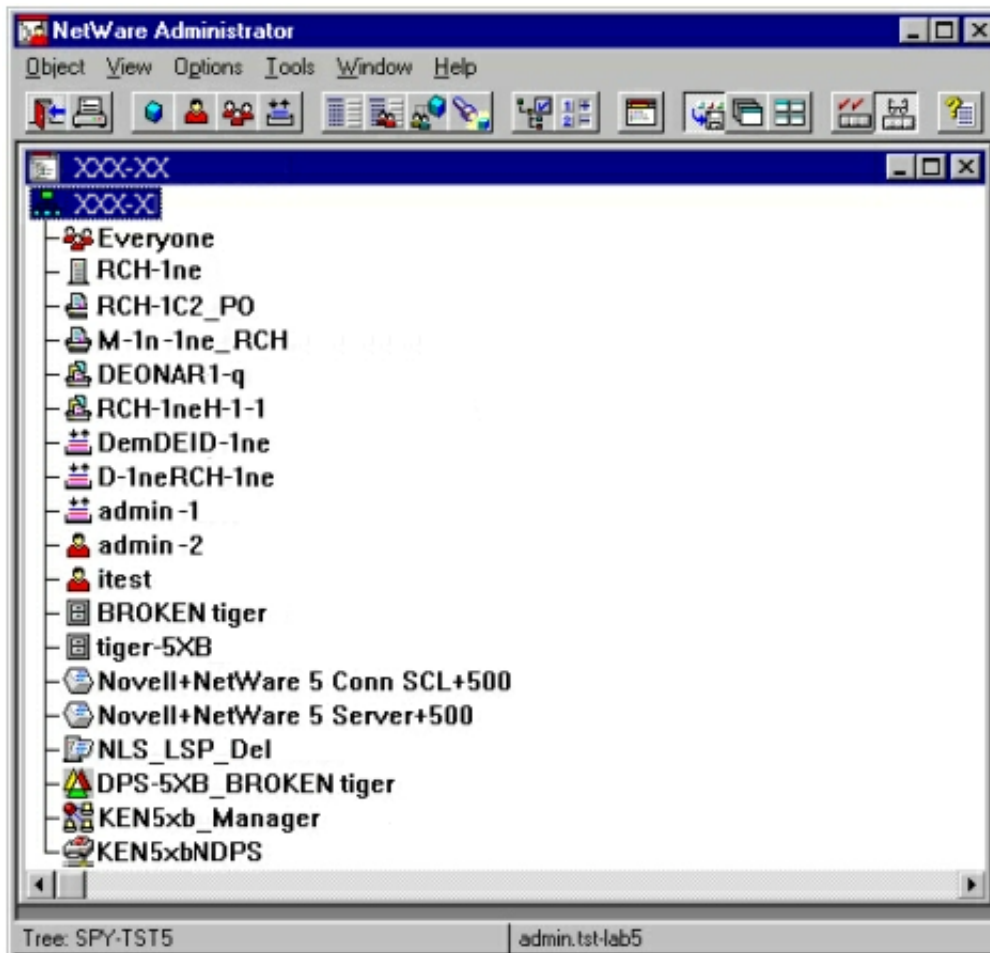


Figure 106. NetWare Administrator window (NWAdmin32)

Step 3 Select all of the references to the printer you are working on; two or three objects will be listed.

#### Note

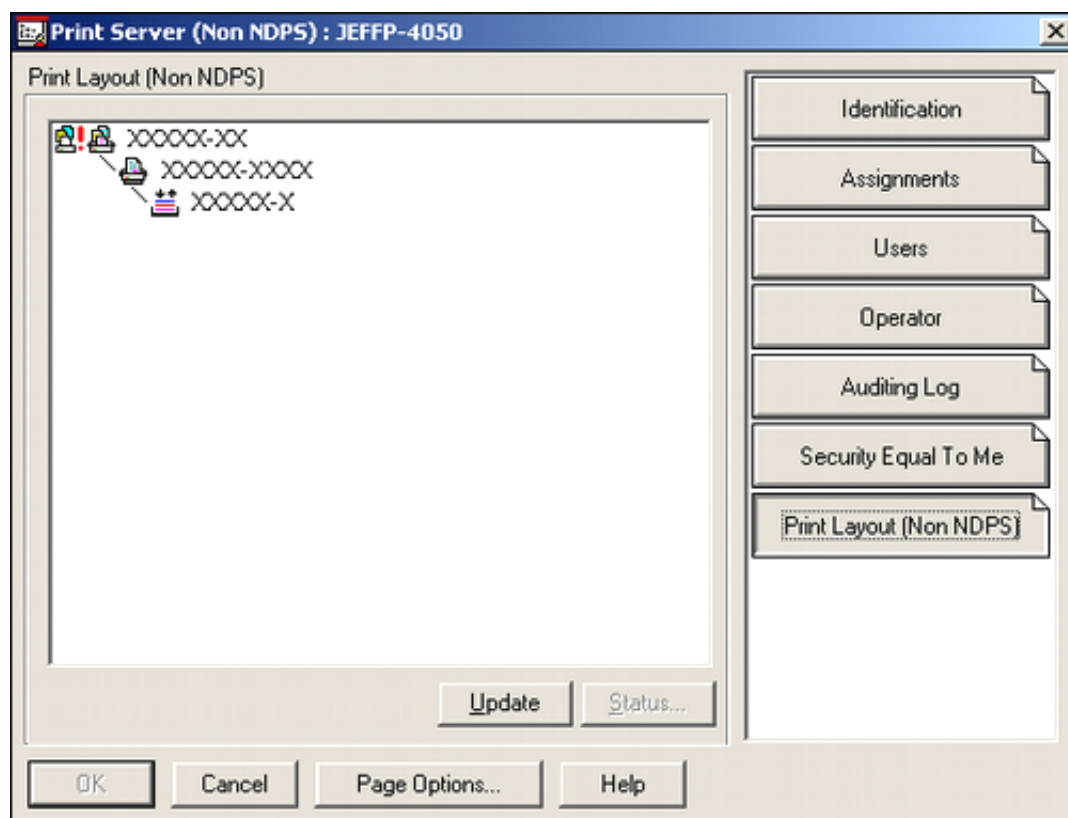
If the printer was set up in bindery mode, only two objects are associated with the printer. If the printer was set up in NDS mode, three objects are associated with the printer.

With an NDS queue, the printer server object will normally have '\_PO' listed on the back of the name. Right-click the printer object, and then click **Details**. Click **print layout (non NDPS)** for the printer objects associated with the queue and their names (See figure 107).

This will sometimes help you to identify which objects are associated to each other. Again, with a bindery queue, two objects are associated; with an NDS queue, three objects are associated.

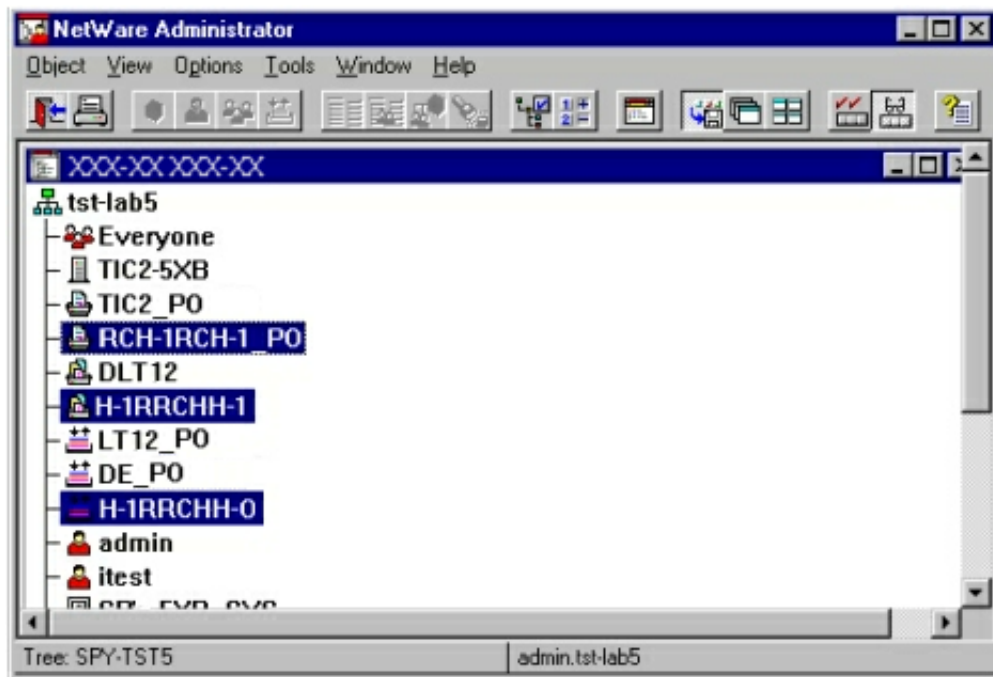
**Note**

Each object has its own icon.



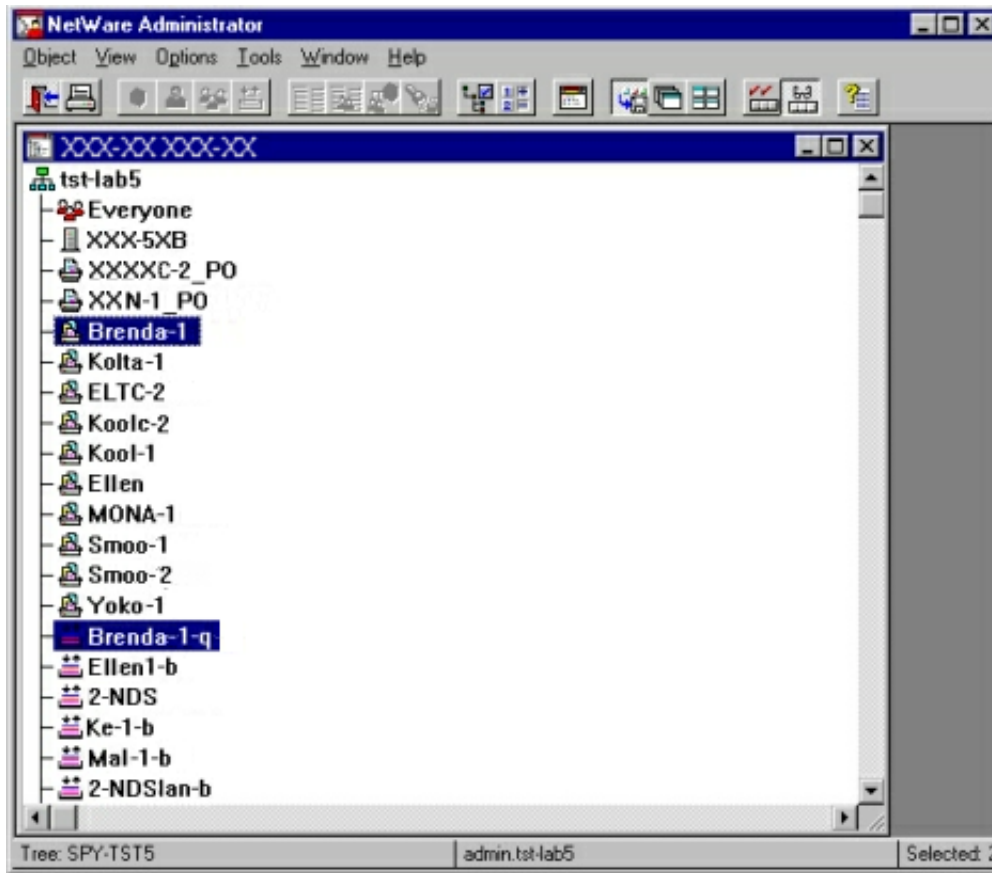
**Figure 107.** Print Layout of an NDS Queue

In the following screen shot (figure 108), the three objects associated with an NDS print queue are highlighted. To build a new queue for any printer, the three current objects must first be deleted. To delete an object, select the object, and then press DELETE on the keyboard. You can also click the first object and simultaneously press the control button to select more than one item.



**Figure 108.** NDS print queue objects (NWAdmin32)

The next screen (figure 109) shows the two objects associated with a bindery queue. To build a new queue for this printer, the two current objects must first be deleted. To delete, click the object, and then press DELETE on the keyboard. Click the first object and simultaneously press the control button to select more than one item.



**Figure 109.** Bindery print queue objects (NWAdmin32)

When all the objects associated with the old queue have been deleted, reset the screen by double-clicking the container unit object at the top left of the window, the first icon in the list (the **Tst-lab5** object in the illustration). The listing below the icon disappears. Double-click the container unit object again, and the refreshed screen appears. Verify that all of the printer-associated items are gone. If not, repeat this process until all associated objects have been deleted from the screen.

After all of these objects have been removed, you can now build new queues. Be sure to use the same naming convention as before.

When finished with the NWAdmin32 program, close or minimize the window.

## Installing drivers using NDPS (.inf install only) (Internal)

Follow these instructions to vend (remotely install) the driver to other computers when they connect to the NDPS printer agent:

### Note

To install HP drivers using Novell Directory Printer Services (NDPS), the NDPS Broker and NDPS Manager must first be created. See your Novell administrator to do this.

## Loading the drivers (Internal)

If you do not want to vend drivers, then go to the next section, “Making NDPS printer agents.”

Using NWAdmin32, load the drivers into Resource Management Services (RMS) of the NDPS Broker:

- Step 1 Right-click the **NDPS Broker** object, and then click **RMS**, the resource management button located on the right.
- Step 2 Click **Add Resources**.
- Step 3 In the resource types field, select the operating system to which you want to vend.
- Step 4 Click **Add**. This opens the Add Resources window.
- Step 5 Click the **Browse** button and navigate to the location in which you want to install the drivers.
- Step 6 Select the correct driver .INF file.
- Step 7 Install the first driver. When the install window closes, click **Add**, and continue installing all the drivers for the different operating systems you will be using.
- Step 8 Click **OK**, and then click **OK** again.
- Step 9 When you are finished, click **OK**, and then click **Cancel**.

The server is now set up to vend drivers automatically when workstations are associated with the shared printer.

## Making NDPS print agents (Internal)

### Note

A public-access printer is not secure or controlled and is therefore not used in most cases.

- Step 1 Return to the NWAdmin32 program.
- Step 2 Highlight the root context object where you want to put the printer agent object.
- Step 3 Using the menu, click **Object**, and then click **Create**
- Step 4 In the Create Object window, scroll down and click **NDPS printer**.
- Step 5 Type the name for the printer agent (Example: User1-printer2-PA) and click **Create**.
- Step 6 In the next window under the field labeled **NDPS Manager Name**, click the small button to the right.
- Step 7 In the new window labeled Select Object, a list of printer managers appears. Select the one you want to use. If the window is blank, create an object (complete steps 1 through 5).
- Step 8 You will then be returned to the Create Printer Agent window.
- Step 9 In the field listed as **Gateway Types**, click **HP Gateway**, and then click **OK**. At this point, an information window asks whether you want to load the printer manager. Click **Yes** or **OK**.
- Step 10 In the **Configure HP Printer Gateway...**, select either **IP** or **IPX protocol** (IPX is the default).

- Step 11 A list of printers appears in the second field, **Printer/JetDirect**. Select the printer you want to associate the printer agent with. Click **OK**.
- Step 12 In the next window, Select **Printer Drivers**, three or four tabs appear that list the various Microsoft Window OS types (W3.1,W95/98,WNT4 and or W2k). This is where you select the driver that you want to send to workstations that connect to the printer agent.
- Step 13 Select each tab for the OS type that will be attaching to the printer and search for the name of the driver you installed earlier through the RMS. The default is None.
- Step 14 After making your selections, click **Continue**.
- Step 15 An information window appears, informing you of the drivers you selected. You can either click **Cancel** and redo the selection or click **OK** to continue. Clicking **OK** closes all windows and return you to the NetWare Administrator Screen.
- Step 16 The newly created **Printer Agent** object appears at the top of the context list under which you built the object.

## ZENworks 2.0 (Internal)

### Making user policies (Internal)

User policies are created to send the drivers and associate the policy queues with the printer agent.

- Build an NDS Queue for each user first.
- ZENworks version 2 or later must be used for this process.
- Create a user policy for the specific user, and then enable the printer policy.

#### Note

If you do not see the **Policy** icon when trying to create the user policy, you must install the ZENworks support pack on the server.

- Step 1 Name the policy to describe its purpose.
- Step 2 Click **Next** to continue creating policies.
- Step 3 Click **Create Another Policy**.
- Step 4 When all of the policies have been created, click **<finish>**. You need a different user policy for each printer driver or printer driver configuration used.

### Associating the queues with the printer agent (Internal)

- Step 1 When finished creating the policy, open each policy and select the **NT User Printer Policy** check box.
- Step 2 Click **Details**.
- Step 3 Click **Add**.
- Step 4 Select (highlight) the NDS print queue object you previously made for this user/group.
- Step 5 Click **OK**.
- Step 6 Click **New Driver**.
- Step 7 Click **Clear Current Settings**.



- Step 8 Click the **Select Printer Model** button.
- Step 9 Click **Have Disk** and browse to where the drivers are located.
- Step 10 Install the correct driver you want associated with this policy.
- Step 11 Once the driver is loaded, click OK, click **OK** again, and then click **Cancel**.

When you log on to the system, the printer driver should be automatically sent to the workstation currently in use. If the printer driver is being sent to the workstation currently in use, then continue completing the remaining users. If not, there might be a problem with the ZENworks installation. For installation information, go to <http://www.Novell.com>. Click **Get Support**, then click **Knowledgebase**. Leave the first item in the dialog box blank. Under No. 2, Select **Document Sets**, use the drop-down menu to select **TIDs & Manuals**. In the field in Item 3, type "Installing ZENworks" (not case-sensitive). Click **Search Now**. From the search results, select the most recent information about installing ZENworks.

## Troubleshooting (Internal)

If an error message appears stating that you do not have the correct rights, make sure that you are logged in to the correct server with administrative rights. If you are, try refreshing Jet Admin by pressing F7. If you still do not have correct rights, log in to the server again. Be sure to select the tree, context, and server again to establish a good link with the server. If this fails, turn the printer off by holding down the green button (this button may be labeled variously **Go** or **Start**), and then turn it on again. The printer control panel displays the message COLD BOOT. Go to "Build a queue with a reset or a new JetDirect card."

## Printer Status and Alerts

### HP product models and drivers that support Printer Status and Alerts

The following table lists the HP product models and drivers that support Printer Status and Alerts.

**Table 68. Printer Status and Alert driver support**

Product model	Drivers supported
HP Color LaserJet 4500 <sup>1</sup>	PCL 6, PCL 5e (but not the older RASDD version), PS
HP Color LaserJet 4550	PCL 6, PCL 5e, PS
HP Color LaserJet 8500	PS
HP Color LaserJet 8550 <sup>4</sup>	PCL 5c, PS
HP LaserJet 4000 Series <sup>2</sup>	PCL 6, PCL 5c, PS
HP LaserJet 4050 Series	PCL 6, PCL 5e, PS
HP LaserJet 4100 Series	PCL 6, PCL 5e, PS
HP LaserJet 5000 Series <sup>2</sup>	PCL 6, PCL 5e, PS
HP LaserJet 8000 <sup>3</sup>	PCL 6, PCL 5e, PS
HP LaserJet 8100 Series	PCL 6, PCL 5e, PS

**Table 68. Printer Status and Alert driver support (continued)**

Product model	Drivers supported
HP LaserJet 8150 Series	PCL 6, PCL 5e, PS
HP LaserJet 9000 Series	PCL 6, PCL 5e, PS
HP Mopier 240	PCL 6, PS
HP Mopier 320	PCL 6, PS

<sup>1</sup>The HP Color LaserJet 4500 drivers (PCL 5, PCL 6, and PS) are not supported in Windows 95, Windows 98, and Windows Me. However, new PCL 5 and PCL 6 (but not PS) drivers for this printer that will be supported by Printer Status and Alerts will be available soon. Check <http://www.hp.com> for the newest Windows 95, Windows 98, and Windows Me PCL 5 and PCL 6 drivers. This restriction does not affect the Color LaserJet 4550 drivers.

<sup>2</sup>The original drivers released with the HP LaserJet 4000 series and HP LaserJet 5000 Series printers do not support Printer Status and Alerts. Since those products were introduced, the drivers have been updated. The new drivers support Printer Status and Alerts.

<sup>3</sup>The PCL6 driver for the HP LaserJet 8000 is not supported in Windows 95, Windows 98, and Windows Me.

<sup>4</sup>The original MS version of the HP Color LaserJet 8550 PS driver (included on the CD that came with the product) is not supported. A new version, available at <http://www.hp.com>, is supported.

For an updated list of products that support the Printer Status and Alerts feature, open the text file HPSASDRV.MTX located in the Windows subdirectory.

## Printer Status and Alerts .INF file (Internal)

This section presents the settings in the .INF file for the stand-alone Printer Status and Alerts program. The values are set by the printing installation during a Custom Installation.

## Description of HPSTATUS.INI Entries and their Purpose

Below is a description of each section that HPSTATUS.INI can have, and the possible keys that each section contains as well as a description of the purpose for each key.

### [allprinters]

The name of section indicates that the keys in this section are for each printer installed, unless there is a printer specific section, which has independent alert, and refresh rate settings. These keys are specific to the tracking of a print job.

**Table 69. [allprinters] section**

Key Name	Values	Meaning
onejobprocessingalert	*0	Printer Status and Alerts will <b>not</b> activate/display itself when a new job is detected
	1	Printer Status and Alerts will activate/display itself when a new job is detected
finishedjobalert	*0	Printer Status and Alerts will <b>not</b> activate/display itself when a print job has completed (includes finished or unknown)
	1	Printer Status and Alerts will activate/display itself when a job has completed (includes finished or unknown)
warningalert	*0	Printer Status and Alerts will <b>not</b> activate/display itself when a warning is active in the printer
	1	Printer Status and Alerts will activate/display itself when a warning is active in the printer

**Table 69. [allprinters] section (continued)**

Key Name	Values	Meaning
lowtoneralert	0	Printer Status and Alerts will <b>not</b> activate/display itself when low toner has been detected
	*1	Printer Status and Alerts will activate/display itself when low toner has been detected
erroralert	0	Printer Status and Alerts will <b>not</b> activate/display itself when an error has been detected
	*1	Printer Status and Alerts will activate/display itself when an error has been detected

\* Default values after installation

## [refreshrate]

The keys in this section are specific to each printer, or all printers. The value for each printer indicates the update interval for which status will query the printer for the state of the print job. These keys are specific to the tracking of a print job.

**Table 70. [refreshrate] section**

Key Name	Values	Meaning
hidden	*0	The hidden key controls whether or not the refresh rate panel should appear within the Printer Status and Alerts options. This entry may be useful for administrators who do not wish to let their end users control the refresh rate setting due to negative impact on network performance. (See the <i>LegacyPrinterDSRates</i> section for more information on the refresh rate intervals)  Do not hide the refresh rate panel
	1	Hide the refresh rate panel within the Printer Status and Alerts Options so that users can not change the refresh rate interval
allprinters	0	Maps to the Refresh Rate setting of <b>Never</b> (Printer Status and Alerts will not track the status of print jobs)
	1	Maps to the Refresh Rate setting of <b>LessOften</b> (See <i>LegacyPrinterDSRates</i> section for more information)
	2	Maps to the Refresh Rate setting of <b>LessOftenPlusOne</b> (See <i>LegacyPrinterDSRates</i> section for more information) The refresh rate setting one tick to the right of LessOften
	*3	Maps to the Refresh Rate setting of <b>Middle</b> (See <i>LegacyPrinterDSRates</i> section for more information) The middle refresh rate setting
	4	Maps to the Refresh Rate setting of <b>MoreOftenLessOne</b> (See <i>LegacyPrinterDSRates</i> section for more information) The refresh rate setting one tick to the left of MoreOften
	5	Maps to the Refresh Rate setting of <b>MoreOften</b> (See <i>LegacyPrinterDSRates</i> section for more information)
SpecificPrinterName	0-5	Each printer can have its own independent refresh rate, just as the allprinters key does above

\* Default values after installation

## [LegacyPrinerDSRates]

This section contains key/value pairs that control the update interval Printer Status and Alerts will use while querying for the state of a print job within a printer. The values for each key are in terms of milliseconds. So a value of 1000 is has the equivalent of 1 second. The lower the refresh rate value, the more often the printer is queried for the state of a print job. (See the WindowsSpoolerDSRates section for similar update intervals.)

An administrator could speed up (lower the interval) or slow down (increase the interval) these refresh rates by modifying an HPSTATUS.INI file and then replicate that file on all of the client systems. This is done by coping the file to each client's WINDOWS directory, or if the clients are running a shared version of windows (win9x), then simply putting the HPSTATUS.INI in the server's SYSTEM directory would also suffice.

**Table 71. [LegacyPrinerDSRater] section**

Key Name	Values	Meaning
LessOften	120000	When the refresh rate slider control is set to the LessOften, print jobs will use the value for this key to check the status of a print job. (Update job state every 2 minutes)
LessOftenPlusOne	90000	When the refresh rate slider control is set to the LessOftenPlusOne, print jobs will use the value for this key to check the status of a print job. (Update job state every 1 minute and 30 seconds)
Middle	40000	When the refresh rate slider control is set to the Middle, print jobs will use the value for this key to check the status of a print job. (Update job state every 40 seconds)
MoreOftenLessOne	30000	When the refresh rate slider control is set to the MoreOftenLessOne, print jobs will use the value for this key to check the status of a print job. (Update job state every 30 seconds)
MoreOften	10000	When the refresh rate slider control is set to the MoreOften, print jobs will use the value for this key to check the status of a print job. (Update job state every 10 seconds)

All values above are default values

## [WindowsSpoolerDSRates]

This section contains key/value pairs that control the update interval Printer Status and Alerts will use while querying for the state of a print job within the context of the current computer (spooler queue). The values for each key are in terms of milliseconds. So a value of 1000 is has the equivalent of 1 second. The lower the refresh rate value, the more often the computer (spooler queue) is queried for the state of a print job. (See the LegacyPrinterDSRates section for similar update intervals) Since the spooler queue resides on the local computer, no networking is performed to get this state, so these update intervals can be set fairly high (2/10 of second) without affect system performance.

An administrator could speed up (lower the interval) or slow down (increase the interval) these refresh rates by modifying an HPSTATUS.INI file and then replicate that file on all of the client systems. This is done by coping the file to each client's WINDOWS directory, or if the clients are running a shared version of windows (win9x), then simply putting the HPSTATUS.INI in the server's SYSTEM directory would also suffice.

**Table 72. [WindowsSpoolerDSRates] section**

Key Name	Values	Meaning
LessOften	275	When the refresh rate slider control is set to the LessOften, print jobs will use the value for this key to check the status of a print job. (Update job state every 275 milliseconds = ~3/10 of second)
LessOftenPlusOne	275	When the refresh rate slider control is set to the LessOftenPlusOne, print jobs will use the value for this key to check the status of a print job. (Update job state every 275 milliseconds = ~3/10 of second)
Middle	275	When the refresh rate slider control is set to the Middle, print jobs will use the value for this key to check the status of a print job. (Update job state every 275 milliseconds = ~3/10 of second)
MoreOftenLessOne	275	When the refresh rate slider control is set to the MoreOftenLessOne, print jobs will use the value for this key to check the status of a print job. (Update job state every 275 milliseconds = ~3/10 of second)
MoreOften	275	When the refresh rate slider control is set to the MoreOften, print jobs will use the value for this key to check the status of a print job. (Update job state every 275 milliseconds = ~3/10 of second)

All values above are default values

## [PrinterAlertRates]

This section contains key/value pairs that control the update interval that Printer Status and Alerts will use while querying for the state of a direct-connected printer. The values for each key are in terms of milliseconds. So a value of 1000 is has the equivalent of 1 second. The lower the refresh rate value, the more often the printer is queried for alerts. (See the LegacyPrinterDSRates section for similar update intervals)

An administrator could speed up (lower the interval) or slow down (increase the interval) these refresh rates by modifying an HPSTATUS.INI file and then replicate that file on all of the client systems. This is done by coping the file to each client's WINDOWS directory, or if the clients are running a shared version of windows (win9x), then simply putting the HPSTATUS.INI in the server's SYSTEM directory would also suffice.

**Table 73. [PrinterAlertRates] section**

Key Name	Values	Meaning
LessOften	300000	When the refresh rate slider control is set to the LessOften, Printer Status and Alerts will use the value for this key to check the status of a direct-connected printer (checking for alerts). (Check for alerts every 5 minutes)
LessOftenPlusOne	120000	When the refresh rate slider control is set to the LessOftenPlusOne, Printer Status and Alerts will use the value for this key to check the status of a direct-connected printer (checking for alerts). (Check for alerts every 2 minutes)
Middle	60000	When the refresh rate slider control is set to the Middle, Printer Status and Alerts will use the value for this key to check the status of a direct-connected printer (checking for alerts). (Check for alerts every 60 seconds)
MoreOftenLessOne	30000	When the refresh rate slider control is set to the MoreOftenLessOne, Printer Status and Alerts will use the value for this key to check the status of a direct-connected printer (checking for alerts). (Check for alerts every 30 seconds)
MoreOften	10000	When the refresh rate slider control is set to the MoreOften, Printer Status and Alerts will use the value for this key to check the status of a direct-connected printer (checking for alerts). (Check for alerts every 10 seconds)

All values above are default values

## [EWSConnect]

This section controls the timeout value for attempting to connect to the Embedded Web Server (EWS) within the printer. If the printer doesn't respond within the timeout value specified below, Printer Status and Alerts will assume that the EWS is not present within the printer.

**Table 74. [EWSConnect] section**

Key Name	Values	Meaning
EWSTimeout	4000	Timeout value for retrieving data from the EWS within the printer. The time specified is in milliseconds. (4000 milliseconds = 4 seconds)

## [LostJobTimer]

This section controls the default amount of time that Printer Status and Alerts will continue to track a print job without any change in the job state. When Printer Status and Alerts starts tracking a new print job, it sets up a timer for the value specified below. Whenever the state of the print job changes, the timer is reset. If the state of print job does not change within the time specified, Printer Status and Alerts will give up trying to track the print job, and set the job state as Unknown.

Table 75. [LostJob Timer] section

Key Name	Values	Meaning
LostJobimeout	300000	Timeout value for indicating that the state of the job is unknown and Printer Status and Alerts will no longer try to track the job if the job state hasn't been updated within the time specified. Time specified is in milliseconds. (300000 milliseconds = 5 minutes [(300000/1000 milliseconds)/ 60 seconds])

## [biditymeout]

This section controls the bidi connection timeout values when attempting to open a connection printer, and it also controls the timeout values for getting information from the device as well as how long to wait before retrying again.

Table 76. [biditymeout] section

Key Name	Values	Meaning
Timeout1	3000	Timeout value to wait before retrying the failed bidi call, before trying the call again. On a failed call, it will retry <b>retry1</b> number of times before it completely fails. Time specified is in milliseconds.
Timeout2	3000	Timeout value to wait until repeating the first retry loop. After the <b>retry1</b> loop has completed without response, it will retry <b>retry2</b> number of times before it completely fails. Time specified is in milliseconds.
Retry1	1	Number of times to retry a bidi call in the event of a failure, waiting <b>timeout1</b> milliseconds before retrying.
Retry2	1	Number of times to repeat the <b>retry1</b> loop in the event of a failure, before failing completely. Waiting <b>timeout2</b> milliseconds before repeating the <b>retry1</b> loop.

## [bidilevel]

This section controls the bidi protocol level at which to perform queries on the device.

**Table 77. [budukevek] section**

Key Name	Values	Meaning
Bidilevel	*1	Performs standard PML get requests from the device
	2	Performs advanced PML multi-get requests from the device. This value should only be used for JetDirect cards that <b>have a firmware version higher than G.05.35</b> . If the bidilevel is set to 2, and the printer frequently <b>errors out with the error EIO 82.0180</b> , then the bidilevel must be set 1. This bidilevel setting will help improve response time, but due to bad firmware in the JetDirect card it can cause errors in the printer.

\* Default values after installation

## Enabling or Disabling Printer Status and Alerts support

The execution of Printer Status and Alerts is controlled by the registry entry HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Run with the value HP Status. This entry will run hpstatue.exe every time the system is started up. When Printer Status and Alerts is closed by right-clicking on the Printer Status and Alerts tray icon and selecting **Exit**, it will prompt the user to restart Printer Status and Alerts on startup. If the user chooses **No, don't start automatically**, this entry will be removed.

To start status manually, select the **Start|Run** menu, and type HPSTATUS.

### Disabling Job Tracking

To temporarily disable job tracking for one or more printers available in Printer Status and Alerts, select the **Options** icon, and then in the Options panel select **Refresh Rate**. Move the slider control all the way to the left so that it is pointing at **Never**.

### Adding or removing Printer Status and Alerts printers

Printer Status and Alerts determines which drivers it supports and which ones it doesn't by consulting the driver support matrix file HPSASDRV.MTX. If a printer is known to be supported but it isn't appearing with the Printer Status and Alerts window, you can run a command to enable Printer Status and Alerts support for the driver that the printer uses.

#### CAUTION

Take care when adding a driver to the Printer Status and Alerts supported list, because it may be unsupported for a reason, and adding in support for a driver that hasn't been tested/supported may break printing for the specified driver or the entire printing system.



## Adding support for a specific driver

- Step 1 Open a command prompt window.
- Step 2 Change directories so that the current directory is the windows\system directory. (For win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32.)
- Step 3 Make sure Printer Status and Alerts is closed. If it is not, right-click the Printer Status and Alerts tray icon and choose **Exit**.
- Step 4 Type the command: `hpbdrvhk -s "Name of the Printer Goes Here"`.
- Step 5 Repeat step 4 for each printer name that is to be added.
- Step 6 Type the command: `hpstatus`.
- Step 7 When Printer Status and Alerts is finished loading, the name of the printer supplied in step 4 will appear in the left pane of the Printer Status and Alerts application window.
- Step 8 Any printer that uses the same driver model name as the printer referenced in step 4 will also appear in the left pane of the Printer Status and Alerts application window.

## Removing support for a specific printer

- Step 1 Open a command prompt window.
- Step 2 Change directories so that the current directory is the windows\system directory. (For win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32.)
- Step 3 Make sure Printer Status and Alerts is closed. If it is not, right-click the Printer Status and Alerts tray icon and choose **Exit**.
- Step 4 Type the command: `hpbdrvhk -u "Name of the Printer Goes Here"`.
- Step 5 Repeat step 4 for each printer name that is to be removed.
- Step 6 Type the command: `hpstatus`.
- Step 7 When Printer Status and Alerts is finished loading, the name of the printer(s) supplied in step 4 will no longer appear in the Printer Status and Alerts application window.

## Removing support for a specific driver

- Step 1 Open a command prompt window.
- Step 2 Change directories so that the current directory is the windows\system directory. (For win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32.)
- Step 3 Make sure Printer Status and Alerts is closed. If it is not, right-click the Printer Status and Alerts tray icon and choose **Exit**.
- Step 4 Type the command: `hpbdrvhk -r "Name of the Printer Goes Here"`.
- Step 5 Repeat step 4 for each printer name that is to be removed.
- Step 6 Type the command: `hpstatus`.
- Step 7 Any printer that references the same driver model name will no longer be supported by Printer Status and Alerts.

## Driver Support Matrix (HPSASDRV.MTX)

The status component determines which printer drivers it supports by consulting a file called the Driver Support Matrix (DSM), named HPSASDRV.MTX. This DSM file is nothing more than an INI file that contains entries of driver model names that it specifically supports, or specifically does not support.

### DSM File Format

The format of the DSM file looks like:

```
[Driver Model Name]
supported=[0|1]
```

Each driver model name that status supports will have an entry in this file. For example the 8150 PS driver would have an entry in the DSM file that looks like:

```
[HP LaserJet 8150 Series PS]
supported=1
```

The DSM can also have entries that specifically prohibit known drivers that status will not support:

```
[Driver Model Name, NotSupported]
driverFileName,x.y.z=1
```

This type of entry is used by status to exclude support for a specific driver model name, using a specific driver file and version. For example, the 8500 PCL drivers for 9x and NT are not supported because the printer drivers are not written in a standard way that status proxy drivers can hook the OS functions they call. Disabling support for these types of drivers is accomplished by having the following entries in the DSM:

```
[HP CLJ 8500 - PCL,NotSupported]
HPCPCLA.DRV,1.0.0090=1
;; windows 9x pcl driver is not supported

[HP CLJ 8500 - PCL,NotSupported]
HPCPCLA.DLL,1.0.0090=1
;; windows NT4 Kernel Mode driver is not supported
```

## Troubleshooting

If Printer Status and Alerts is conflicting with some other application or a specific driver model is causing problems follow the steps below to resolve the appropriate issue.

### 1) General problem solving

To determine the state of Printer Status and Alerts and which printers it is currently monitoring, and how to remove a specific printer, consult the table below.

**Table 78. Problem solving**

Problem	Solution(s)	Description of Solution(s)
When a job is printing and Printer Status and Alerts tracks the status of the print job, it immediately shows the Unknown Job state	Try changing the device to a different port.	<p>Bidi is only supported to a limited set of Port types for version 1.01 of Printer Status and Alerts, and they include:</p> <ul style="list-style-type: none"><li>● HP Standard TCP/IP Port</li><li>● HP JetDirect Port</li><li>● MS Standard TCP/IP Port</li><li>● LPR Ports</li><li>● shared Ports (<a href="#">\\server\share</a>) (includes NetWare shared ports)</li></ul> <p>Bidi does not support USB, or LPT ports, or shared LPT ports. For Toucan/Lucille bidi will support LPT connections and some types of USB or DOT4 ports.</p>

**Table 78. Problem solving (continued)**

Problem	Solution(s)	Description of Solution(s)
When a job is printing and Printer Status and Alerts tracks the status of the print job, after a few minutes of time, it eventually shows the Unknown Job state. (It always behaves this way)	1. Verify the connection is valid by selecting the printer icon within Printer Status and Alerts.	<p>If the printer device status shows up correctly, then this is most likely a compatibility issue with the printer driver, see #2 for this problem.</p> <p>If it shows a broken connection gif, then the problem is with the device, and Printer Status and Alerts is unable to communicate with it. Resolve the communication problem with the printer.</p> <p>If the device is working properly, and Printer Status and Alerts still can't communicate with it, then Printer Status and Alerts will not support the device:</p> <p>Step 1 Open a command prompt window.</p> <p>Step 2 Change directories so that the current directory is the windows\system directory (For win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32)</p> <p>Step 3 Make sure Printer Status and Alerts is closed. If it is not, right-click the Printer Status and Alerts tray icon and choose <b>Exit</b>.</p> <p>Step 4 Make sure that all other applications are closed.</p> <p>Step 5 Type the command: hpbdrrvhk -u "Name of the Printer Goes Here"</p>
	2. If the device status works correctly from #1 above then the problem is most likely due to an unsupported printer driver model.	<p>The printer driver may be incompatible with the Printer Status and Alerts proxy drivers, so it should be disabled/ removed. Follow the steps below.</p> <p>Step 1 Open a command prompt window.</p> <p>Step 2 Change directories so that the current directory is the windows\system directory. (For win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32.)</p> <p>Step 3 Make sure Printer Status and Alerts is closed. If it is not, right-click the Printer Status and Alerts tray icon and choose <b>Exit</b>.</p> <p>Step 4 Make sure that all other applications are closed.</p> <p>Step 5 Type the command: hpbdrrvhk -r "Name of the Printer Goes Here".</p> <p>Step 6 Type the command: hpbdrrvhk -u "Name of the Printer Goes Here".</p>
You do not want Printer Status and Alerts to track job status or show device status for a specific printer.	Remove the printer from the Printer Status and Alerts list.	<p>Step 1 Open a command prompt window.</p> <p>Step 2 Change directories so that the current directory is the windows\system directory. (For win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32.)</p> <p>Step 3 Type the command: hpbdrrvhk -u "Name of Printer Goes Here".</p>

**Table 78. Problem solving (continued)**

Problem	Solution(s)	Description of Solution(s)
You do not want Printer Status and Alerts to track job status on any of the printers, but you do want to use the Device Status feature.	Select the <b>Options</b> icon, and then select <b>Next</b> so that the <b>Refresh Rate</b> option is displayed in the right panel. Move the slider to the far left, pointing at <b>Never</b> .	<p>Setting the refresh rate option to Never will disable all print job tracking, but it will still allow the user to select one of the printer icons to get device status.</p> <p>In the event that the administrator has hidden the refresh rate option and the user cannot see this option complete the following steps:</p> <p>Step 1 Choose the <b>Start   Run</b> menu and type: <code>notepad</code>.</p> <p>Step 2 When notepad opens, choose the <b>File   Open</b> menu and browse to the windows directory, and select the file <code>HPSTATUS.INI</code>.</p> <p>Step 3 In the <code>HPSTATUS.INI</code> file, locate the <code>[refreshrate]</code> section, and set the <code>allprinters</code> entry equal to 0.</p> <p>Step 4 Save the file and exit notepad.</p> <p>Step 5 The change will take affect for the next print job.</p>
You do not want Printer Status and Alerts to track job status or show device status for a specific printer, but you do want to see the device status for that printer.	Select the <b>Options</b> icon, and then select <b>Next</b> so that the <b>Refresh Rate</b> option is displayed in the right panel. Select the specific printer in the <b>For</b> list, and then move the slider to the far left, pointing at <b>Never</b> .	<p>Setting the refresh rate option to Never will disable print job tracking for the specific printer, but it will still allow the user to select the printer icon to get device status.</p> <p>In the event that the administrator has hidden the refresh rate option and the user cannot see this option complete the following steps:</p> <p>Step 1 Choose the <b>Start   Run</b> menu and type: <code>notepad</code>.</p> <p>Step 2 When notepad opens, choose the <b>File   Open</b> menu and browse to the windows directory, and select the file <code>HPSTATUS.INI</code>.</p> <p>Step 3 In the <code>HPSTATUS.INI</code> file, locate the <code>[refreshrate]</code> section, and create a new entry with the exact name of the printer and set it equal to 0.</p> <p>The entry would like something like this:  <code>[refreshrate]</code>  <code>HP LaserJet 8150 Series PCL6=0</code></p> <p>Step 4 Save the file and exit notepad.</p> <p>The change will take affect for the next print job.</p>
When the printer was renamed, Printer Status and Alerts didn't detect the changes.	Printer Status and Alerts may not update the printer list immediately, and a shutdown of Printer Status and Alerts and restart of Printer Status and Alerts is needed.	<p>In version 1.01 of Printer Status and Alerts, it typically will not update the name of the printer, or even remove the old printer name.</p> <p>To fix this problem, right click on the Printer Status and Alerts system tray icon, and choose exit. Then choose the <b>Start   Run</b> menu and type in <code>hpstatus</code> to reload status. It will then pick up the printer changes and display the renamed printer.</p>

**Table 78. Problem solving (continued)**

Problem	Solution(s)	Description of Solution(s)
Newly installed printers are not showing up in Printer Status and Alerts	Shutdown and restart the system.	<p>When Printer Status and Alerts first loads, it performs a check of the system to see if any new printers have been installed. If it detects a new printer that it supports it will automatically add it to the printer list.</p> <p>If the printer was installed, then removed, and installed again, Printer Status and Alerts may not add it automatically and it will need to be added manually. To do this complete the following steps:</p> <p>Step 1 Open a command prompt window.</p> <p>Step 2 Change directories so that the current directory is the windows\system directory. (For win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32.)</p> <p>Step 3 Make sure Printer Status and Alerts is closed. If it is not, right-click the Printer Status and Alerts tray icon and choose <b>Exit</b>.</p> <p>Step 4 Type the command: <code>hpbdrvkh -i -a</code>.</p> <p>Step 5 Restart the system.</p>

In general the HPBDRVHK.EXE can be used to solve various problems. The following is a list of the command line options available to the support utility and their meaning.

**Table 79. Command line options**

Command Line Option	Sample	Meaning
-e	hpbdrvkh -e	<b>Enumerates</b> all printers installed on the computer
-h	hpbdrvkh -h	Enumerates all printers installed on the computer that Printer Status and Alerts is currently tracking print jobs on, or has <b>hooked</b> .
-u	hpbdrvkh -u "My 8100"	The -u parameter means to <u>uninstall</u> Printer Status and Alerts support for the specified printer or for all printers depending on the following command line parameter
	hpbdrvkh -u -a	Uninstall Printer Status and Alerts support for <b>all</b> printers
-i	hpbdrvkh -i "My 8150"	Install Printer Status and Alerts support for the specified printer, or for all printers depending on the following command line parameter. If the driver model name used by this printer is supported, then the printer will be supported by Printer Status and Alerts, otherwise it will report back the error message:  The driver used by (My 8150) is not supported.
	hpbdrvkh -i -a	<b>Install</b> Printer Status and Alerts support for all printers that use a driver model which is Supported by Printer Status and Alerts.
-s	hpbdrvkh -s "My 9000"	Adds the driver model name used by the specified printer, to the driver <b>support</b> matrix file.
-r	hpbdrvkh -r "My 9000"	<b>Removes</b> the driver model name used by the specified printer from the driver support matrix. This means that any other printer which uses the same driver model as the printer "My 9000" will no longer be supported by Printer Status and Alerts.

**Table 79. Command line options**

Command Line Option	Sample	Meaning
-x	hpbdrvhk -x "HP DeskJet"	<p><b>Excludes</b> the driver model name using the specified printer driver file from the driver support matrix. This option is generally not needed, but could be useful in a shared environment.</p> <p>If an administrator discovers that Printer Status and Alerts is causing problems with a specific driver/printer, but works correctly with a newer version of the driver/printer, this option can then be run on one machine, and then replicated to other machines.</p> <p>This option records the printer driver file version for the driver model name, used by the specified printer, as an unsupported driver model. Yet if a new printer driver file with the same name, and a newer version is released and is found to work with Printer Status and Alerts, Printer Status and Alerts will support the printer using the newer driver files.</p>
-c	hpbdrvhk -c "My Printer"	<p><b>Cleans</b> the registry information and Printer Status and Alerts driver hooking information should any remnants be left behind.</p> <p>This option should only be run if the hpbdrrvhk -u (uninstall) option fails after running it 3 times in a row.</p>
	hpbdrvhk -c -a	Use the -a option to clean up all printer settings after the hpbdrvhk -u -a command has been run.

## 2) Printer Status and Alerts is causing problems with a specific driver model

To resolve this issue, perform the following steps:

- Step 1 Open a command prompt window.
- Step 2 Change directories so that the current directory is the windows\system directory. (For win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32.)
- Step 3 Make sure Printer Status and Alerts is closed. If it is not, right-click the Printer Status and Alerts tray icon and choose **Exit**.
- Step 4 Make sure that all other applications are closed.
- Step 5 Type the command: `hpbdrvhk -r "Name of the Printer Goes Here"`.
- Step 6 Type the command: `hpbdrvhk -u "Name of the Printer Goes Here"`.
- Step 7 Repeat step 5 and 6 for each printer name that references the driver model name which is causing problems.
- Step 8 Restart the system.
- Step 9 Any printer that references the same driver model name will no longer be supported by Printer Status and Alerts.

If the user is still experiencing problems with this driver/printer and Printer Status and Alerts complete the following steps:

Step 10 Repeat steps 1-4 above.

Step 11 Type the command: `hpbdrvhk -c "Name of the Printer Goes Here"`.

Step 12 Repeat step 11 for each printer name that was used in the steps 1-4 originally.

Step 13 Restart the system.

If the user is still having problems, then follow the next steps below:

Step 14 Repeat steps 1-4 above.

Step 15 Type the command: `hpbdrvhk -u -a`.

Step 16 Type the command: `hpbdrvhk -c -a`.

Step 17 Choose the **Start|Run** menu and type in: `REGEDIT`.

Step 18 Browse to `HKEY_LOCAL_MACHINE\Software\Hewlett-Packard\HPSpoolerImportFixup`.

Step 19 Delete any subkeys that have a printer driver model name (such as "HP LaserJet 8150 PS").

Step 20 Delete all values except these three if they are present: `NewImportModule`, `ReplacerModule`, `NewImportModuleUM`.

Step 21 In the registry editor, browse to `HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Print\Environments`.

Step 22 If this is a Windows 9X machine proceed to Windows 9X Steps.

Step 23 If this is a Windows NT 4.0 machine proceed to Windows NT 4.0 Steps.

Step 24 If this is a Windows 2000 machine proceed to Windows NT 4.0 Steps and then complete the Windows 2000 Steps.



## Windows 9x steps

- Step 1 In the registry editor select the Windows 4.0\Drivers key.
- Step 2 Select the first driver key and got to “All operating systems” below.

## Windows NT 4.0 steps

- Step 1 At the command prompt type: `net stop spooler`.
- Step 2 In the registry editor select the Windows NT x86\Drivers\**Version-2** key.
- Step 3 Select the first driver key and got to “All operating systems” below.

## Windows 2000 steps

- Step 1 Complete Windows NT 4.0 steps a-g, DO NOT restart the system until these steps below are complete.
- Step 2 In the registry editor select the Windows NT x86\Drivers\**Version-3** key.
- Step 3 Select the first driver key and got to “All operating systems” below.

## All operating systems

- Step 1 If there is a value named RealDriver, right-click on the Driver value and choose **Delete**. Then, right-click on the RealDriver value and choose **Rename**. Rename the RealDriver value to be Driver.
- Step 2 If there is not a value named RealDriver, proceed to the next step.
- Step 3 Select the next driver model name key in the registry and repeat step d-f until each one has been inspected.
- Step 4 At the command prompt type: `net start spooler`.
- Step 5 Restart the system.

### 3) Printer Status and Alerts is conflicting with other application(s)

If Printer Status and Alerts is conflicting with another application, and the user wishes to remove Printer Status and Alerts manually, it can be removed by doing the following steps

- Step 1 Open a command prompt window.
- Step 2 Change directories so that the current directory is the windows\system directory. (For win9x systems it will typically be windows\system, for NT/2K machines it will be winnt\system32.)
- Step 3 Make sure Printer Status and Alerts is closed. If it is not, right-click the Printer Status and Alerts tray icon and choose **Exit**. After choosing Exit, make sure the user selects the **No, don't start automatically** option.
- Step 4 Make sure that all other applications are closed.
- Step 5 Type the command: `hpbdrvhk -u -a.`
- Step 6 Type the command: `hpbdrvhk -c -a.`
- Step 7 Restart the system.
- Step 8 If printing is not working after reboot, see *Printer Status and Alerts is causing problems with a specific Driver Model*.

# Index

## Symbols

- % of Normal Size option in printer drivers 69
- .hpb files 99
- .inf file (add printer) 112
- .pcm files 99
- .rfu (remote firmware update) files
  - corrupted 34
  - description 30
  - wrong printer model contained in 35

## Numerics

- 3000-sheet stapler/stacker. *See* stapler/stacker

## A

- About tab in Digital Sending Config Applet 192
- About This Driver dialog box 93
- accessories
  - autoconfiguration 23
  - documentation 21, 46
  - media supported by output devices 207, 208
  - monitoring with Printer Status and Alerts utility 24, 28
  - stapler/stacker 60
  - supported paper sizes for HP LaserJet 9000mfp 204, 205
  - verifying installed options 28
- accounting vendor portal 43
- Acrobat Reader requirement for documentation 20
- addresses and address books, configuring for digital sending 186, 187
- Addressing tab in Digital Sending Config Applet 187
- administrator
  - configuring contact information and alerts 184
  - identifying 184
- Adobe Acrobat Reader requirement for documentation 20
- Adobe PS Level 3 printer drivers 103
- Advanced tab in printer drivers 105
- alerts
  - administrator 184
  - configuring pop-up windows 24, 28
  - configuring refresh rate 28
  - disabling in Printer Status and Alerts utility 28
  - e-mail 41
  - icons 26
  - monitoring with Printer Status and Alerts utility 24
  - printer status 231
- All Pages tab in printer drivers 74
- Apple LaserWriter driver 47
- AppleTalk 47
- AppleTalk Chooser, installing printers 174
- Arabic registration 147
- attachments, configuring for digital sending e-mail 186
- authentication for login, Novell client installation 210
- Auto Select
  - option for media source 81
  - option for paper type 82
- AutoCAD printer driver
  - availability of components by operating system 112
  - supported versions 48

## autoconfiguration

- accessories supported 23
- availability of components by operating system 112
- description 23, 194
  - See also* EAC (Enterprise AutoConfiguration)
- automatic e-mail notifications about software and firmware releases 110

## B

- Back Cover tab in printer drivers 76
- back covers
  - including for documents 75
  - selecting for booklets 60
- Basics tab in printer drivers 89
- Best Quality printer driver setting 64
- bidirectional communication
  - autoconfiguration 23
  - availability of components by operating system 112
  - description 22
  - for parallel and USB connections 23
  - supporting operating systems and network environments 22
- bidirectional communication for printer drivers 194
- bindery
  - determining server connection 209
  - determining whether client has been previously loaded 210
  - installing the client 209
  - objects associated with printer 225
  - setting up NDS-installed client 210
  - See also* NDS; Novell NetWare
- bindery queues
  - building with HP JetAdmin 215, 219
  - description 224
  - print objects 228
  - troubleshooting 231
- binding options 57, 58
- bins. *See* output bins
- bitmaps, sending TrueType fonts as 67
- black, printing all text as 67
- booklets
  - binding options 58
  - impositioning 59
  - page borders option 63
  - page order option 63
  - pages per sheet option 63
  - paper sizes for which disabled 58
  - printing 58
  - quick sets 55
  - selecting back cover 60
  - selecting cover 60
- borders option for printing 63
- Bubble Help 53
- bundle configurations
  - geographic variations 17
  - HP LaserJet 9000mfp 18

## C

- Cancel button in messages 52
- CD browser for HP LaserJet printing system software
  - availability of components by operating system 112
  - description 44, 45
- CD-ROM for installation
  - availability and fulfillment 109
  - in-box file layout 109
  - regional versions 109
- changing
  - job properties 181
  - printer driver in printer object 180
  - printer properties 180
  - watermarks 72
- character, euro 44
- Choose Setup Language dialog box 124
- codes for firmware level 30
- collating
  - multiple original print jobs 95
  - overriding settings in software programs 99
- colors
  - configuring for digital sending e-mail 186
  - selecting for watermarks 72
- commands
  - paper source 201
  - paper type 208
- community name 224
- Complex Graphics option in printer drivers 66
- Components dialog box 146
- confidential documents, printing 85, 86, 107, 108
- configuration
  - automatic using Driver Autoconfiguration 23
  - verifying physical configuration 83
  - verifying printer 73
  - viewing remotely 38
- configuration page
  - printing 30
  - viewing remotely using HP Web Access 37
- configurations
  - geographic variations 17
  - HP LaserJet 9000mfp 18
- Configure Font DIMMs dialog box 98
- Configure tab in driver help 94
- configuring 184
  - administrator contact information and alerts 184
  - destinations 96
  - devices remotely 38
  - digital sending 42, 183
  - duplexing unit 95
  - e-mail alerts 41
  - e-mail command and response 43
  - font DIMMs 98
  - job retention 97
  - LDAP for digital sending 187
  - links to off-printer solutions 37
  - mopier 95
  - NDS client for bindery emulation mode 210
  - Novell NetWare 209
  - configuring, continued
    - paper destinations 96
    - paper sources 96
    - pop-up windows in Printer Status and Alerts utility 24, 28
    - predefined user settings for printing 54
    - printer driver hard disk 84
    - printer driver work space 98
    - printer memory 97
    - printer storage 97
    - refresh rate for printer status and alerts 28
    - Tray 1 95
    - trays for Windows operating systems 101
  - conflict in settings for printing 82
- connections
  - determining server for Novell NetWare 209
  - EtherTalk 167
  - LocalTalk 167
  - parallel for Macintosh operating systems 167
- consumables
  - monitoring with Printer Status and Alerts utility 24, 28
  - monitoring with Supplies Status page 36
- contact information for administrator, viewing and configuring 184
- control panel, viewing simulation with Printer Status and Alerts utility 24
- copies
  - conflict between printer driver and application 90
  - maximum number 89
  - printing noncollated 100
  - selecting number to print 89
  - setting number to print 89, 104
- Copies option in printer drivers 89
- covers
  - including for document back 75
  - selecting for booklets 60
- Create Queue dialog box
  - bindery 220
  - NDS 224
- Current Watermarks option in printer drivers 71
- Custom installation
  - Novell client 209
  - Windows operating systems 145
- Custom Paper Size dialog box 77
- custom paper sizes
  - defining 73
  - limits on width and height 80
  - naming 79
  - PCL 5e 206
  - PCL 6 206
  - removing 78, 79
  - renaming 78, 79
  - selecting 78
  - setting 77
  - setting width and height 79
  - supported by HP LaserJet 9000mfp 204
  - supported by HP LaserJet 9000mfp output devices 205, 206
  - supported by PS printer driver 206
  - viewing list of supported 76
- custom paper types 82
- Customization Utility for installation 157

## D

### defaults

- installed fonts 118
- job properties for printer objects 181
- number of quick-copy and proof-and-hold jobs 85, 106
- printer 161
- printer driver Basics options 89
- printer driver Configure options 94
- printer driver Destination options 83
- printer driver Effects options 68
- printer driver Finishing options 54
- printer driver Paper options 73
- watermarks 73

### deleting. *See* removing

### Destination Features options in printer drivers 83

### Destination tab in printer drivers 83

### destinations, configuring 96

### Device Settings tab in printer drivers 108

### Device Status 36

### devices

- configuring remotely 38
- monitoring with Printer Status and Alerts utility 28
- verifying installation 28
- viewing status 36

### dialog boxes

- About This Driver 93
- Choose Setup Language 124
- Components 146
- Configure Font DIMMs dialog box 98
- Create Queue (bindery) 220
- Create Queue (NDS) 224
- Custom Paper Size 77
- Exit Setup 145
- Exiting Registration 156
- Finish 144
- General Device Information 218
- Hewlett-Packard's Electronic Registration 148, 151
- HP LaserJet for Macintosh Installer splash screen 169
- HP LaserJet Installer (custom install) 171
- HP LaserJet Installer (easy install) 170
- HP LaserJet Installing 173
- HP LaserJet Screen Fonts Installer 175
- HP Software License Agreement 126
- Identify Printer 134
- Installation Type 139
- Location Profile Properties: Bindery 212
- Model 138
- More Configuration Options 97
- NDS Login Authentication 210
- NetWare (beginning for building queues) 218
- NetWare (beginning for NDS queue) 222
- NetWare (bindery queues serviced) 219
- NetWare (displaying queues serviced) 220
- Network (NDS queues serviced) 223
- Network Printer Configuration 133
- Network Setup 131
- New Device 217
- Novell Client Configuration 211, 214
- Novell Login 213
- Preferences 216
- Print Quality Details (600 dpi) 66
- Print Quality Details (Best Quality) 65
- Printer Name 141
- Printer Sharing 142

### dialog boxes, continued

- Queues (bindery) 219
- Queues (NDS) 223
- Select Port 130
- Set Network Communication Mode 137
- Setup 125
- Specify Network Path 136
- TCP/IP 221
- Type of Connection 129
- Watermark Details 71
- Web Update 127
- Welcome 125
- Welcome to Hewlett-Packard's Registration 150

### different paper for first page 74

### digital sending

- configuring from control panel 41
- configuring from the control panel 42
- configuring from Web browser 183
- description 41

### Digital Sending Config Applet

- About tab 192
- Addressing tab 187
- description 183
- General tab 184
- Log tab 191
- opening 183
- Preferences tab 190
- Send to E-mail tab 185

### DIMMs (dual inline memory modules)

- availability of fonts by operating system 112
- fonts 98

### directory structure on installation CD-ROM 109

### disabling

- alerts 28
- EAC (Enterprise AutoConfiguration) 200
- job retention 84, 106
- Printer Status and Alerts support 238

### disk storage, verifying installed options 28

### Document Options for printer drivers 56

### documentation for product 45

- availability of components by operating system 112
- description 20
- localization of components by operating system 113
- location on installation CD-ROM 109
- obtaining 20

### documents

- configuring settings for all pages 74
- folding and saddle-stitching 62
- including back cover 75
- identifier for job retention 86
- printing confidential or sensitive 85, 86, 107, 108
- scaling for different paper sizes 69
- scaling to fit target paper size 69
- selecting number to copy 89
- setting different first page 74
- stapling 60

### dots per inch (dpi) setting in printer drivers 64, 66

### double-sided printing. *See* duplexing

### downloading

- firmware updates 30
- firmware updates using HP Web JetAdmin 32
- firmware upgrades 109
- HP LaserJet printing system software 111
- operating system driver bundles 111
- software 109
- standalone printer drivers 111

- dpi (dots per inch) setting in printer drivers 64, 66
- Driver Autoconfiguration 23
- Driver Support Matrix (DSM) for printer drivers 240
- Driver Work Space (DWS) option in printer drivers 98
- drivers. *See* printer drivers
- DSM (Driver Support Matrix) for printer drivers 240
- dual inline memory modules (DIMMs). *See* DIMMs (dual inline memory modules)
- duplex printing accessory. *See* duplexing unit
- duplexer. *See* duplexing unit
- duplexing
  - binding option 57
  - option. *See* Print on Both Sides option
  - setting default 57
- duplexing unit
  - configuring 95
  - custom paper size limits on width and height 80
  - paper sizes supported by HP LaserJet 9000mfp 204, 205
  - Print on Both Sides option 57
- DWS (Driver Work Space) option in printer drivers 98

**E**

- EAC (Enterprise AutoConfiguration)
  - description 194
  - disabling 200
  - printer drivers supported 194
  - Windows requirements 195
- EconoMode option in printer drivers 64, 67
- Edge-to-Edge Printing option in printer drivers 67
- Effects tab in printer drivers 68
- e-mail
  - alerts 41
  - command and response 43
  - configuring for digital sending from control panel 42
  - configuring for digital sending in Web browser 185
  - notifications about software and firmware releases 30, 110
  - registration of product 147
  - using to send scanned documents 41
  - verifying communication 193
- e-mail servers
  - Exchange 2000 192
  - Exchange 5.5 192
  - Lotus Domino (Notes) 193
  - Qmail 193
  - Sendmail 192
  - supporting LDAP 194
- enabling. *See* configuring
- Enterprise AutoConfiguration (EAC). *See* EAC (Enterprise AutoConfiguration)
- envelopes
  - dimensions supported 202
  - paper sizes supported by HP LaserJet 9000mfp output devices 205
  - supported by HP LaserJet 9000mfp 204
- error messages. *See* messages
- EtherTalk connection 167
- euro character 44
- Event Log page, viewing with HP Web Access 36
- Exchange 2000 e-mail server 192
- Exchange 5.5 e-mail server 192
- Exit Setup dialog box 145
- Exiting Registration dialog box 156
- extensions for printer drivers 93

**F**

- face-down bin. *See* output bins
- face-up bin. *See* output bins
- fax numbers supported for digital sending 188
- features
  - HP LaserJet 9000mfp 18
  - HP LaserJet printing system software installer 46
  - printer driver 51
- FIH (Foreign Interface Harness) 43
- files
  - added through installation of HP LaserJet printing system for Macintosh operating systems 168
  - configuring format and size for digital sending e-mail 186
  - .hpb 99
  - included on installation CD-ROM 109
  - .inf (add printer) 112
  - .pcm 99
  - PPD 47, 112, 113, 164
- Find Server button
  - for LDAP server 187
  - for SMTP gateway 185
- Finish dialog box 144
- Finishing tab in printer drivers 54
- firmware
  - automatic notification of releases 110
  - determining current level 30
  - downloading 110
  - notification of new releases 30
  - updating remotely 30
  - viewing version number for MFP 192
- firmware update. *See* RFU (remote firmware update)
- first page, setting to be different 74
- Flip Pages Up option for duplexing 57
- Fold/Saddle Stitch option in printer driver 62
- folders added through installation of HP LaserJet printing system for Macintosh operating systems 168
- folding documents 62
- font DIMMs 98
- Font Settings option in printer drivers 67
- fonts
  - availability of components by operating system 112
  - euro character 44
  - HP 80 118
  - installing for IBM operating systems 177
  - installing for Macintosh operating systems 175
  - localization of components by operating system 113
  - location on installation CD-ROM 109
  - options in printer drivers 67
  - printer driver options 98
  - selecting for watermarks 72
  - support for IBM operating systems 177
  - support for Macintosh operating systems 164
  - support for Windows operating systems 118
  - TrueType, controlling in printer driver 105
  - TrueType, sending as bitmaps 67
- Foreign Interface Harness (FIH) 43
- fulfillment centers 109

## G

General Device Information dialog box 218  
General tab in Digital Sending Config Applet 184  
graphic options, setting in printer driver 105  
Graphics Settings for printer drivers 66

## H

hard disk  
    configuring printer driver 84, 97  
    removing jobs 88  
    sending jobs directly to 86, 107  
hardware address for Jetdirect card 217  
Hebrew registration 147  
help  
    Bubble 53  
    for PCL 5e and PCL 6 drivers 51  
    localization by operating system 113  
    What's this? 51  
Hewlett-Packard's Electronic Registration dialog box 148, 151  
history information for jobs 24  
HP 80 fonts installed for HP LaserJet printing system software 118  
HP Auto Setup Utility for Macintosh operating systems 164  
HP JetAdmin Utility window 215  
HP JetAdmin, using to building Novell queues 215  
HP LaserJet 9000mfp  
    availability of software components 112  
    configurations 18  
    custom paper size limits on width and height 80  
    EconoMode settings 67  
    features 18  
    media supported by input devices 206  
    media supported by output devices 207  
    models 18  
    multibin output devices supported 96  
    optional output devices 88  
    paper sizes supported by 3000-Sheet Stacker and 3000-Sheet Stapler/Stacker 204  
    paper sizes supported by duplexing unit 204  
    paper sizes supported by HP Multifunction Finisher 205  
    paper sizes supported by Multifunction Finisher 205  
    paper source commands 202  
    paper source options 96  
    stapling option 60  
HP LaserJet for Macintosh Installer splash screen dialog box 169  
HP LaserJet Installer (custom install) dialog box 171  
HP LaserJet Installer (easy install) dialog box 170  
HP LaserJet Installing dialog box 173  
HP LaserJet Multifunction Finisher  
    configuring as destination 96  
    media supported 207  
    paper sizes supported by HP LaserJet 9000mfp 204, 205  
    Quick Sets 55  
HP LaserJet printing system software  
    availability of components by operating system 112  
    bidirectional communication technology 22  
    CD browser 44  
    components 44  
    Custom installation for Windows operating systems 145  
    downloading 111  
    installable components 47  
    installation CD-ROM 109  
    installing on Macintosh operating systems 167

HP LaserJet printing system software, continued  
    localization of components by operating system 113  
    operating systems supported 19  
    printer drivers 47  
    Printer Status and Alerts utility 24  
    requirements for IBM operating systems 163  
    requirements for Macintosh operating systems 163  
    Typical installation for Windows operating systems 124  
    versions 44  
HP LaserJet Screen Fonts Installer dialog box 175  
HP LaserJet Utility 164  
HP Resource Manager, localization by operating system 113  
HP Software License Agreement dialog box 126  
HP Web Access  
    description 35  
    localization of components by operating system 113  
    printer configuration page 37  
HP Web JetAdmin  
    availability of components by operating system 112  
    description 49  
    localization of components by operating system 113  
    supported operating systems 49  
    using to download firmware 32  
    using with HP Web Access 35  
    website 49  
HP Web Registration 49  
HPB files 99  
Hpstatus.ini file 232

## I

IBM operating systems  
    availability of components 112  
    changing job properties 181  
    changing printer driver in printer object 180  
    changing printer properties 180  
    font support 177  
    installing fonts 177  
    installing printers when printer object missing from desktop 177  
    installing printers when printer object present on desktop 178  
    localization of components by operating system 113  
    printer drivers 48  
    requirements for HP LaserJet printing system software 163  
    supporting HP LaserJet printing system software 19  
icons  
    printer in Destinations tab 82, 88, 100  
    printer in Paper tab 73  
    status and alert 26  
Identify Printer dialog box 134  
Ignore Application Collation option in printer drivers 99  
images  
    orientation 90  
    rotating versus stapling 90  
    scaling on pages 68  
impositioning for booklet printing 59  
IMS (Internet Mail Service) 192  
inches  
    selecting as unit of measure 76  
    switching to millimeters 80  
INF file (add printer) 112



- installation
  - customizing 157
  - invisible 157
  - Microsoft Point and Print 160
  - printer drivers only 159
  - requirements for IBM operating systems 163
  - requirements for Macintosh operating systems 163
  - requirements for Windows operating systems 117
  - silent 158
  - using autoconfiguration 23
- Installation Type dialog box 139
- installers
  - availability of components by operating system 112
  - for HP LaserJet printing system software 45, 46
  - for Macintosh operating system 169
  - localization of components by operating system 113
- installing
  - drivers using NDPS 228
  - fonts for IBM operating systems 177
  - fonts for Macintosh operating systems 175
  - HP LaserJet printing system software 44, 123
  - Macintosh printing system 167
  - Microsoft Point and Print 160
  - Novell client 209
  - online documentation 20
  - only printer driver 159
  - Printer Status and Alerts utility 24
  - printers using AppleTalk Chooser 174
  - using Customization Utility 157
  - using silent installer 158
  - Windows printing system 117
  - ZENworks 231
- Internet Mail Service (IMS) 192
- invisible installation of drivers 157

## J

- Java software included with HP Web Access 35
- JetAdmin. *See* HP JetAdmin
- Jetdirect card address 217
- Job Retention option in printer drivers
  - description 83
  - disabling 84, 106
  - document identifier 86
  - enabling 97
  - job retention mode 84
  - limitations among printer drivers 87
  - using when printing 87
- Job Retention tab in printer drivers 106
- jobs
  - changing properties 181
  - collating multiple original print 95
  - disabling monitoring in Printer Status and Alerts utility 28
  - disabling tracking for printers 238
  - history information 24
  - identifier for job retention 86
  - managing memory using printer drivers 66
  - monitoring with Printer Status and Alerts utility 24
  - naming 87
  - private 85, 107
  - private stored 86, 108
  - proof-and-hold 85, 107
  - quick copy 85, 106
  - releasing stored 87
  - removing from memory or hard disk 88
  - sending directly to hard disk 86, 107
  - sending directly to printer memory 85, 107
  - setting number of copies to print 89
  - stored 85, 86, 107
  - using PINs 85, 107

## L

- landscape orientation
  - description 90
  - duplex-binding option 57
- languages
  - for Macintosh operating systems 168
  - Hebrew and Arabic registration 147
  - key to abbreviations 114
  - localization of components by operating system 113
  - supported on installation CD-ROM 109
- LDAP (Lightweight Directory Access Protocol)
  - common abbreviations for attributes 194
  - configuring for digital sending 187
  - description 194
  - e-mail servers that support 194
  - Web site 194
- license agreement 126
- Lightweight Directory Access Protocol (LDAP). *See* LDAP (Lightweight Directory Access Protocol)
- links to off-printer solutions 37
- Linux operating systems
  - availability of components 112
  - printer drivers 48
- localization of components by operating system 113
- LocalTalk connection 167
- Location Profile Properties: Bindery dialog box 212
- Log tab in Digital Sending Config Applet 191
- login authentication, Novell client installation 210
- long-edge stapling 90
- Lotus Domino (Notes) e-mail server 193

## M

- MAC (media access control) address for Jetdirect card 217
- MAC/Hardware number 217
- Macintosh LaserJet Utility, availability of components by operating system 112
- Macintosh operating systems
  - availability of components 112
  - component descriptions 163
  - directory structure on installation CD-ROM 109
  - folders and files added through installation of HP LaserJet software 168
  - font support 164
  - HP LaserJet printing system software components 48
  - installable components 47
  - installing fonts 175
  - installing printers 174
  - installing printing system 167
  - localization of components by operating system 113
  - requirements for HP LaserJet printing system software 163
  - supported printer drivers 47
  - supporting bidirectional communication 22
  - supporting HP LaserJet printing system software 19
  - uninstalling printing system 168
- managing
  - memory for print jobs using printer drivers 66
  - printers using HP Web Access 35
  - using HP Web JetAdmin 49
- manuals. *See* documentation for product
- Measurement Units button 80
- media
  - attributes for paper-source, type, and size 201
  - configuring destinations 96
  - supported by input devices 207
  - supported by output devices 207, 208
  - supported types and sizes 202
  - viewing list of supported sizes 76



- media access control (MAC) address for Jetdirect card 217
- memory
  - managing for jobs using printer drivers 66
  - printer error messages 66
  - removing jobs 88
  - sending jobs directly to printer 85, 107
  - storing documents in printer 84
- Memory Enhancement technology (MEt) option in printer drivers 66
- messages
  - Bubble Help 53
  - configuring for digital sending e-mail 186
  - firmware update 33
  - printer memory-error 66
- MEt (Memory Enhancement technology) option in printer drivers 66
- MFP Module option in printer driver 95
- Microsoft Point and Print installation 160
- millimeters
  - selecting as unit of measure 76
  - switching to inches 80
- Model dialog box 138
- model numbers, viewing 92
- models
  - HP LaserJet 9000mfp 18
- moire effect, resolving 67
- monitoring
  - disabling in Printer Status and Alerts utility 28
  - print jobs and printer status using Printer Status and Alerts utility 24
- mopier, enabling 95
- More Configuration Options dialog box 97
- multifunction finisher. *See* HP LaserJet Multifunction Finisher

## N

- naming
  - custom paper sizes 78, 79
  - jobs 87
- NDPS (Novell Directory Printer Services)
  - installing drivers 228
  - making print agents 229
- NDPS Broker 228
- NDPS Manager 228
- NDS
  - building queues 222
  - determining server connection 209
  - determining whether client has been previously loaded 210
  - installing the client 209
  - login authentication installation 210
  - print queue objects 227
  - setting up client for bindery emulation mode 210
  - See also* bindery; Novell NetWare
- NDS Login Authentication dialog box 210
- NDS queues
  - building with HP JetAdmin 215, 222
  - description 224
  - printer server objects 225
  - troubleshooting 231
- NetWare Administrator window (NWAdmin32) 225
- NetWare dialog box
  - beginning for building queues 218
  - beginning for NDS queue 222
  - bindery queues serviced 219
  - displaying queues serviced 220
- NetWare. *See* Novell NetWare 248
- Network dialog box (NDS queues serviced) 223
- network operating systems. *See* IBM operating systems; Linux operating systems; operating systems; Macintosh operating systems; UNIX operating systems; Windows operating systems
- Network Printer Configuration dialog box 133
- Network Setup dialog box 131
- New Device dialog box 217
- nonvolatile random-access memory (NVRAM). *See* NVRAM (nonvolatile random-access memory)
- notifications
  - configuring e-mail 41
  - e-mail software and firmware releases 110
  - new firmware releases 30
- Novell Client Configuration dialog box 211, 214
- Novell Directory Printer Services (NDPS). *See* NDPS (Novell Directory Printer Services)
- Novell Login dialog box 213
- Novell NetWare
  - configuring 209
  - determining the server connection 209
  - installing the client 209
  - making user policies 230
  - operating systems supporting bidirectional communication 22
  - removing printer objects from server 224
  - using HP JetAdmin to build queues 215
- NT Forms tab in printer driver 101
- numbers
  - firmware level 30
  - MAC/Hardware 217
- NVRAM (nonvolatile random-access memory), changes from firmware update 30
- NWADMIN32 program 224

## O

- OK button in messages 52
- online documentation for product
  - availability of components by operating system 112
  - description 20
  - installing 20
  - obtaining 20
  - viewing 20
- online help for Macintosh operating systems 164
- operating systems
  - availability of components 112
  - localization of components 113
  - supported by HP Web JetAdmin 49
  - supporting bidirectional communication 22
  - supporting HP LaserJet printing system software 19
  - See also* IBM operating systems; Linux operating systems; Macintosh operating systems; UNIX operating systems; Windows operating systems
- optimizing printer driver performance 98
- Optional Paper Destinations menu 96
- Optional Paper Sources menu 96
- Options menu 88
- order of pages 63
- ordering
  - from HP Web site 110
- orientation of image on page
  - description 90
  - setting in printer driver 104
  - See also* landscape orientation; portrait orientation; rotated orientation
- OS/2. *See* IBM operating systems
- Other Options options in printer drivers 97
- Other Pages tab in printer driver 75

- output bins
  - custom paper size limits on width and height 80
  - media supported 207, 208
  - paper sizes supported by HP LaserJet 9000mfp 204, 205
  - printing options 88
  - selecting on Configure tab 100
  - selecting on Destination tab 82, 88
- Output Settings options in printer drivers 66
- P**
  - Page Order option in printer drivers for booklets 63
  - page orientation
    - duplex-binding options 57
    - setting in printer driver 104
  - Page Setup tab in printer drivers 104
  - Pages per Sheet menu 63
  - paper
    - configuring destinations 96
    - supported by input devices 207
    - supported by output devices 207, 208
  - Paper Handling options in printer driver 95
  - paper level, monitoring with Printer Status and Alerts utility 24
  - paper sizes
    - disabled for printing booklets 58
    - priority when settings conflict 82
    - selecting for first and subsequent pages 76
    - setting for custom 79
    - setting in printer driver 104, 105
    - supported 202
    - supported by HP LaserJet 9000mfp input devices 203
    - supported by HP LaserJet 9000mfp output devices 204, 205
  - paper source commands
    - description 201
    - for HP LaserJet 9000mfp 202
  - paper sources
    - configuring 96
    - setting in printer driver 104
  - Paper tab in printer drivers 73
  - paper type commands 208
  - paper types
    - adding manually from the driver 82
    - auto select 82
    - priority when settings conflict 82
    - supported 82, 202
  - parallel connections
    - bidirectional communication 23
    - for Macintosh operating systems 167
  - PCL (printer command language)
    - supporting operating systems 19
  - PCL 5e
    - localization by operating system 113
    - paper type commands 208
  - PCL 5e printer driver 19
    - autoconfiguration 23
    - bidirectional communication 23
    - custom paper sizes 206
    - description 47
    - font DIMMs 99
    - help system 51
    - support for Windows 3.1x 161
  - PCL 6 printer driver 19
    - autoconfiguration 23
    - bidirectional communication 23
    - custom paper sizes 206
    - description 47
    - font DIMMs 99
    - help system 51
    - localization by operating system 113
    - support for Windows 3.1x 161
  - PCM files 99
  - Percentage of Normal Size option in printer drivers 69
  - PIN, assigning to print jobs 85, 107
  - plug and play component availability by operating system 112
  - point and print component availability by operating system 112
  - policy queues 230
  - portrait orientation
    - description 90
    - duplex-binding option 57
  - postcards
    - supported by HP LaserJet 9000mfp 204
    - supported by HP LaserJet 900mfp 205, 206
    - supported dimensions 203
  - PostScript (PS) printer driver. See PS (PostScript) printer driver
  - PPDs (printer definition files)
    - availability of components by operating system 112
    - description 47, 164
    - localization of components by operating system 113
  - Preferences dialog box 216
  - Preferences tab in Digital Sending Config Applet 190
  - print agents
    - associating policy queues 230
    - associating queues 230
    - making for NDPS 229
  - Print all Text as Black option in printer drivers 67
  - Print Document On option in printer drivers 69
  - print jobs. See jobs
  - Print Layout (Non NDPS) window 226
  - Print on Both Sides option in printer drivers 57
  - Print Page Borders option in printer drivers for booklets 63
  - Print Quality Details dialog box
    - 600 dpi 66
    - Best Quality 65
  - print quality options in printer drivers 64
  - Print Quality portion of Finishing tab 54
  - printer command language (PCL)
    - supporting operating systems 19
  - printer definition files (PPDs). See PPDs (printer definition files)
  - printer driver options
    - % of Normal Size 69
    - binding 58
    - booklet printing 58
    - Complex Graphics 66
    - Copies 89
    - Current Watermarks 71
    - Destination Features 83
    - Document Options 56
    - dpi setting 64, 66
    - Driver Work Space (DWS) 98
    - duplex-binding options 57
    - EconoMode 67
    - Edge-to-Edge Printing 67
    - Flip Pages Up 57
    - Fold/Saddle Stitch 62
    - Font Settings 67
    - Fonts 98

#### printer driver options, continued

- Graphics Settings 66
- Ignore Application Collation 99
- Job Retention 84, 86, 87, 97, 106
- MEt (Memory Enhancement technology) 66
- MFP Module 95
- Other Options 97
- Output Settings 66
- Pages per Sheet 63
- Paper Handling Options 95
- Print all Text as Black 67
- Print Document On 69
- Print on Both Sides 57
- Print Page Borders 63
- print quality 64
- Printer Memory 97
- Private Job 85, 107
- Proof and Hold 85, 107
- Quick Copy 85, 106
- Resolution 66
- REt (Resolution Enhancement technology) 66
- Scale Patterns (WYSIWYG) 67
- Scale to Fit 69
- Size is 76
- Staple 60, 96
- Storage 97
- Stored Job 86, 87, 107
- Watermarks 70
- ZoomSmart 68

#### printer driver tabs

- Advanced 105
- All Pages 74
- Back Cover 76
- Basics 89
- Configure 94
- Destination 83
- Device Settings 108
- Effects 68
- Finishing 54
- Job Retention 106
- NT Forms 101
- Other Pages 75
- Page Setup 104
- Paper 73

#### printer drivers

- adding paper types manually 82
- Adobe PS level 3 103
- AutoCAD 48
- autoconfiguration 23, 194
- availability of components by operating system 112
- bidirectional communication 194
- changing in printer object 180
- configuring for hard disk 84
- downloading Macintosh, AutoCAD, and IBM 111
- downloading standalone 111
- downloading system driver bundles 111
- Driver Support Matrix (DSM) 240
- enabling hard disk or job retention for storage 97
- extensions 93
- features 51

#### printer drivers, continued

- help system for PCL 5e and PCL 5 51
- included with HP LaserJet printing system software 47
- installing for Windows 3.1x 162
- installing only 159
- installing using NDPS 228
- installing when printer object missing from desktop 177
- installing when printer object present on desktop 178
- invisible installation 157
- localization of components by operating system 113
- location on installation CD-ROM 109
- managing memory for print jobs 66
- optimizing performance 98
- PCL 5e 19
- PCL 6 19
- removing support for Printer Status and Alerts 240
- support for Macintosh operating systems 47
- support for Windows operating systems 47
- support matrix for Printer Status and Alerts utility 240
- supporting operating systems 19
- supporting Printer Status and Alerts 231
- viewing version number and date 92

#### Printer Memory options in printer drivers 97

#### Printer Name dialog box 141

#### printer objects

- changing printer driver 180
- creating 177
- description 224
- installing printer when missing from desktop 177
- installing printer when present on desktop 178
- NDS queue 225
- removing from Novell server 224

#### Printer Sharing dialog box 142

#### Printer Status and Alerts utility

- adding and removing printers 238
- availability of components by operating system 112
- description 24
- disabling monitoring 28
- enabling and disabling 238
- icons 26
- installing 24
- list of products that support 232
- localization of components by operating system 113
- removing printer drivers 240
- restrictions for HP projects 25
- settings in the .inf file 232
- supporting operating systems and browsers 25
- troubleshooting 241

#### printers

- adding and removing for Printer Status and Alerts utility 238
- changing properties 180
- configuring memory 97
- configuring storage 97
- default 161
- disabling job tracking 238
- downloading firmware 111
- information provided by image in printer driver
  - Destinations tab 82, 88, 100
- information provided by image in printer driver Paper tab 73
- installing using AppleTalk Chooser 174
- managing using HP Web Access 35

- printing
  - booklets 58
  - confidential or sensitive documents 85, 86, 107, 108
  - configuration page 30
  - configuring user-defined settings 54
  - noncollated copies 100
  - priority when settings conflict 82
  - setting number of copies 89
  - using Job Retention option while 87
- printing system software. *See* HP LaserJet printing system software
- Private Job option in printer drivers
  - description 85, 107
- private stored jobs 86, 108
- Proof and Hold option in printer drivers
  - description 85, 107
  - maximum number of jobs 85, 106
- Properties button for Windows 3.1x 51
- PS (PostScript) printer driver
  - custom paper sizes 206
  - description 47
  - features 103
  - operating systems supported by 19
- PS 3 Emulation support for HP LaserJet products 103
- PS 3 fonts
  - localization of components by operating system 113

## Q

- Qmail e-mail server 193
- quality of print options in printer drivers 64
- queues
  - associating with print agents 230
  - bindery objects 228
  - building for bindery 219
  - building for NDS 222
  - NDS objects 225
  - troubleshooting 231
- Queues dialog box
  - bindery 219
  - NDS 223
- Quick Copy option in printer drivers
  - availability 85, 106
  - description 85, 106
  - maximum number of jobs 85, 106
- Quick Sets
  - custom 55
  - description 54
  - for HP LaserJet Multifunction Finisher 55
  - preset booklet 55
  - too many defined 55

## R

- refresh rate
  - configuring for printer status alerts 28
  - description 28
- regions
  - supported by installation CD-ROM 109
- registration of product
  - availability of components by operating system 112
  - for Hebrew and Arabic 147
  - options 147
  - using HP Web Registration 49
- releasing stored jobs 87
- remote firmware update. *See* RFU (remote firmware update)
- remote management using HP Web Access 35

- removing
  - custom paper sizes 78, 79
  - printer objects from Novell server 224
  - printers for Printer Status and Alerts utility 238
  - private jobs 85, 107
  - stored jobs 86, 107
  - support for printers in Printer Status and Alerts utility 239
- renaming custom paper sizes 78, 79
- requirements
  - for IBM operating systems 163
  - for Macintosh operating systems 163
  - for Windows operating systems 117
- Resolution Enhancement technology (REt) option in printer drivers 66
- Resolution option in printer drivers 66
- resolution, setting in printer drivers 105
- Resource Management Services (RMS) for Novell NetWare 229
- REt (Resolution Enhancement technology) option in printer drivers 66
- retention of jobs. *See* Job Retention option in printer drivers
- RFU (remote firmware update)
  - changes to NVRAM 30
  - description 30
  - description of files 30
  - files corrupted 34
  - interrupted 35
  - messages 33
  - troubleshooting 34
  - verifying success 34
  - wrong printer model contained in files 35
- RMS (Resource Management Services) for Novell NetWare 229
- rotated orientation 90
- rotating images
  - description 90
  - versus stapling 90

## S

- saddle-stitching documents 62
- saving toner using EconoMode 67
- Scale Patterns (WYSIWYG) option in printer drivers 67
- Scale to Fit option in printer drivers 69
- scaling
  - documents for different paper sizes 69
  - documents to fit target paper size 69
  - images on pages 68
  - setting percentage 69, 105
- scanning documents
  - to e-mail 41
  - to fax 41
- Select Port dialog box 130
- Send to E-mail tab in Digital Sending Config Applet 185
- Sendmail e-mail server 192
- servers
  - configuring for digital sending e-mail 185
  - configuring for LDAP 187
  - determining connection for Novell NetWare 209
  - e-mail that function as SMTP gateways 192
  - removing printer objects from Novell 224
  - supporting LDAP 194
- Set Network Communication Mode dialog box 137
- Setup dialog box 125
- shading, selecting for watermarks 72
- short-edge stapling 92
- silent installer 158
- Size is option in printer drivers 76

- SMTP gateway
    - acquiring information about 185
    - configuring settings 185
    - e-mail servers 192
    - verifying 193
  - software
    - automatic notification of releases 110
    - downloading 110
    - embedded virtual machine for Java 35
    - HP Digital Sender Module 41
    - HP Web Access 35
    - included with product 19
  - Software License Agreement dialog box 126
  - Source Is menu 81
  - Specify Network Path dialog box 136
  - Staple option in printer driver 60, 96
  - stapler. *See* stapler/stacker
  - stapler/stacker
    - availability of 60
    - configuring as destination 96
    - custom paper size limits on width and height 80
    - media supported 207
    - paper sizes supported by HP LaserJet 9000mfp 204, 205
  - stapling
    - documents 60
    - long edge 90
    - short edge 92
    - versus image rotation 90
  - status
    - configuring pop-up windows 24, 28
    - configuring refresh rate 28
    - disabling in Printer Status and Alerts utility 28
    - icons 26
    - monitoring with Printer Status and Alerts utility 24, 28
  - Storage options in printer drivers 97
  - Stored Job option in printer drivers
    - description 85, 86, 107
    - releasing stored jobs 87
    - requirements 86, 107
  - storing documents in printer memory 84
  - subject, configuring for digital sending e-mail 186
  - supplies
    - monitoring with Printer Status and Alerts utility 24, 28
    - monitoring with Supplies Status page 36
  - Supplies Status page, viewing with HP Web Access 36
  - system requirements. *See* requirements
- T**
- TCP/IP dialog box 221
  - Test button in Digital Sending Config Applet 185
  - testing
    - e-mail server 185
    - SMTP gateway 193
  - third-party software portal through Foreign Interface Harness (FIH) 43
  - toner
    - monitoring level with Printer and Status Alerts utility 24
    - saving using EconoMode 67
  - Transmit Once mopying feature 95
  - Tray 1, configuring 95
  - trays
    - auto select 81
    - configuring for Windows operating systems 101
    - controlling in printer driver 108
    - custom paper size limits on width and height 80
    - media supported 207
    - paper sizes supported by HP LaserJet 9000mfp 203
    - paper sizes supported by PCL 5e and PCL 6 printer drivers 206
  - paper source commands 202
  - verifying installation 28
  - viewing available 81
  - troubleshooting
    - building of Novell queues 231
    - firmware update 34
    - Printer Status and Alerts utility 241
  - TrueType fonts
    - controlling in printer driver 105
    - sending as bitmaps 67
  - Type Is menu 82
  - Type of Connection dialog box 129
  - Typical installation
    - Novell client 209
    - Windows operating systems 124
- U**
- uninstalling
    - Macintosh printing system 168
    - Windows printing system 123
  - units of measurement, switching between inches and millimeters 76, 80
  - UNIX operating systems
    - availability of components 112
    - printer drivers 48
  - updating status and alerts 28
  - upgrades. *See* RFU (remote firmware update)
  - URLs. *See* Web sites
  - Usage Page, viewing with HP Web Access 36
  - USB connections 23
  - user policies, making 230
  - utilities
    - availability of components by operating system 112
    - HP Auto Setup for Macintosh operating systems 164
    - HP LaserJet Utility for Macintosh operating systems 164
    - localization of components by operating system 113
    - Printer Status and Alerts 24
- V**
- versions
    - firmware level 30
    - HP LaserJet printing system software 44
    - installation CD-ROM 109
    - printer drivers supported 47
    - viewing number 92
- W**
- Watermark Details dialog box 71
  - watermarks
    - creating new 71
    - editing existing 72
    - limit to number of 71
    - preset 70
    - printing only on first page 70
    - selecting font, color, shading, size, and style 72
    - selecting from available 70
    - selecting shading 72
    - setting message angle 72
  - Watermarks option in printer drivers 70
  - Web JetAdmin
    - localization by operating system 113
    - using to download firmware 32
    - using with HP Web Access 35

- Web sites
  - documentation 20
  - firmware 30, 109, 110
  - firmware update 30
  - LDAP 194
  - Microsoft Winsock2 patch 25
  - Novell 231
  - software 109, 110
- Web Update dialog box 127
- Welcome dialog box 125
- Welcome to Hewlett-Packard's Registration dialog box 150
- What's this? help 51
- Windows 3.1x
  - substitute for Properties button 51
  - support for job retention 84
  - support for printers 161
- Windows operating systems
  - configuring trays 101
  - directory structure on installation CD-ROM 109
  - Enterprise AutoConfiguration requirements for Windows 95, 98, and Me 197
  - Enterprise AutoConfiguration requirements for Windows NT 4.0, 2000, and XP 195
  - font support 118
  - installing Microsoft Point and Print function 160
  - installing printing system 117
  - localization of components by operating system 113
  - PCL 5e and PCL6 printer drivers 19
  - printer drivers supported 47
  - printer drivers supported for Enterprise AutoConfiguration 194
  - PS (PostScript) printer driver 103
  - requirements for installing printing system components 117
  - supporting bidirectional communication 22
  - supporting HP LaserJet printing system software 19
- Wizards, availability of components by operating system 112
- workspace option for printer drivers 98

## Z

- ZENworks
  - installing 231
  - making user policies 230
- ZoomSmart option in printer drivers 68





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